

Attachment Eight

Fact Sheets In Support of New Listings, and Delistings to the Colorado River Basin
Region 2012 303(d) List

Draft California 2012 Integrated Report(303(d) List/305(b) Report)

Supporting Information for New Listings and Delistings

DECISION ID	21499	Region 7
Alamo River		

Pollutant:	Endosulfan
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 4.11 of the Listing Policy. Under this section when all other delisting factors do not result in the delisting of a water segment but information indicates attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that water quality standard is attained. If the weight of evidence indicates attainment, the water segment shall be removed from the section 303(d) list.

Six lines of evidence are available in the administrative record to assess pollutant. LOE No. 5470 is replaced by the 46599, which is re-assessed based on the current evaluation guideline, and is not use the final use rating. LOE No. 33087 received use rating of insufficient information due to insufficient sample size required by the Listing Policy to determine if the water quality standards are met. Four of fish tissue samples exceed the water quality objective, and the exceedances were occurred from 1985 to 1988.

Organochlorine (OC) pesticides are man-made chemicals. There are no natural sources of these OC compounds. Endosulfan is one of the OC compounds, which was used for mainly agricultural uses during 1980s and 1990s. However, USEPA has initiated action to end the use of Endosulfan based on the Endosulfan Memorandum of Agreement in 2010. The use of Endosulfan is phasing out, and the registrants of Endosulfan are voluntarily cancelling all existing Endosulfan uses.

Since OC compounds are attached to sediments, sediment management practices (MPs) plays important roles in reducing the compounds. Two USEPA approved TMDLs, Alamo River Sediment Total Maximum Daily Load (TMDL) and Imperial Valley Drains (IVDs) Sediment TMDL and Prohibition, are already in place in Imperial County, which requires farmers/growers to implement improved sediment MPs.

According to the CA Department of Pesticide Regulations (DPR) pesticide use reporting (PUR), the annual use of Endosulfan in Imperial County, where this waterbody is located, is significantly reduced past 20 years. The reported annual Endosulfan uses were 247, 400 pounds in 1990, and the amount reduced to 22 pounds in 2010. Although the use of Endosulfan for Alfalfa seed, which is the major crop produced in the Imperial County, will be ended by July 31, 2016, the farmers in Imperial County have stopped its uses since 2011. No uses of Endosulfan were reported in the PUR in 2011 in the Imperial County.

In addition, 10 additional fish tissue samples, which were not included in the current assessment cycle due to data solicitation cutoff date, were collected by the SWAMP and CA Department of Fish and Game (DFG) from 2011 to 2012, and

none of the samples exceeded applicable water quality objectives. Data collected also by the SWAMP from 2002-2008, impairment was not observed in 26 water samples.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. Four of 40 fish tissue samples exceeded the NAS fish tissue guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. However, the uses of Endosulfan is phasing out; the farmers have stopped using the Endosulfan for Alfalfa seed since 2011; the last exceedance was occurred on 11/20/1988; and current data, collected from 2011-2012, indicates that the water quality standard is attained.
3. This process is scientifically defensible and reproducible.

**Regional Board Staff
Decision
Recommendation:**

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

**Line of Evidence (LOE) for Decision ID 21499, Endosulfan Region 7
Alamo River**

<p>LOE ID: 5595</p> <p>Pollutant: Endosulfan</p> <p>LOE Subgroup: Pollutant-Tissue</p> <p>Matrix: Tissue</p> <p>Fraction: Total</p> <p>Beneficial Use: Warm Freshwater Habitat</p> <p>Number of Samples: 35</p> <p>Number of Exceedances: 4</p> <p>Data and Information Type: Fish tissue analysis</p> <p>Data Used to Assess Water Quality: Thirty fish fillet samples and 5 whole fish samples were taken at 4 locations in the river. The fish tissue samples were generally collected from 6/1978 through 11/2000. Of these total samples, 4 fish fillet samples from two locations exceeded the NAS tissue guideline. At the Calipatria location the exceedances were found in; 1 channel catfish fillet composite sample collected on 9/30/1987, and; 1 carp fillet composite sample collected on 11/18/1988. At the International Boundary location, exceedances were found in; 1 carp fillet composite sample collected on 11/20/1998, and; 1 largemouth bass fillet composite sample collected on 11/15/1985 (TSMP, 2007).</p> <p>Data Reference: Toxic Substances Monitoring Program (TSMP) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.</p> <p>SWAMP Data: Non-SWAMP</p> <p>Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).</p> <p>Objective/Criterion Reference: Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006</p> <p>Evaluation Guideline: National Academy of Science (NAS) tissue guideline of 100 ug/kg for the protection of aquatic life uses (NAS, 1973).</p> <p>Guideline Reference: National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency</p> <p>Spatial Representation: Samples were collected from the following Alamo River locations: at the</p>	
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International Boundary, near Holtville, CA, near Brawley, CA, and near Caliptaria, CA.

Temporal Representation: Fish tissue samples were generally collected from 6/1978 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Thirty fish fillet samples of channel catfish, carp, largemouth bass, and spiny soft shelled turtle were collected. Thirteen channel catfish fillet composite samples were collected in the years 1978-1985, 1987, 1993, and 1996-98. Two channel catfish single fish fillet samples were collected in the years 1989, and 1994. Eleven carp fillet composite samples were collected in the years 1981-85, (2)1988, 1990, (2)1993, and 2000. Two carp single fish fillet samples were collected in the years 1978, and 1994. One largemouth bass single fish fillet sample was collected in the year 1985. One spiny soft shelled turtle fillet composite sample was collected in the year 1992. Five whole fish composites of red swamp crayfish, redshiner, mosquito fish and tilapia were collected. Two red swamp crayfish whole fish composite samples were collected in the years 1979-1980. One redshiner whole fish composite sample was collected in the year 1985. One mosquitofish whole fish composite sample was collected in the year 1987. One tilapia whole fish composite sample was collected in the year 2000. The exceedances were found in samples collected from 11/15/1985 through 11/20/1998.

Environmental Conditions:
QAPP Information: The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies a Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality. Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21499, Endosulfan		Region 7
Alamo River		
LOE ID:	33087	
Pollutant:	Endosulfan	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	12	
Number of Exceedances:	0	
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING	
Data Used to Assess Water Quality:	None of the 12 samples exceeded the criteria.	
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	The endosulfan criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 0.056 ug/L. This value corresponds to the sum of alpha-endosulfan and beta-endosulfan (USEPA National Recommended Water Quality Criteria, 2006).	
Objective/Criterion Reference:	Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition	
Evaluation Guideline:		
Guideline Reference:		
Spatial Representation:	Samples were collected at stations 723ARGRB1 (Alamo River Outlet) and 723ARINTL (Alamo River at International Boundary).	
Temporal Representation:	Samples were collected on 10/26/2005, 5/1/2006, 5/7/2007, 10/23/2007, 4/21/2008, and 10/23/2008.	
Environmental Conditions:		
QAPP Information:	SWAMP QAPP (2008).	

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 21499, Endosulfan **Region 7**
Alamo River

LOE ID: 46022
Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 5
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 5 samples exceed the criterion for Endosulfan, Total. Nine composites were generated from three species: channel catfish, flathead catfish and Tilapia spp. Composites comprised of 2-3 fish for channel catfish and 1 fish for flathead catfish and Tilapia spp. Total endosulfan was calculated as the sum of endosulfan I and endosulfan II. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.
Data Reference: [RWB7 Fish Tissue Study 2004](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).
Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis](#)
Spatial Representation: Data for this line of evidence for Alamo River was collected at 3 monitoring sites [Alamo River at Drop 6A Holtville Drain - 723ARDP6A, Alamo River Outlet - 723ARGRB1, Alamo River/Brawley - 723ARBRAW]
Temporal Representation: Data was collected over the time period 11/2/2004-11/9/2004.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information: The SWAMP QAPP (2002) was followed.
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21499, Endosulfan **Region 7**
Alamo River

LOE ID: 46023
Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 5
Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 5 samples exceed the criterion for Endosulfan, Total. Nine composites were generated from three species: channel catfish, flathead catfish and Tilapia spp. Composites comprised of 2-3 fish for channel catfish and 1 fish for flathead catfish and Tilapia spp. Total endosulfan was calculated as the sum of endosulfan I and endosulfan II. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total Endosulfan concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Alamo River was collected at 3 monitoring sites [Alamo River at Drop 6A Holtville Drain - 723ARDP6A, Alamo River Outlet - 723ARGRB1, Alamo River/Brawley - 723ARBRAW]

Temporal Representation: Data was collected over the time period 11/2/2004-11/9/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21499, Endosulfan Region 7
Alamo River

LOE ID: 46599

Pollutant: Endosulfan

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Total

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

Number of Samples: 35

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Thirty fish fillet samples and 5 whole fish samples were taken at 4 locations in the river. Fish samples were generally collected from 6/1978 through 11/2000.

Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Samples were collected from the following Alamo River locations: at the International Boundary, near Holtville, CA, near Brawley, CA, and near Calipatria, CA.
Temporal Representation:	Fish tissue samples were generally collected from 6/1978 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Thirty fish fillet samples of channel catfish, carp, largemouth bass, and spiny soft shelled turtle were collected. Thirteen channel catfish fillet composite samples were collected in the years 1978-1985, 1987, 1993, and 1996-98. Two channel catfish single fish fillet samples were collected in the years 1989, and 1994. Eleven carp fillet composite samples were collected in the years 1981-85, (2)1988, 1990, (2)1993, and 2000. Two carp single fish fillet samples were collected in the years 1978, and 1994. One largemouth bass single fish fillet sample was collected in the year 1985. One spiny soft shelled turtle fillet composite sample was collected in the year 1992. Five whole fish composites of red swamp crayfish, redshiner, mosquito fish and tilapia were collected. Two red swamp crayfish whole fish composite samples were collected in the years 1979-1980. One redshiner whole fish composite sample was collected in the year 1985. One mosquitofish whole fish composite sample was collected in the year 1987. One tilapia whole fish composite sample was collected in the year 2000.
Environmental Conditions:	
QAPP Information:	The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies a Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).
QAPP Information Reference(s):	Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board (SWRCB), Division of Water Quality, Sacramento, CA.

Line of Evidence (LOE) for Decision ID 21499, Endosulfan	Region 7
Alamo River	

LOE ID:	5470
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	35
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Thirty fish fillet samples and 5 whole fish samples were taken at 4 locations in the river. Fish samples were generally collected from 6/1978 through 11/2000. Of these total samples, none exceeded the OEHHA Screening Value (TSMP, 2007).
Data Reference:	Toxic Substances Monitoring Program (TSMP) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: No individual chemical or combination of chemicals shall be

Objective/Criterion Reference:	present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006). Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 20,000 ug/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from the following Alamo River locations: at the International Boundary, near Holtville, CA, near Brawley, CA, and near Calipatria, CA.
Temporal Representation:	Fish tissue samples were generally collected from 6/1978 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Thirty fish fillet samples of channel catfish, carp, largemouth bass, and spiny soft shelled turtle were collected. Thirteen channel catfish fillet composite samples were collected in the years 1978-1985, 1987, 1993, and 1996-98. Two channel catfish single fish fillet samples were collected in the years 1989, and 1994. Eleven carp fillet composite samples were collected in the years 1981-85, (2)1988, 1990, (2)1993, and 2000. Two carp single fish fillet samples were collected in the years 1978, and 1994. One largemouth bass single fish fillet sample was collected in the year 1985. One spiny soft shelled turtle fillet composite sample was collected in the year 1992. Five whole fish composites of red swamp crayfish, redshiner, mosquito fish and tilapia were collected. Two red swamp crayfish whole fish composite samples were collected in the years 1979-1980. One redshiner whole fish composite sample was collected in the year 1985. One mosquitofish whole fish composite sample was collected in the year 1987. One tilapia whole fish composite sample was collected in the year 2000.
Environmental Conditions: QAPP Information:	The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies a Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).
QAPP Information Reference(s):	Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board (SWRCB), Division of Water Quality. Sacramento, CA.

DECISION ID	21809	Region 7
Alamo River		
Pollutant:	Mercury	
Final Listing Decision:	Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2010)	
Revision Status	Revised	
Reason for Delisting:	Applicable WQS attained; original basis for listing was incorrect	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 4.11 of the Listing Policy. Under this section when all other delisting factors do not result in the delisting of a water segment but information indicates attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that water quality standard is attained. If the weight of evidence indicates attainment, the water segment shall be removed from the section 303(d) list.	

Twelve lines of evidence are available in the administrative record to assess

pollutant. Line of Evidence No. 2899 received a Use Rating of Insufficient Information in previous assessment cycle because all samples results were below the report limit and the reporting limit was greater than the evaluation guideline. According to Section 6.1.5.5 of the Listing Policy when the sample value is less than the quantitation limit and the quantitation limit is greater than the water quality standard, objective, criterion, or evaluation guideline, the result shall not be used in the analysis. LOE No. 5562 is replaced by LOE No. 46622, which is re-assessed based on the current evaluation guideline, and is not included in the final use rating. Seventeen of samples exceed the water quality objective, and all of these exceedances were occurred from 1979 to 1991.

On June 8, 1999, USEPA promulgated Method 1631, Revision B for use in determination of mercury at parts per trillion (ppt) levels in water. Method 1631 improved accuracy and precision at low levels, and allowed to determine mercury at 0.5 ng/l level. Since the application of the Method 1631 into analysis, water samples collected by the SWAMP from 2002 to 2012 in this waterbody did not show any exceedances of mercury. The concentration of mercury varied from 0.8 to 1.6 ng/l, while the applicable water quality objective from California Toxics Rule (CTR) is at 51 ng/l.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. Seventeen of 53 water samples exceeded the CTR criteria and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. All 17 exceedances were occurred from 1979 to 1991. Since 1999, a new analysis method was applied, and current data collected from 2002-2012, indicates that the water quality standard is attained.
3. This process is scientifically defensible and reproducible.

**Regional Board Staff
Decision
Recommendation:**

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

**Line of Evidence (LOE) for Decision ID 21809, Mercury Region 7
Alamo River**

<p>LOE ID: 5203 Pollutant: Mercury LOE Subgroup: Pollutant-Water Matrix: Water Fraction: Dissolved Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms Number of Samples: 17 Number of Exceedances: 17 Data and Information Type: Other Agencies/Organizations provided monitoring data Data Used to Assess Water Quality: Forty-seven water samples were taken at 1 location on the river. Thirty water sample results could not be used in the assessment because either the sample results were non-detect and the detection limit was above the criteria concentration or the sample results were zero and the detection limit could not be determined. The 17 acceptable water quality samples were generally collected from 10/1979 through 9/1991. Of these total samples, 17 exceeded the CTR Criteria. The exceedances were found in samples collected from 10/23/1979 through 9/24/1991 at Drop 3 Near Calipatria, CA (USGS, 2007).</p>

Data Reference: [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7.](#)

SWAMP Data: [collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
 Non-SWAMP

Water Quality Objective/Criterion: California Toxics Rule (CTR) criteria of 0.051 ug/l for the protection of human health when consuming organisms from aquatic systems (USEPA, 2000).

Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency](#)

Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected at the following Alamo River locations: USGS Station No. 10254670 located at Drop 3 near Calipatria, Ca.

Temporal Representation: Forty-seven samples were collected. Samples were generally collected from 7/1979 through 9/1991. Two samples were collected in 1979, 38 samples were collected from 1980-1989, and 7 samples were collected from 1990-1999. The exceedences were found in samples collected from 10/23/1979 through 9/24/1991.

Environmental Conditions:
 QAPP Information: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).

QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury		Region 7
Alamo River		

LOE ID:	5191
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	47
Number of Exceedances:	1
Data and Information Type:	Other Agencies/Organizations provided monitoring data
Data Used to Assess Water Quality:	Forty-seven water quality samples were taken at 1 location along the river, generally collected from 7/1979 through 9/1991. Of these total samples , 1 exceeded the NRWQC Criteria. The exceedance was found in a sample collected on 10/23/1979 (USGS, 2007).
Data Reference:	Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System (NWIS) Water Quality database. 1961-2005.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	National Recommended Water Quality Criteria (NRWQC) Criterion Maximum Concentration (CMC) of 1.4 ug/l for the protection of freshwater aquatic life uses (USEPA, 2002).
Objective/Criterion Reference:	National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA
Evaluation Guideline:	

Guideline Reference:
 Spatial Representation: Samples were collected at the following Alamo River locations: USGS Station No. 10254670 located at Drop 3 near Calipatria, Ca.
 Temporal Representation: Forty-seven samples were collected. Samples were generally collected from 7/1979 through 9/1991. Two samples were collected in 1979, 38 samples were collected from 1980-1989, 7 samples were collected from 1990-1999. The exceedance was from a sample collected on 10/23/1979.
 Environmental Conditions:
 QAPP Information: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).
 QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database, 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury Region 7

Alamo River

LOE ID: 5106
 Pollutant: Arsenic | Cadmium | Chromium (total) | Copper | Lead | Mercury | Nickel
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 13
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Thirteen sediment quality samples were generally collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations in the along the Alamo River. Of these total samples, none exceeded the PEC (SWAMP, 2007).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentrations (PECs) for the protection of freshwater organisms to toxic effects were used for the following constituents: 33 mg/kg Arsenic, 4.98 mg/kg Cadmium, 111 mg/kg Chromium, 149 mg/kg Copper, 128 mg/kg Lead, 1.06 mg/kg Mercury, and 48.6 mg/kg Nickel (Macdonald et al, 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Samples were collected from the following Alamo River locations: at the International Boundary, and near the outlet to the Salton Sea on Garst Road.

Temporal Representation: Thirteen sediment samples were collected. Sediment samples were generally collected and analyzed biannually from 5/2002 through 5/2005, in May and October. Samples were not collected from each location every sampling round.

Environmental Conditions:
QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury **Region 7**
Alamo River

LOE ID: 5008

Pollutant: Mercury | Nickel

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

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

Number of Samples: 24

Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)

Data Used to Assess Water Quality: Twenty-four water quality samples were generally collected and analyzed biannually from 5/2002 through 5/2005 at 7 locations along the Alamo River. Of these total samples, none exceeded the CTR Criteria (SWAMP, 2007).

Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: California Toxics Rule (CTR) Criteria for the protection of human health when consuming organisms from aquatic systems were used for the following constituents: 0.051 ug/l Mercury, and 4600 ug/l Nickel (USEPA, 2000).

Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency](#)

Evaluation Guideline:
Guideline Reference:
Spatial Representation: Samples were collected from the following Alamo River locations: at the International Boundary, Drop 10 near Holtville, CA, Drop 8, Drop 6A, Drop 6, Drop 3, and near the outlet to the Salton Sea from Garst Road bridge.

Temporal Representation: Twenty-four water samples were collected. Water samples were generally collected and analyzed biannually, in May and October, from 5/2002 through 5/2005 at the International Boundary and outlet to the Salton Sea locations. The rest of the locations were sampled in May and October 2002 only.

Environmental Conditions:
QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury **Region 7**
Alamo River

LOE ID: 2899

Pollutant: Mercury
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: None
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 7
 Number of Exceedances: 0
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: Data were collected by the RWQCB on 6/21/2001 at 7 different stations on the Alamo River. Of the 7 samples, all samples were non-detects and did not exceed either of the criteria (CRBRW QCB, 2004c).
 Data Reference: [Placeholder reference 2006 303\(d\)](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: USEPA: 50 ng/L for consumption of water and organisms or organisms only. The reporting limit is 1 ug/l, which is greater than the criterion.
 Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected at the following Alamo River sampling stations: AR-B (at the International Boundary), AR-D10 (Lower Alamo River drainshed, at Drop Structure #10), AR-D8 (Central Drain drainshed, at Drop Structure #8), AR-D6A (Holtville Main Drain drainshed, at Drop Structure #6A), AR-D6 (Rose Drain drainshed, at Drop Structure #6), AR-D3 (Central Alamo River drainshed, at Drop Structure #3), and at AR-GRB.
 Temporal Representation: All samples were collected on 6/21/2001.
 Environmental Conditions:
 QAPP Information: Used RWQCB QA/QC in sample collection. Lab analysis was done by North Coast Labs.

QAPP Information Reference(s):

**Line of Evidence (LOE) for Decision ID 21809, Mercury
Alamo River**

Region 7

LOE ID: 5562
 Pollutant: Mercury
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 15
 Number of Exceedances: 0
 Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Twenty-one fish fillet samples and 4 whole fish samples were taken at 4 locations in the river. Seven fish fillet and 3 whole fish sample results could not be used in this assessment because the samples were not analyzed for the analyte. The 14 fish fillet samples and 1 whole fish samples that were acceptable were generally collected from 5/1981 through 11/2000 at four locations. Of these total samples, none exceeded the OEHHA Screening Value (TSMP, 2007).
 Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 mg/kg to protect human health when consuming fish (OEHHA, 1999).

Guideline Reference: [Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment](#)

Spatial Representation: Samples were collected from the Alamo River at the International Boundary, near Holtville, CA, near Brawley, CA, and near Caliptaria, CA.

Temporal Representation: Fish tissue samples were generally collected from 6/1978 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Twenty one fish fillet samples of carp, channel catfish, spiny soft shelled turtle were collected. Seven carp fillet composite samples were collected in the years 1981-82, 1987-88, 1990, (2)1993. Two carp single fish fillet samples were collected in the years 1994, and 2000. Ten channel catfish fillet composite samples were collected in the years 1978-82, 1987, 1993, 1996-98. One channel catfish single fish fillet sample was collected in the year 1994. One spiny soft shelled turtle fillet composite sample was collected in the year 1992. Four whole fish composite samples of red swamp crayfish, tilapia, mosquitofish, and red shiner were collected. One red swamp crayfish whole fish composite sample was collected in the year 1980. One tilapia whole fish composite sample was collected in the year 2000. One mosquitofish whole fish composite sample was collected in the year 1987. One red shiner whole fish composite was collected in the year 1985.

Environmental Conditions: QAPP Information: The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality, Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury **Region 7**
Alamo River

LOE ID: 26670

Pollutant: Mercury

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 24

Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)

Data Used to Assess Water Quality: Twenty-four water quality samples were generally collected and analyzed biannually from 5/2002 through 5/2005 at 7 locations along the Alamo River. Of these total samples, none exceeded the NRWQC Criteria (SWAMP, 2007).

Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: National Recommended Water Quality Criteria (NRWQC) Criterion Maximum Concentration (CMC) of 1.4 ug/l for the protection of freshwater aquatic life uses (USEPA, 2002).

Objective/Criterion Reference: [National recommended water quality criteria: 2002. EPA-822-R-02-047 Washington, D.C. USEPA](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected from the following Alamo River locations: at the International Boundary, Drop 10 near Holtville, CA, Drop 8, Drop 6A, Drop 6, Drop 3, and near the outlet to the Salton Sea from Garst Road bridge.

Temporal Representation: Twenty-four water samples were collected. Water samples were generally collected and analyzed biannually, in May and October, from 5/2002 through 5/2005 at the International Boundary and outlet to the Salton Sea locations. The rest of the locations were sampled in May and October 2002 only.

Environmental Conditions:

QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury **Region 7**
Alamo River

LOE ID: 35630

Pollutant: Mercury

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

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

Number of Samples: 12

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 12 samples exceed the criterion for Mercury.

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: The Mercury criteria for the protection of human health from consumption of organisms only is 0.051 ug/L (California Toxics Rule, 2000).

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

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Data for this line of evidence for Alamo River was collected at 2 monitoring sites [Alamo River Outlet, Alamo River at International Boundary]

Temporal Representation: Data was collected over the time period 10/25/2005-10/28/2008.

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

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 21809, Mercury **Region 7**
Alamo River

LOE ID: 35656

Pollutant: Mercury

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 10

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 10 samples exceed

the criterion for Mercury.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Data for this line of evidence for Alamo River was collected at 2 monitoring sites [Alamo River Outlet, Alamo River at International Boundary]
 Temporal Representation: Data was collected over the time period 10/25/2005-4/21/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 21809, Mercury
 Alamo River**

Region 7

LOE ID: 35892
 Pollutant: Mercury
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Mercury.
 Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for mercury is 1.06 mg/Kg dry weight (MacDonald et al. 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Data for this line of evidence for Alamo River was collected at 1 monitoring site [Alamo River Outlet]
 Temporal Representation: Data was collected on a single day 10/28/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**Line of Evidence (LOE) for Decision ID 21809, Mercury
Alamo River**

Region 7

LOE ID:	46622
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	12
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	The 12 fish fillet samples were generally collected from 5/1981 through 11/2000 at four locations. Of these total samples, none exceeded the USEPA 304(a) recommended water quality criterion for concentration of methylmercury in fish tissue of trophic level 4 fish. This is the same dataset used for LOE No. 5562, and three of data used in the LOE no. 5562 did not meet the current evaluation guideline, such as off-size range and/or not trophic level 4 fish. Those only 12 fish fillet samples were accepted for this assessment. Composites were generated from two species: channel catfish and carp. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.
Data Reference:	Toxic Substances Monitoring Program (TSMP) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.20 mg/kg.
Guideline Reference:	Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001
Spatial Representation:	Samples were collected from the Alamo River at the International Boundary, near Holtville, CA, near Brawley, CA, and near Caliptaria, CA.
Temporal Representation:	Data was collected over the time period 6/21/1978-10/27/1994
Environmental Conditions:	
QAPP Information:	The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).
QAPP Information Reference(s):	Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board (SWRCB), Division of Water Quality. Sacramento, CA.

**Line of Evidence (LOE) for Decision ID 21809, Mercury
Alamo River**

Region 7

LOE ID:	46050
Pollutant:	Mercury
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms

Number of Samples: 5
 Number of Exceedances: 0
 Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Alamo River to determine beneficial use support and results are as follows: 0 of 5 samples exceed the criterion for Mercury. Nine composites were generated from three species: channel catfish, flathead catfish and Tilapia spp. Composites comprised of 2-3 fish for channel catfish and 1 fish for flathead catfish and Tilapia spp. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The USEPA 304(a) recommended water quality criterion for concentrations of methylmercury in fish tissue of trophic level 4 fish (150 - 500 mm; fillet wet weight) is 0.20 mg/kg.

Guideline Reference: [Water Quality Criterion for the Protection of Human Health: Methylmercury. Final. United States Environmental Protection Agency Office of Science and Technology Office of Water. EPA-823-R-01-001. January 2001](#)

Spatial Representation: Data for this line of evidence for Alamo River was collected at 3 monitoring sites [Alamo River at Drop 6A Holtville Drain - 723ARDP6A, Alamo River Outlet - 723ARGRB1, Alamo River/Brawley - 723ARBRAW]

Temporal Representation: Data was collected over the time period 11/2/2004-11/9/2004.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2002) was followed.
 QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	30488	Region 7
Alamo River		

Pollutant: Chloride
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Ten of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Ten of 12 water samples exceed the USEPA National Recommended Water Quality Criteria and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.
 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
- After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Regional Board Staff Decision Recommendation:

Line of Evidence (LOE) for Decision ID 30488, Chloride Region 7

Alamo River	
LOE ID:	33102
Pollutant:	Chloride
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	10
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	10 of the 12 samples exceeded the criteria of 230 mg/L.
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Chloride criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 230000 ug/L (230 mg/L)(USEPA National Recommended Water Quality Criteria, 2006).
Objective/Criterion Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations 723ARGRB1 (Alamo River Outlet) and 723ARINTL (Alamo River at International Boundary).
Temporal Representation:	Samples were collected on 10/26/2005, 5/1/2006, 5/7/2007, 10/23/2007, 4/21/2008, and 10/28/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008).
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	31180	Region 7
Alamo River		

Pollutant:	Malathion
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	New Decision
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2025
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Three of samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of three water samples exceeded the UC Davis Criteria for Malathion for the protection of aquatic organisms and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 31180, Malathion **Region 7**
Alamo River

<p>LOE ID:</p> <p>Pollutant:</p> <p>LOE Subgroup:</p> <p>Matrix:</p> <p>Fraction:</p> <p>Beneficial Use:</p> <p>Number of Samples:</p> <p>Number of Exceedances:</p> <p>Data and Information Type:</p> <p>Data Used to Assess Water Quality:</p> <p>Data Reference:</p> <p>SWAMP Data:</p> <p>Water Quality Objective/Criterion:</p> <p>Objective/Criterion Reference:</p> <p>Evaluation Guideline:</p> <p>Guideline Reference:</p> <p>Spatial Representation:</p> <p>Temporal Representation:</p> <p>Environmental Conditions:</p> <p>QAPP Information:</p> <p>QAPP Information Reference(s):</p>	<p>35589</p> <p>Malathion</p> <p>Pollutant-Water</p> <p>Water</p> <p>Total</p> <p>Warm Freshwater Habitat</p> <p>3</p> <p>3</p> <p>PHYSICAL/CHEMICAL MONITORING</p> <p>Twelve samples total were collected. Three samples were detected at levels above the evaluation guideline resulting in 3 exceedances. Nine samples were not used in the assessment because the laboratory data reporting limit was above the guideline and therefore the results could not be quantified with the level of certainty required by the Listing Policy.</p> <p>RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008</p> <p>SWAMP</p> <p>All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).</p> <p>Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006</p> <p>The UC Davis Criteria for Malathion for the protection of aquatic organisms is a 4 day average of 0.028 ug/L.</p> <p>Aquatic life water quality criteria derived via the UC Davis method: I. Organophosphate insecticides. Reviews of Environmental Contamination and Toxicology 216:1-48.</p> <p>Data for this line of evidence for Alamo River was collected at 2 monitoring sites [Alamo River Outlet, Alamo River at International Boundary]</p> <p>Data was collected over the time period 10/25/2005-10/28/2008.</p> <p>Staff is not aware of any special conditions that might affect interpretation of the data.</p> <p>The SWAMP QAPP (2008) was followed.</p> <p>Surface Water Ambient Monitoring Program Quality Assurance Program</p>
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DECISION ID	19345	Region 7
Alamo River		

Pollutant:	Toxicity
Final Listing Decision:	List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Sources:	Source Unknown
Expected TMDL Completion Date:	2025
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. All three sediment Toxicity LOEs are combined for a use rating determination. Six of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of 12 sediment samples exhibit toxicity and one of 4 water samples exhibit toxicity when compared to a control. These exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.
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Line of Evidence (LOE) for Decision ID 19345, Toxicity	Region 7
Alamo River	

LOE ID:	2912
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	1
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Toxicity testing data generated from 4 water samples. One of these samples was toxic (SWAMP, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Basin Plan: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)
 Evaluation Guideline: Significant toxicity as compared to control.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)
 Spatial Representation: Two stations were sampled, one at the international boundary with Mexico and the other at the outlet (mouth) of Alamo River in to the Salton Sea.
 Temporal Representation: All samples were taken during the spring (May) and the fall (October) of 2002.
 Environmental Conditions: The Alamo River flows from Mexico through the Imperial Valley in the Salton Sea. Most of the water flowing through it comes from agricultural return flows.
 QAPP Information: SWAMP QAPP.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 19345, Toxicity Alamo River **Region 7**

LOE ID: 2913
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 3
 Number of Exceedances: 1
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: Toxicity testing data generated for 3 sediment samples. One of these samples was toxic (SWAMP, 2004).

Data Reference: [Placeholder reference 2006 303\(d\)](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Basin Plan: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)
 Evaluation Guideline: Significant toxicity as compared to control.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)
 Spatial Representation: Two stations were sampled, one at the international boundary with Mexico and the other at the outlet (mouth) of Alamo River into the Salton Sea.
 Temporal Representation: All samples taken during the spring (May) and the fall (October) of 2002.
 Environmental Conditions: The Alamo River flows from Mexico through the Imperial Valley in the Salton Sea. Most of the water flowing through it comes from agricultural return flows.
 QAPP Information: SWAMP QAPP.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 19345, Toxicity Alamo River **Region 7**

LOE ID: 32027
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Water
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 11
 Number of Exceedances: 0
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Eleven samples were collected to evaluate water toxicity. None of the samples exhibited significant toxicity. The toxicity test included survival of *Hyalella azteca*, survival and biomass of *Pimephales promelas* and survival and reproduction of *Ceriodaphnia dubia*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the

Data Reference: [same lab sample id \(if provided\).](#)
 SWAMP Data: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 Water Quality Objective/Criterion: SWAMP
 Objective/Criterion Reference: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
 Evaluation Guideline: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Guideline Reference: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.
 Spatial Representation: [Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)
 Temporal Representation: The samples were collected at stations 723ARINTL and 723ARGRB1. The samples were collected from October 2005 to 2008 during the months of April, May and October.
 Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 19345, Toxicity Region 7
Alamo River

LOE ID: 32028
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 8
 Number of Exceedances: 4
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Eight samples were collected to evaluate sediment toxicity. Four of the samples exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.
 Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and](#)

[Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at stations 723ARINTL and 723ARGRB1.
 Temporal Representation: The samples were collected from October 2005 to 2008 during the months of April, May and October.

Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 19345, Toxicity Alamo River **Region 7**

LOE ID: 32029
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 1
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. The one sample exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at station 723ARGRB1.

Temporal Representation: The sample was collected in October 2008.

Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 30522 **Region 7**
Coachella Valley Storm Water Channel

Pollutant: Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Listing Decision:
Revision Status: Revised

Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Four of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Four of seven water samples exceed the USEPA recommended freshwater aquatic life ambient water quality criteria for total ammonia as nitrogen and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30522, Nitrogen, ammonia (Total Ammonia) Coachella Valley Storm Water Channel **Region 7**

LOE ID: 32406
Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 7
Number of Exceedances: 4
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Four of seven samples exceeded the evaluation guideline for total ammonia as nitrogen. All of the exceedances occurred from October 2005 to May 2006.
Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: The Basin Plan objective for toxicity states that all waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life.
Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
Evaluation Guideline: The USEPA recommended freshwater aquatic life ambient water quality criteria for total ammonia as nitrogen is based on pH, temperature, and the presence of early life stages of fish. The continuous concentration used is based on a 30-day average and the absence of early life stages of fish.

Guideline Reference: [1999 Update of Ambient Water Quality Criteria for Ammonia](#)
 Spatial Representation: Samples were collected at stations Coachella Valley Stormwater Channel Outlet (719CVSCOT) and Coachella Valley Stormchannel [Ave 52] (719CVSC52).
 Temporal Representation: Coachella Valley Stormchannel [Ave 52] samples were collected from October 2005 through May 2006. Coachella Valley Stormwater Channel Outlet samples were collected from May 2006 through October 2008.
 Environmental Conditions:
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 30527 Region 7
Coachella Valley Storm Water Channel

Pollutant: Toxicity
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of nine water samples exhibit toxicity when compared to a control and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30527, Toxicity Region 7
Coachella Valley Storm Water Channel

LOE ID: 32019
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 0
 Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. The sample did not exhibit significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The sample was collected at station 719CVSCOT.

Temporal Representation: The sample was collected in October 2008.

Environmental Conditions:

QAPP Information: Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30527, Toxicity Coachella Valley Storm Water Channel	Region 7
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LOE ID:	32018
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Five samples were collected to evaluate sediment toxicity. None of the samples exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL

Guideline Reference: equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.
[Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at station 719CVSCOT.
 Temporal Representation: The samples were collected from May 2006 to April 2008.
 Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30527, Toxicity **Region 7**
Coachella Valley Storm Water Channel

LOE ID: 31975
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Water
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 7
 Number of Exceedances: 2
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Seven samples were collected to evaluate water toxicity. Two of the samples exhibited significant toxicity. The toxicity test included survival and reproduction of Ceriodaphnia dubia and survival and biomass of Pimephales promelas. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.
 Guideline Reference: [Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)
 Spatial Representation: The samples were collected at stations 719CVSC52 and 719CVSCOT.
 Temporal Representation: The samples were collected from October 2005 to October 2008.
 Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 30551 **Region 7**
Colorado River and Associated Lakes and Reservoirs (California-Nevada border to Lake Havasu)

Pollutant: Toxicity
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of six water samples exhibit toxicity when compared to control samples and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30551, Toxicity **Region 7**
Colorado River and Associated Lakes and Reservoirs (California-Nevada border to Lake Havasu)

LOE ID: 31972
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Water
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 6
 Number of Exceedances: 3
 Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Six samples were collected to evaluate water toxicity. Three of the samples exhibited significant toxicity to Ceriodaphnia dubia reproduction. The toxicity test included survival and reproduction of Ceriodaphnia dubia and survival and biomass of Pimephales promelas. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments](#)

Evaluation Guideline: [adopted through June 2006](#)
 Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)

Spatial Representation: The samples were collected at station 713CRNVBD.
 Temporal Representation: The samples were collected in October and April 2008, October 2005 and May 2007.

Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 30551, Toxicity Region 7
Colorado River and Associated Lakes and Reservoirs (California-Nevada border to Lake Havasu)**

LOE ID: 32173
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Water
 Fraction: None
 Beneficial Use: Cold Freshwater Habitat
 Number of Samples: 6
 Number of Exceedances: 3
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Six samples were collected to evaluate water toxicity. Three of the samples exhibited significant toxicity to Ceriodaphnia dubia reproduction. The toxicity test included survival and reproduction of Ceriodaphnia dubia and survival and biomass of Pimephales promelas. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 4 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)

Spatial Representation: The samples were collected at station 713CRNVBD.
 Temporal Representation: The samples were collected in October and April 2008, October 2005 and May 2007.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 30666 Region 7
Colorado River and Associated Lakes and Reservoirs (Lake Havasu Dam to Imperial Dam)

Pollutant: Toxicity
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 and 3.6 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. Two of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of eight water samples exhibit toxicity when compared to control samples and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30666, Toxicity Region 7
Colorado River and Associated Lakes and Reservoirs (Lake Havasu Dam to Imperial Dam)

LOE ID: 31973
Pollutant: Toxicity
LOE Subgroup: Toxicity
Matrix: Water
Fraction: None
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 8
Number of Exceedances: 2
Data and Information Type: TOXICITY TESTING
Data Used to Assess Water Quality: Eight samples were collected to evaluate water toxicity. Two of the samples exhibited significant toxicity to Ceriodaphnia dubia reproduction. The toxicity test included survival and reproduction of Ceriodaphnia dubia

and survival and biomass of Pimephales promelas. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)
 Spatial Representation: The samples were collected at station 715CRIDG1.
 Temporal Representation: The samples were collected in April 2008, October 2005, 2007 and 2008 and May 2007 and 2006.

Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30666, Toxicity Colorado River and Associated Lakes and Reservoirs (Lake Havasu Dam to Imperial Dam)	Region 7
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LOE ID:	31974
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	Four samples were collected to evaluate sediment toxicity. None of the samples exhibited significant toxicity. The toxicity test included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at station 715CRIDG1.

Temporal Representation: The samples were collected in April 2008 and May and October 2007.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	20365	Region 7
Colorado River (Imperial Reservoir to California-Mexico Border)		

Pollutant:	Selenium
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Reason for Delisting:	Applicable WQS attained; due to change in WQS
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Staff Conclusion:	<p>This pollutant is being considered for removal from the section 303(d) list under section 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.</p> <p>Two lines of evidence are available in the administrative record to assess this pollutant. None of samples exceeded the water quality objective. In previous assessment cycle, prior to 2006, this database was assessed based on screening value of 2 mg/kg. Since the new OEHHA guideline, 2008, for selenium was used for current assessment cycle, the LOE 2968 was replaced by LOE 46528, which was assessed based on the new guideline. The LOE 46528 received use rating of insufficient information because the minimum sample size required by the Listing Policy to assess this water body for selenium is not met in this dataset. According to the Listing Policy, a minimum of 16 samples is needed for application of table 3.1.</p> <p>Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification for removing this water segment-pollutant combination from the section 303(d) list.</p> <p>This conclusion is based on the staff findings that:</p> <ol style="list-style-type: none"> 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. None of five samples exceeded the OEHHA Fish Contaminant Goal for selenium and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met. <p>After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.</p>

Line of Evidence (LOE) for Decision ID 20365, Selenium	Region 7
Colorado River (Imperial Reservoir to California-Mexico Border)	

LOE ID: 46528

Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 5
 Number of Exceedances: 0
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: None of 5 samples exceeded (TSMP, 2002). A total of five file samples of largemouth bass were collected. Bass were collected in 1992, 1999, and 2001-02. Bass exceeded the guidelines in 1999 and 2001-02.
 Data Reference: [Toxic Substances Monitoring Program data for years 1992-2002 and Coastal Fish Contamination Program for years 1 and 2. State Water Resources Control Board](#)
[Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality, Sacramento, CA.](#)
 SWAMP Data:
 Water Quality Objective/Criterion: Colorado River Basin RWQCB Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses.
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: OEHHA Fish Contaminant Goals (FCGs) 7.4 mg/kg
 Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
 Spatial Representation: Two stations were sampled: about 2 miles downstream of the Needles Marina Resort and from Squaw Lake boat launch ramp to 1/4 mile north of Senator Lake.
 Temporal Representation: Samples were collected annually in 1992, 1999 and 2001-02.
 Environmental Conditions:
 QAPP Information: Toxic Substances Monitoring Program 1992-1993 Data Report.
 Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 1996-2000. Department of Fish and Game.
 Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.

QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 20365, Selenium Region 7
Colorado River (Imperial Reservoir to California-Mexico Border)

LOE ID: 2968
 Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 5
 Number of Exceedances: 3
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: Three out of 5 samples exceeded (TSMP, 2002). A total of 5 file samples of largemouth bass were collected. Bass were collected in 1992, 1999, and 2001-02. Bass exceeded the guideline in 1999 and 2001-02.
 Data Reference: [Placeholder reference 2006 303\(d\)](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: Colorado River Basin RWQCB Basin Plan: No individual chemical or

combination of chemicals shall be present in concentrations that adversely affect beneficial uses.

Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)
 Evaluation Guideline: OEHHA Screening Value 2 ug/g.
 Guideline Reference: [Placeholder reference 2006 303\(d\)](#)
 Spatial Representation: Two stations were sampled: about 2 miles downstream of the Needles Marina Resort and from Squaw Lake boat launch ramp to 1/4 mile north of Senator Lake.
 Temporal Representation: Samples were collected annually in 1992, 1999 and 2001-02.
 Environmental Conditions:
 QAPP Information: Toxic Substances Monitoring Program 1992-93 Data Report.

Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 1996-2000. Department of Fish and Game.

Environmental Chemistry Quality Assurance and Data Report for the Toxic Substances Monitoring Program, 2001-2002. Department of Fish and Game.

DECISION ID	18966	Region 7
Imperial Valley Drains		

Pollutant:	Endosulfan
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Reason for Delisting: Impairment from Pollutant or Pollution:	Applicable WQS attained; reason for recovery unspecified
Regional Board Staff Conclusion:	<p>Pollutant</p> <p>This pollutant is being considered for removal from the section 303(d) list under section 4.11 of the Listing Policy. Under this section when all other delisting factors do not result in the delisting of a water segment but information indicates attainment of standards, a water segment shall be evaluated to determine whether the weight of evidence demonstrates that water quality standard is attained. If the weight of evidence indicates attainment, the water segment shall be removed from the section 303(d) list.</p> <p>Four lines of evidence are available in the administrative record to assess pollutant. LOE No. 46183 is combined with LOE No. 5607 for a use rating determination because both of them were assessed for the same beneficial uses, in the same matrix, and the same water quality objectives. Ten of samples exceed the water quality objective, and the exceedances were occurred from 1985 to 1996.</p> <p>Organochlorine (OC) pesticides are man-made chemicals. There are no natural sources of these OC compounds. Endosulfan is one of the OC compounds, which was used for mainly agricultural uses during 1980s and 1990s. However, USEPA has initiated action to end the use of Endosulfan based on the Endosulfan Memorandum of Agreement in 2010. The use of Endosulfan is phasing out, and the registrants of Endosulfan are voluntarily cancelling all existing Endosulfan uses.</p> <p>Since OC compounds are attached to sediments, sediment management practices (MPs) plays important roles in reducing the compounds. A USEPA approved TMDL, Imperial Valley Drains (IVDs) Sediment TMDL and Prohibition, is already in place in Imperial County, which requires farmers/growers to implement improved sediment MPs.</p> <p>According to the CA Department of Pesticide Regulations (DPR) pesticide use reporting (PUR), the annual use of Endosulfan in Imperial County, where this waterbody is located, is significantly reduced past 20 years. The reported annual</p>

Endosulfan uses were 247, 400 pounds in 1990, and the amount reduced to 22 pounds in 2010. Although the use of Endosulfan for Alfalfa seed, which is the major crop produced in the Imperial County, will be ended by July 31, 2016, the farmers in Imperial County have stopped its uses since 2011. No uses of Endosulfan were reported in the PUR in 2011 in the Imperial County.

In addition, seven additional fish tissue samples, which were not included in the current assessment cycle due to data solicitation cutoff date, were collected by the SWAMP and CA Department of Fish and Game (DFG) in 2011, and none of the samples exceeded applicable water quality objectives.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
 2. Ten of 44 fish tissue samples exceeded the NAS fish tissue guideline and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy. However, the uses of Endosulfan is phasing out; the farmers have stopped using the Endosulfan for Alfalfa seed since 2011; the last exceedance was occurred on 11/3/1996; and more recent data, collected from 1999-2011, indicates that the water quality standard is attained.
 3. This process is scientifically defensible and reproducible.
- After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

**Regional Board Staff
Decision
Recommendation:**

Line of Evidence (LOE) for Decision ID 18966, Endosulfan **Region 7**
Imperial Valley Drains

<p>LOE ID: Pollutant: LOE Subgroup: Matrix: Fraction: Beneficial Use: Number of Samples: Number of Exceedances: Data and Information Type: Data Used to Assess Water Quality:</p>	<p>5607 Endosulfan Pollutant-Tissue Tissue Total Warm Freshwater Habitat 40 10 Fish tissue analysis Twenty-one fish fillet samples and nineteen whole fish samples were taken at 14 locations in Imperial Valley drains. The fish samples were generally collected from 10/1985 through 11/2000. Of these total samples, 6 fish fillet samples and 4 whole fish samples collected at 6 locations exceeded the NAS tissue guideline. At Rose drain exceedances were found in 1 carp fillet composite sample collected on 11/17/1998, and 1 mosquitofish whole fish composite sample collected on 8/17/1991. At South Central drain an exceedance was found in 1 carp single fish fillet sample collected on 8/01/1990. At Rice drain 3 exceedances were found in 2 carp fillet composite samples collected on 10/10/1985, and 10/15/1986. At Pumice drain exceedances were found in 1 channel catfish fillet composite sample collected on 11/20/1990, and 1 carp fillet composite sample collected on 11/20/1990. At Mayflower drain an exceedance was found in 1 mosquitofish whole fish composite sample collected on 8/16/1991. At Peach drain exceedances were found in 1 mosquitofish whole fish composite sample collected on 11/03/1996, and 1 sailfin molly whole fish composite sample collected on 9/17/1992 (TSMP, 2007).</p>
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Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and](#)

SWAMP Data:	inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.
Water Quality Objective/Criterion:	Non-SWAMP Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	National Academy of Science (NAS) tissue guideline of 100 ug/kg for the protection of aquatic life uses (NAS, 1973).
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Samples were collected from the following Imperial Valley drain locations; Rose drain, Holtville Main drain, Central drain, South Central drain, Rice drain 3, Verde drain, Greeson drain, Fig drain, Pumice drain, Mayflower drain, Orange drain, Peach Drain, Tokay drain, Barbara Worth drain, and Warren drain.
Temporal Representation:	Fish tissue samples were generally collected from 10/1985 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Twenty-one fish fillet samples of carp, channel catfish, tilapia, flathead catfish, spiny soft shelled turtle, redbelly tilapia, and yellow bullhead were collected. Eight carp fillet composite samples were collected in the years (2)1985, 1986, 1988, (3)1990, and 1999. Two carp single fish fillet samples were collected in the years 1989-90. Three channel catfish fillet composite samples were collected in the years 1989-90, and 1999. One channel catfish single fish fillet sample was collected in the year 1999. Two tilapia fillet composite samples were collected in the years 1996, and 2000. One flathead catfish fillet composite sample was collected in the year 1988. Two spiny soft shelled turtle fillet composite samples were collected in the year (2)1992. One redbelly tilapia fillet composite sample was collected in the year 1992. One yellow bullhead fillet composite sample was collected in the year 1985. Nineteen whole fish samples of mosquitofish, and sailfin molly were collected. Twelve mosquitofish whole fish composite samples were collected in 1985, 1989, (2)1990, (3)1991, 1995-96, and (3)2000. Seven sailfin molly whole fish composite samples were collected in (2)1989, 1991, (2)1992, (2)2000. Exceedances were found in samples collected from 10/10/1985 through 11/17/1998.
Environmental Conditions:	
QAPP Information:	The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies a Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).
QAPP Information Reference(s):	Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board (SWRCB), Division of Water Quality. Sacramento, CA.

Line of Evidence (LOE) for Decision ID 18966, Endosulfan		Region 7
Imperial Valley Drains		
LOE ID:	46183	
Pollutant:	Endosulfan	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	4	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Imperial Valley Drains to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Endosulfan, Total. Eleven composites (2 - 3 fish per composite) were generated from three species: common carp, Tilapia spp, and channel catfish. Total endosulfan was calculated as the sum of endosulfan I and endosulfan II. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total Endosulfan concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Imperial Valley Drains was collected at 2 monitoring sites [Central Drain - 723CNTDRN, Greeson Drain - 723GRSDRN]

Temporal Representation: Data was collected over the time period 11/2/2004-11/4/2004.
Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.

QAPP Information: The SWAMP QAPP (2002) was followed.
QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 18966, Endosulfan **Region 7**
Imperial Valley Drains

LOE ID: 46182
Pollutant: Endosulfan
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 4
Number of Exceedances: 0
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Imperial Valley Drains to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Endosulfan, Total. Eleven composites (2 - 3 fish per composite) were generated from three species: common carp, Tilapia spp, and channel catfish. Total endosulfan was calculated as the sum of endosulfan I and endosulfan II. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline:	The modified OEHHA Fish Contaminant Goal for endosulfan (I and II) in fish tissue is 13,000 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A cooking reduction factor of 1 is applied for skin-off fillets.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories Volume 1: Fish Sampling and Analysis
Spatial Representation:	Data for this line of evidence for Imperial Valley Drains was collected at 2 monitoring sites [Central Drain - 723CNTDRN, Greeson Drain - 723GRSDRN]
Temporal Representation:	Data was collected over the time period 11/2/2004-11/4/2004.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2002) was followed.
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 18966, Endosulfan	Region 7
Imperial Valley Drains	

LOE ID:	5533
Pollutant:	Endosulfan
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Total
Beneficial Use:	Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples:	40
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Twenty-one fish fillet samples and nineteen whole fish samples were taken at 14 locations in Imperial Valley drains. The fish samples were generally collected from 10/1985 through 11/2000. Of these total samples, none exceeded the OEHHA Screening Value. (TSMP, 2007).
Data Reference:	Toxic Substances Monitoring Program (TSMP) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 20,000 ug/kg to protect human health when consuming fish (OEHHA, 1999).
Guideline Reference:	Prevalence of Selected Target Chemical Contaminants in Sport Fish From Two California Lakes: Public health designed screening study. Sacramento, CA: Office of Environmental Health Hazard Assessment
Spatial Representation:	Samples were collected from the following Imperial Valley drain locations; Rose drain, Holtville Main drain, Central drain, South Central drain, Rice drain 3, Verde drain, Greeson drain, Fig drain, Pumice drain, Mayflower drain, Orange drain, Peach Drain, Tokay drain, Barbara Worth drain, and Warren drain.
Temporal Representation:	Fish tissue samples were generally collected from 10/1985 through 11/2000. Fish tissue samples were not collected from each location every sampling round. Twenty-one fish fillet samples of carp, channel catfish,

tilapia, flathead catfish, spiny soft shelled turtle, redbelly tilapia, and yellow bullhead were collected. Eight carp fillet composite samples were collected in the years (2)1985, 1986, 1988, (3)1990, and 1999. Two carp single fish fillet samples were collected in the years 1989-90. Three channel catfish fillet composite samples were collected in the years 1989-90, and 1999. One channel catfish single fish fillet sample was collected in the year 1999. Two tilapia fillet composite samples were collected in the years 1996, and 2000. One flathead catfish fillet composite sample was collected in the year 1988. Two spiny soft shelled turtle fillet composite samples were collected in the year (2)1992. One redbelly tilapia fillet composite sample was collected in the year 1992. One yellow bullhead fillet composite sample was collected in the year 1985. Nineteen whole fish samples of mosquitofish, and sailfin molly were collected. Twelve mosquitofish whole fish composite samples were collected in 1985, 1989, (2)1990, (3)1991, 1995-96, and (3)2000. Seven sailfin molly whole fish composite samples were collected in (2)1989, 1991, (2)1992, (2)2000.

Environmental Conditions:
QAPP Information:

The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies Quality Assurance Program Plan procedures for Laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s):

[Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality, Sacramento, CA.](#)

DECISION ID	30945	Region 7
New River (Imperial County)		

Pollutant: Bifenthrin
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Three lines of evidence are available in the administrative record to assess this pollutant. Two water samples and one sediment samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of two water samples exceed the UC Davis Aquatic Life Criteria and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30945, Bifenthrin **Region 7**

New River (Imperial County)

LOE ID:	46351
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	2
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 2 of 2 samples exceed the criterion for Bifenthrin. Ten sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective (0.0006 ug/L) and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	UC Davis Aquatic Life Criteria: Aquatic life should not be affected unacceptably if the 4-day average concentration of bifenthrin does not exceed 0.0006 ug/L and if the 1-h average concentration does not exceed 0.004 ug/L. Mixtures of bifenthrin and other pyrethroids should be considered in an additive manner. (Fojut et al. 2012)
Guideline Reference:	Aquatic life water quality criteria derived via the UC Davis method: II. Pyrethroid insecticides. Reviews of Environmental Contamination and Toxicology 216:51-103.
Spatial Representation:	Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet - 723NROTWM, New River at Boundary - 723NRBDY]
Temporal Representation:	Data was collected over the time period 10/25/2005-10/28/2008.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Line of Evidence (LOE) for Decision ID 30945, Bifenthrin **Region 7**

New River (Imperial County)

LOE ID:	35419
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	10
Number of Exceedances:	1
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 1 of 10 samples exceed the criterion for Bifenthrin.

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan for the Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).

Guideline Reference: [Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5](#)
[Quality Assurance Project Plan for Stanislaus National Forest by Central Sierra Environmental Resource Center.](#)

Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet - 723NROTWM, New River at Boundary - 723NRBDRY]

Temporal Representation: Data was collected over the time period 10/25/2005-4/21/2008.

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

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30945, Bifenthrin New River (Imperial County)	Region 7
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LOE ID:	34042
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	The one sample collected for bifenthrin did not exceed the evaluation guideline.
Data Reference:	Statewide Stream Pollution Trends Study 2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life. (Water Quality Control Plan, Colorado River Basin)
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	The evaluation guideline for bifenthrin is the median lethal concentration (LC50) of 0.43 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum

[24:No. 5](#)

[Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.](#)

Spatial Representation: Data were collected at the following station: 723NROTWM (New River Outlet).

Temporal Representation: The sample was collected on 10/28/2008.

Environmental Conditions:

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 30946 Region 7
New River (Imperial County)

Pollutant: Chloride

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

Last Listing Cycle's Final Listing Decision: New Decision

Revision Status

Revised

Sources: Source Unknown

Expected TMDL Completion Date: 2025

Impairment from Pollutant or Pollution: Pollutant

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

One line of evidence is available in the administrative record to assess this pollutant. Twelve of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twelve of 12 water samples exceed the USEPA National Recommended Water Quality Criteria and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30946, Chloride Region 7
New River (Imperial County)

LOE ID: 33106
Pollutant: Chloride
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 12
Number of Exceedances: 12

Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: 12 of the 12 samples exceeded the criteria of 230 mg/L.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: The Chloride criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 230000 ug/L (230 mg/L)(USEPA National Recommended Water Quality Criteria, 2006).
 Objective/Criterion Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected at stations 723NRBDRY (New River at Boundary) and 723NROTWM (New River Outlet).
 Temporal Representation: Samples were collected on 10/25/2005, 5/1/2006, 5/7/2007, 10/23/2007, 4/21/2008, and 10/28/2008.
 Environmental Conditions:
 QAPP Information: SWAMP QAPP (2008).
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	30949	Region 7
New River (Imperial County)		

Pollutant: Cypermethrin
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. Three of the sediment samples exceed the water quality objective, and twelve of 12 toxicity samples exceed water quality objectives.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. One of one water sample exceeded the UC Davis Aquatic Life Criteria and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Three of 10 sediment samples exceeded the median lethal concentration (LC50) used to interpret the water quality objective and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
5. Twelve of 13 toxicity samples showed significant toxicity as compared to control.
6. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff After review of the available data and information, RWQCB staff concludes that the

Decision Recommendation: water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30949, Cypermethrin New River (Imperial County) Region 7

LOE ID: 32024
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 1
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. One of the samples exhibited significant toxicity. The toxicity tests included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).
 Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.
 Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)
 Spatial Representation: The samples were collected at station 723NROTWM.
 Temporal Representation: The sample was collected in October 2008.
 Environmental Conditions:
 QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30949, Cypermethrin New River (Imperial County) Region 7

LOE ID: 34041
 Pollutant: Cypermethrin
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 0
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: The one data point collected for cypermethrin did exceed the guideline when normalized for organic carbon. However, this data point is below the reporting limit for cypermethrin. Data points below the reporting limit

cannot be quantified with an acceptable level of certainty and so cannot be used in the assessment.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life. (Water Quality Control Plan, Colorado River Basin)

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample (Maund et al. 2002).

Guideline Reference: [Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15](#)

Spatial Representation: Data were collected at the following station: 723NROTWM (New River Outlet).

Temporal Representation: The sample was collected on 10/28/2008.

Environmental Conditions:

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30949, Cypermethrin **Region 7**
New River (Imperial County)

LOE ID: 35472

Pollutant: Cypermethrin

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 10

Number of Exceedances: 3

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 3 of 10 samples exceed the criterion for Cypermethrin, total.

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan for the Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The evaluation guideline for cypermethrin is the median lethal concentration (LC50) of 0.3 ug/g and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).

Guideline Reference: [Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15](#)

Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet - 723NROTWM, New River at Boundary - 723NRBDY]

Temporal Representation: Data was collected over the time period 10/25/2005-4/21/2008.

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

of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30949, Cypermethrin New River (Imperial County) Region 7

LOE ID: 46365
 Pollutant: Cypermethrin
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 1
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Cypermethrin, total. Eleven sample results were not used in the assessment because the laboratory data reporting limit(s) was above the objective (0.0002 ug/L) and therefore the results could not be quantified with the level of certainty required by the Listing Policy.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: UC Davis Aquatic Life Criteria: Aquatic life should not be affected unacceptably if the 4-day average concentration of cypermethrin does not exceed 0.0002 ug/L and if the 1-h average concentration does not exceed 0.001 ug/L. Mixtures of cypermethrin and other pyrethroids should be considered in an additive manner. (Fojut et al. 2012)
 Guideline Reference: [Aquatic life water quality criteria derived via the UC Davis method: II. Pyrethroid insecticides. Reviews of Environmental Contamination and Toxicology 216:51-103.](#)
 Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet - 723NROTWM, New River at Boundary - 723NRBDY]
 Temporal Representation: Data was collected over the time period 10/25/2005-10/28/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30949, Cypermethrin New River (Imperial County) Region 7

LOE ID: 32023
 Pollutant: Toxicity
 LOE Subgroup: Toxicity
 Matrix: Sediment
 Fraction: None
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 12
 Number of Exceedances: 11
 Data and Information Type: TOXICITY TESTING
 Data Used to Assess Water Quality: Twelve samples were collected to evaluate sediment toxicity. Eleven of

the samples exhibited significant toxicity. The toxicity tests included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at stations 723NROTWM and 723NRBDY.

Temporal Representation: The samples were collected from October 2005 to October 2008.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	22491	Region 7
New River (Imperial County)		

Pollutant: Naphthalene

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

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2010)

Revision Status: Revised

Sources: Source Unknown

Expected TMDL Completion Date: 2025

Impairment from Pollutant or Pollution: Pollutant

Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.6 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

Five lines of evidence are available in the administrative record to assess this pollutant. All sediment LOEs are combined for a use rating determination, and received a not supporting due to two of 23 sediment sample exceedances. Two of the sediment samples exceed the water quality objective, and twelve toxicity samples exceed water quality objectives.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the

Policy.

2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Two of 23 sediment samples exceeded the sediment quality guideline used to interpret the water quality objective, and twelve of 13 sediment toxicity samples showed significant toxicity as compared to control. These exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 22491, Naphthalene New River (Imperial County)		Region 7
LOE ID:	32023	
Pollutant:	Toxicity	
LOE Subgroup:	Toxicity	
Matrix:	Sediment	
Fraction:	None	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	12	
Number of Exceedances:	11	
Data and Information Type:	TOXICITY TESTING	
Data Used to Assess Water Quality:	Twelve samples were collected to evaluate sediment toxicity. Eleven of the samples exhibited significant toxicity. The toxicity tests included survival and growth of <i>Hyalella azteca</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).	
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.	
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006	
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.	
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition, U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064	
Spatial Representation:	The samples were collected at stations 723NROTWM and 723NRBDY.	
Temporal Representation:	The samples were collected from October 2005 to October 2008.	
Environmental Conditions:		
QAPP Information:	Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.	
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan	

Line of Evidence (LOE) for Decision ID 22491, Naphthalene New River (Imperial County)		Region 7
LOE ID:	5330	
Pollutant:	Naphthalene	

LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Not Recorded
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 0
 Data and Information Type: Other Agencies/Organizations provided monitoring data
 Data Used to Assess Water Quality: One sediment quality sample was taken at 1 location along the river, collected on 7/11/1986. This sample did not exceed the PEC Criteria (USGS, 2007).
 Data Reference: [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentration (PEC) Criteria 561 ug/kg for the protection of aquatic life uses (MacDonald et al, 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Samples were collected at the following New River location: USGS Station No. 10254970 near the International Boundary in Calexico, Ca.
 Temporal Representation: One sample was collected on 7/11/1986.
 Environmental Conditions:
 QAPP Information: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).
 QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

Line of Evidence (LOE) for Decision ID 22491, Naphthalene **Region 7**
New River (Imperial County)

LOE ID: 5107
 Pollutant: Arsenic | Benzo(a)anthracene | Cadmium | Chromium (total) | Chrysene (C1-C4) | Copper | Dieldrin | Endrin | Fluoranthene | Fluorene | Lead | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Mercury | Naphthalene | Nickel | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 14
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)

Data Used to Assess Water Quality: Fourteen sediment quality samples were collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations in the along the New River. Of these total samples, none exceeded the PEC (SWAMP, 2007).

Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentrations (PECs) for the protection of freshwater organisms to toxic effects were used for the following constituents: 33 mg/kg Arsenic, 1050 ug/kg Benz[a]anthrazene, 4.98 mg/kg Cadmium, 111 mg/kg Chromium, 1290 ug/kg Chrysene, 149 mg/kg Copper, 61.8 ug/g Dieldrin, 207 ug/kg Endrin, 2230 ug/kg Fluoranthene, 536 ug/kg Fluorene, 128 mg/kg Lead, 4.99 ug/kg Lindane/Hexachlorocyclohexane (HCH), 1.06 mg/kg Mercury, 561 ug/kg Naphthalene, 48.6 mg/kg Nickel, 676 ug/kg PCBs (Polychlorinated biphenyls), 1170 ug/kg Phenanthrene , 1520 ug/kg Pyrene (Macdonald et al, 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and near the outlet to the Salton Sea near Calipatria, CA.

Temporal Representation: Fourteen sediment samples were collected. Sediment samples were collected and analyzed biannually from 5/2002 through 5/2005, in May and October.

Environmental Conditions: QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 22491, Naphthalene Region 7
New River (Imperial County)

LOE ID: 32024

Pollutant: Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: One sample was collected to evaluate sediment toxicity. One of the samples exhibited significant toxicity. The toxicity tests included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at station 723NROTWM.

Temporal Representation: The sample was collected in October 2008.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 22491, Naphthalene New River (Imperial County)	Region 7
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LOE ID:	32565
Pollutant:	Naphthalene
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	2
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Two of 8 samples collected for naphthalene (Sum of c0-c4) exceeded the evaluation guideline.
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Colorado River Basin Plan).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	The Probable Effect Concentration for naphthalene in freshwater sediments is 561 ug/kg.
Guideline Reference:	Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31
Spatial Representation:	Data were collected at the following station: New River at Boundary - 723NRBDY, New River Outlet - 723NROTWM.
Temporal Representation:	The samples were collected on 10/25/2005 - 4/21/2008.
Environmental Conditions:	
QAPP Information:	The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

DECISION ID	30956	Region 7
New River (Imperial County)		
Pollutant:	Nitrogen, ammonia (Total Ammonia)	

Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final New Decision
Listing Decision:
Revision Status Revised
Sources: Out of state source
Expected TMDL 2025
Completion Date:
Impairment from Pollutant
Pollutant or Pollution:
Regional Board Staff This pollutant is being considered for placement on the section 303(d) list under
Conclusion: section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Seven of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of 11 water samples exceed the USEPA Temperature and pH-Dependent values of the CCC (Chronic Criterion) and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff After review of the available data and information, RWQCB staff concludes that the
Decision water body-pollutant combination should be placed on the section 303(d) list
Recommendation: because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 30956, Nitrogen, ammonia (Total Ammonia) Region 7
New River (Imperial County)

LOE ID: 34589
Pollutant: Nitrogen, ammonia (Total Ammonia)
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Total
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 11
Number of Exceedances: 7
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: 7 of the 11 samples exceed the water USEPA Temperature and pH-Dependent values of the CCC (Chronic Criterion) for Fish Early Life Stages Present for ammonia.
Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: Water Quality Control Plan, Colorado River Basin Region (RWQCB 2006): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. There is no water quality objective for ammonia in the Water Quality Control Plan, Colorado River Basin. Instead, the USEPA criteria for ammonia was used as Temperature and pH-Dependent Values of the CCC (Chronic Criterion)for Fish Early Life

Objective/Criterion Reference: Stages Present.
[1999 Update of Ambient Water Quality Criteria for Ammonia](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples collected at 723NRBDRY (New River at Boundary and 723NROTWM (New River Outlet).
 Temporal Representation: Samples collected between 10/25/2005 and 10/28/2008.
 Environmental Conditions:
 QAPP Information: SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	18136	Region 7
New River (Imperial County)		
Pollutant:	Copper	
Final Listing Decision:	Delist from 303(d) list (TMDL required list)	
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2010)	
Revision Status	Revised	
Reason for Delisting:	Applicable WQS attained; reason for recovery unspecified	
Impairment from Pollutant or Pollution:	Pollutant	
Regional Board Staff Conclusion:	This pollutant is being considered for removal from the section 303(d) list under section 4.1 and 4.6 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.	

Ten lines of evidence are available in the administrative record to assess this pollutant. LOE No. 4921 is replaced by the LOE No. 46773, which is assessed based on the current water quality objective, so the LOE No. 4921 is not included in the final use rating. This listing was originally made by USEPA in 2006 assessment cycle based on the LOE No. 2922. In the final decision, USEPA stated that its applicable limit for copper was exceeded, on a 4-day average, "less frequently than once every three years." In data assessed in 2006, six of 113 samples exceeded water quality objective. Although these number of exceedances did not exceed the allowable frequency listed in Table 3.1 of the listing Policy, all exceedances occurred in 2001 and 2002 that were more frequent than once every three years.

However, the current water quality data collected by the SWAMP shows that no exceedances for copper have been observed from 2002 to 2012 (17 additional data collected from 2009 to 2012 are attached in the staff report). Although 44 total samples were collected by the SWAMP from May 2002 to October 2012, only 27 of SWAMP samples are included in current assessment because of the cutoff date for data solicitation, i.e., 12 samples in LOE No. 32899, and 15 samples in LOE No. 46773. For a final use rating determination, these two LOEs are combined with LOE No. 2922, and all three LOEs result in the total number of 140 samples. In addition, six of 140 water samples exceeded the CTR criterion continuous concentration, and this does not exceed the allowable frequency listed in Table 4.1 of the Listing Policy. All four sediment LOEs are combined for a use rating determination. LOE Nos. 5278 and 5048 are combined for a use rating determination as well.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the

- Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
 3. Six of 140 water samples exceeded the CTR criterion continuous concentration to protect aquatic life in freshwater, and none of 28 sediment samples exceeded the sediment quality guideline. These do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
 4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
- Regional Board Staff Decision Recommendation:** After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be removed from the section 303(d) list because applicable water quality standards for the pollutant are not being exceeded.

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 2922
 Pollutant: Copper
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 113
 Number of Exceedances: 6
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: Samples were collected by the RWQCB from June 1995 to December 2003 on the New River at the International Boundary. Of the 98 monthly samples, 6 were in exceedance of the chronic criteria and 0 were in exceedance of the acute criteria. Samples were also collected by the RWQCB at three locations on the New River from 6/11/1996 to 12/4/1996. None of the 6 samples were in exceedance. Samples were also collected by the RWQCB from 10/31/1999 to 11/6/1999 on the New River. None of these 9 samples were in exceedance (CRBRWQCB, 2004c) (USEPA, 2007).

Data Reference: [Placeholder reference 2006 303\(d\)](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: CTR: freshwater chronic maximum as a 4-day average based on hardness and freshwater acute maximum based on hardness.
 Objective/Criterion Reference: [Placeholder reference 2006 303\(d\)](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected on the New River at the International Boundary. For the 6 samples, they were collected on the New River at the International Boundary, and at both the International Drain and Puente Madero.
 Temporal Representation: The 98 samples were collected monthly from June 1995 to December 2003. The 6 samples were collected on 6 days from 6/11/1996 to 12/4/1996, and the 9 samples were collected monthly from 10/31/1999 to 11/6/1999.
 Environmental Conditions: For the 98 samples, temperature, pH, D.O., and conductivity were also measured.
 QAPP Information: Used RWQCB QA/QC in sample collection. Lab analysis was done by E.S. Babcock & Sons laboratory and a Quality Assurance Manual was provided.
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 4921
 Pollutant: Copper
 LOE Subgroup: Pollutant-Water

Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 15
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Fifteen water quality samples were collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations in the New River. Of these total samples, none exceeded the CTR Criteria (SWAMP, 2007).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: California Toxics Rule Hardness Dependent Criterion Maximum Concentration (CMC) for the protection of freshwater aquatic life uses (USEPA, 2000).
 Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and at the outlet to the Salton Sea near Calipatria, CA.
 Temporal Representation: Fifteen water samples were collected. Water samples were generally collected and analyzed biannually from 5/2002 through 5/2005, in May and October. An additional sample was collected from the International Boundary location in 7/2003.
 Environmental Conditions:
 QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).
 QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 18136, Copper Region 7
New River (Imperial County)

LOE ID: 46773
 Pollutant: Copper
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 15
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Fifteen water quality samples were collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations in the New River. Of these total samples, none exceeded the CTR Criteria (SWAMP, 2007).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: California Toxics Rule (CTR) lists criterion continuous concentrations (4-day average) to protect aquatic life in freshwater. The criterion in freshwater is hardness dependent for each sample and varies based on

the ambient hardness during sampling. Section (b)(1) in CTR contains the hardness dependent formula for the metals criterion.

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

Evaluation Guideline:
Guideline Reference:

Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and at the outlet to the Salton Sea near Calipatria, CA.

Temporal Representation: Fifteen water samples were collected. Water samples were generally collected and analyzed biannually from 5/2002 through 5/2005, in May and October. An additional sample was collected from the International Boundary location in 7/2003.

Environmental Conditions:
QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 35500

Pollutant: Copper

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Copper.

Data Reference: [Statewide Stream Pollution Trends Study 2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 1 monitoring site [New River Outlet]

Temporal Representation: Data was collected on a single day 10/28/2008.

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

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 5048
 Pollutant: Copper
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 14
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Fourteen water quality samples were collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations along the New River. Of these total samples, none exceeded the USFWS Biological Effects Criteria (SWAMP, 2007).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: United State Fish and Wildlife Service (USFWS) Biological Effects Criteria of 15 mg/l for the protection of aquatic life uses (USDOI, 1998).
 Guideline Reference: [Guidelines for Interpretation of the Biological Effect of Selected Constituents in Biota, Water, and Sediment. US Department of Interior report.](#)
 Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and near the outlet to the Salton Sea near Calipatria, CA.
 Temporal Representation: Fourteen water samples were collected. Water samples were collected and analyzed biannually, in May and October, from 5/2002 through 5/2005.
 Environmental Conditions:
 QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).
 QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 32899
 Pollutant: Copper, Dissolved
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 12
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: None of the 12 samples exceeded the hardness based criteria calculated for copper.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: California Toxics Rule (CTR) lists criterion continuous concentrations (4-day average) to protect aquatic life in freshwater. The criterion in

freshwater is hardness dependent for each sample and varies based on the ambient hardness during sampling. Section (b)(1) in CTR contains the hardness dependent formula for the metals criterion.

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

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples collected at stations 723NRBDY (New River at Boundary), and 723NROTWM (New River Outlet).

Temporal Representation: Samples collected between 10/25/2005 and 10/28/2008.

Environmental Conditions:

QAPP Information: SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 35297

Pollutant: Copper

LOE Subgroup: Pollutant-Sediment

Matrix: Sediment

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 10

Number of Exceedances: 0

Data and Information Type: PHYSICAL/CHEMICAL MONITORING

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 0 of 10 samples exceed the criterion for Copper.

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for copper is 149 mg/Kg dry weight (MacDonald et al. 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet, New River at Boundary]

Temporal Representation: Data was collected over the time period 10/25/2005-4/21/2008.

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

QAPP Information: The SWAMP QAPP (2008) was followed.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 18136, Copper **Region 7**
New River (Imperial County)

LOE ID: 5107

Pollutant: Arsenic | Benzo(a)anthracene | Cadmium | Chromium (total) | Chrysene (C1-C4) | Copper | Dieldrin | Endrin | Fluoranthene | Fluorene | Lead | Lindane/gamma Hexachlorocyclohexane (gamma-HCH) | Mercury | Naphthalene | Nickel | PCBs (Polychlorinated biphenyls) | Phenanthrene | Pyrene

LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 14
 Number of Exceedances: 0
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Fourteen sediment quality samples were collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations in the along the New River. Of these total samples, none exceeded the PEC (SWAMP, 2007).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentrations (PECs) for the protection of freshwater organisms to toxic effects were used for the following constituents: 33 mg/kg Arsenic, 1050 ug/kg Benz[a]anthracene, 4.98 mg/kg Cadmium, 111 mg/kg Chromium, 1290 ug/kg Chrysene, 149 mg/kg Copper, 61.8 ug/g Dieldrin, 207 ug/kg Endrin, 2230 ug/kg Fluoranthene, 536 ug/kg Fluorene, 128 mg/kg Lead, 4.99 ug/kg Lindane/Hexachlorocyclohexane (HCH), 1.06 mg/kg Mercury, 561 ug/kg Naphthalene, 48.6 mg/kg Nickel, 676 ug/kg PCBs (Polychlorinated biphenyls), 1170 ug/kg Phenanthrene , 1520 ug/kg Pyrene (Macdonald et al, 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and near the outlet to the Salton Sea near Calipatria, CA.
 Temporal Representation: Fourteen sediment samples were collected. Sediment samples were collected and analyzed biannually from 5/2002 through 5/2005, in May and October.
 Environmental Conditions:
 QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).
 QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

**Line of Evidence (LOE) for Decision ID 18136, Copper
New River (Imperial County)**

Region 7

LOE ID: 5278
 Pollutant: Copper
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 16
 Number of Exceedances: 0
 Data and Information Type: Other Agencies/Organizations provided monitoring data
 Data Used to Assess Water Quality: Fifty-seven water samples were taken at 2 locations on the river. Forty-

one water sample results could not be used in the assessment because either the sample results were non-detect and the detection limit was above the criteria concentration or the sample results were zero and the detection limit could not be determined. The 16 acceptable water quality samples were generally collected from 2/1973 through 5/1984. Of all these samples, none exceed the USFWS Biological Effects Criteria (USGS, 2007).

Data Reference: [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: United States Fish and Wildlife Service (USFWS) Biological Effects Criteria of 15 mg/l for the protection of aquatic life uses (USDOI, 1998).

Guideline Reference: [Guidelines for Interpretation of the Biological Effect of Selected Constituents in Biota, Water, and Sediment. US Department of Interior report.](#)

Spatial Representation: Samples were collected at the following New River location: USGS Station No. 10255550 located near Westmorland, Ca., and USGS Station No. 10254970 near the International Boundary in Calexico, Ca.

Temporal Representation: Fifty-seven samples were collected. Samples were generally collected from 2/1973 through 2/1985. Twenty-nine samples were collected from 1973-1979, and 28 samples were collected from 1980-1985.

Environmental Conditions: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).

QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

Line of Evidence (LOE) for Decision ID 18136, Copper New River (Imperial County)		Region 7
LOE ID:	5322	
Pollutant:	Copper	
LOE Subgroup:	Pollutant-Sediment	
Matrix:	Sediment	
Fraction:	Total	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	3	
Number of Exceedances:	0	
Data and Information Type:	Other Agencies/Organizations provided monitoring data	
Data Used to Assess Water Quality:	Three sediment quality samples were taken at 3 locations along the river. The samples were generally collected from 11/1973 through 4/2003. Of these total samples, none exceeded the PEC Criteria (USGS, 2007).	
Data Reference:	Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System (NWIS)	

SWAMP Data: [Water Quality database. 1961-2005.](#)
 Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentration (PEC) Criteria 149 mg/kg for the protection of aquatic life uses (MacDonald et al, 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Samples were collected at the following New River locations: USGS Station No. 10255550 located near Westmorland, Ca., USGS Station No. 330559115385601 at Lack Road near Calipatria, Ca, and USGS Station No. 10254970 near the International Boundary in Calexico, Ca.

Temporal Representation: Three samples were collected. One sample was collected on 11/07/1973, another sample was collected on 10/24/01, and another sample was collected 4/14/03.

Environmental Conditions:
 QAPP Information: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).

QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

DECISION ID	30385	Region 7
New River (Imperial County)		

Pollutant:	Zinc
Final Listing Decision:	Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2010)
Revision Status	Revised
Reason for Delisting: Impairment from Pollutant or Pollution:	Applicable WQS attained; reason for recovery unspecified
Regional Board Staff Conclusion:	This pollutant is being considered for placement on the section 303(d) list under section 4.1 and 4.6 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status.

Eight lines of evidence are available in the administrative record to assess this pollutant. Two of 17 sediment samples exceeded sediment quality guideline in last assessment cycle, and LOE No. 2952 was used as a supporting LOE. However, more sediment data for zinc were collected over the years, and the total sample size became 28 with two exceedances, which meets the required sample size for delisting under Table 4.1. In addition, separate decision has been made for toxicity, and sediment toxicity caused by zinc was no longer observed. Thus, the LOE No. 2952 is not included in the final use rating. LOEs 2930, 5027, and 32568 were combined to determine a use rating as well.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Two of 28 sediment samples exceeded the sediment quality guideline used to interpret the water quality objective, none of 128 water sample exceeded the CTR criterion maximum concentration. These do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff
Decision
Recommendation:**

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

Line of Evidence (LOE) for Decision ID 30385, Zinc **Region 7**
New River (Imperial County)

LOE ID:	2930
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	113
Number of Exceedances:	0
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Samples were collected by the RWQCB from June 1995 to December 2003 on the New River at the International Boundary. Of the 98 monthly samples, 0 were in exceedance of the criteria. Samples were also collected by the RWQCB on the New River at 3 locations from 6/11/1996 to 12/4/1996. None of these 6 samples were in exceedance. Samples were also collected by the RWQCB from 10/31/1999 to 11/6/1999 on the New River. None of these 9 samples were in exceedance (CRBRWQCB, 2004C).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	CTR: freshwater acute maximum based on hardness and freshwater chronic maximum as a 4-day average based on hardness.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Most samples were collected on the New River at the International Boundary. For the 6 samples, they were collected on the New River at the International Boundary, and at both the International Drain and Puente Madero.
Temporal Representation:	The 98 samples were collected monthly from June 1995 to December 2003. The 6 samples were collected on 6 days from 6/11/1996 to 12/4/1996, and the 9 samples were collected monthly from 10/31/1999 to 11/6/1999.
Environmental Conditions:	For the 98 samples, temperature, pH, D.O., and conductivity were also measured.
QAPP Information:	Used RWQCB QA/QC in sample collection. Lab analysis was done by E.S. Babcock & Sons laboratory and a Quality Assurance Manual was provided.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 30385, Zinc
New River (Imperial County)**

Region 7

LOE ID:	2952
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	4
Number of Exceedances:	4
Data and Information Type:	Not Specified
Data Used to Assess Water Quality:	Toxicity testing data generated from 4 sediment samples. Four of these samples were toxic (SWAMP, 2004).
Data Reference:	Placeholder reference 2006 303(d)
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Basin Plan: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or indigenous aquatic life.
Objective/Criterion Reference:	Placeholder reference 2006 303(d)
Evaluation Guideline:	Significant toxicity as compared to control.
Guideline Reference:	Placeholder reference 2006 303(d)
Spatial Representation:	Three stations were sampled, all were situated along the New River from the international boundary with Mexico to the outlet (mouth) of New River into the Salton Sea.
Temporal Representation:	All samples were taken between the spring (May) and the fall (October) of 2002. Toxicity was detected during both seasons.
Environmental Conditions:	The New River flows from Mexico through the Imperial Valley in the Salton Sea. Most of the water flowing through it comes from agricultural return flows.
QAPP Information:	SWAMP QAPP.
QAPP Information Reference(s):	

**Line of Evidence (LOE) for Decision ID 30385, Zinc
New River (Imperial County)**

Region 7

LOE ID:	4874
Pollutant:	Zinc
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	14
Number of Exceedances:	2
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)
Data Used to Assess Water Quality:	Fourteen sediment quality samples were generally collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations along the New River. Of these total samples , 2 exceeded the PEC. The exceedences were found in samples collected on 11/04/2003, and 10/04/2004 from the International Boundary location (SWAMP, 2007).
Data Reference:	Surface Water Ambient Monitoring Program (SWAMP) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006

Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentration (PEC) of 459 mg/kg for the protection of freshwater organisms to toxic effects (Macdonald et al, 2000).

Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)

Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and near the outlet to the Salton sea near Calipatria, CA.

Temporal Representation: Fourteen sediment samples were collected. Sediment samples were collected and analyzed biannually from 5/2002 through 5/2005 at the International Boundary and outlet to the Salton Sea locations. Samples were usually collected in May and October. The exceedences were found in samples collected from 11/04/2003 through 10/04/2004.

Environmental Conditions: QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 30385, Zinc **Region 7**
New River (Imperial County)

LOE ID: 5027

Pollutant: Lead | Zinc

LOE Subgroup: Pollutant-Water

Matrix: Water

Fraction: Dissolved

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 15

Number of Exceedances: 0

Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)

Data Used to Assess Water Quality: Fifteen water quality samples were generally collected and analyzed biannually from 5/2002 through 5/2005 at 2 locations along the New River. Of these total samples, none exceeded the CTR Criteria (SWAMP, 2007).

Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. May 2002-May 2005.](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: California Toxics Rule (CTR) Hardness Dependent Criterion Maximum Concentrations (CMCs) for the protection of freshwater aquatic life uses were used for the following constituents: Lead, and Zinc (USEPA, 2000).

Objective/Criterion Reference: [Water Quality Standards 2000. Establishment of numeric criteria for priority toxic pollutants for the State of California: Rules and regulations. Federal Register Vol. 65, No. 97. Washington, D.C.: Environmental Protection Agency](#)

Evaluation Guideline:

Guideline Reference:

Spatial Representation: Samples were collected from the following New River locations: at the International Boundary, and near the outlet to the Salton Sea near Calipatria, CA.

Temporal Representation: Fifteen water samples were collected. Water samples were collected and analyzed biannually, in May and October, from 5/2002 through 5/2005. Another sample was collected from the International Boundary location in 7/2003.

Environmental Conditions: QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan

QAPP Information Reference(s): (QAMP) (Puckett, 2002).
[Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 30385, Zinc **Region 7**
New River (Imperial County)

LOE ID: 5324
 Pollutant: Zinc
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 3
 Number of Exceedances: 0
 Data and Information Type: Other Agencies/Organizations provided monitoring data
 Data Used to Assess Water Quality: Three sediment quality samples were taken at 3 locations along the river. The samples were generally collected from 11/1973 through 4/2003. Of these total samples, none exceeded the PEC Criteria (USGS, 2007).
 Data Reference: [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Consensus Based Sediment Quality Guideline Probable Effects Concentration (PEC) Criteria 459 mg/kg for the protection of aquatic life uses (MacDonald et al, 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Samples were collected at the following New River locations: USGS Station No. 10255550 located near Westmorland, Ca., USGS Station No. 330559115385601 at Lack Road near Calipatria, Ca, and USGS Station No. 10254970 near the International Boundary in Calexico, Ca.
 Temporal Representation: Three samples were collected. One sample was collected on 11/07/1973, another sample was collected on 10/24/01, and another sample was collected 4/14/03.
 Environmental Conditions:
 QAPP Information: Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).
 QAPP Information Reference(s): [Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System \(NWIS\) Water Quality database. 1961-2005.](#)
[Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey \(USGS\). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at <http://pubs.water.usgs.gov/twri9A>.](#)

Line of Evidence (LOE) for Decision ID 30385, Zinc **Region 7**
New River (Imperial County)

LOE ID: 32568

Pollutant: Zinc
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Dissolved
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 12
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: None of the 12 samples exceeded the hardness based criteria calculated for zinc.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: California Toxics Rule (CTR) lists criterion continuous concentrations (4-day average) to protect aquatic life in freshwater. The criterion in freshwater is hardness dependent for each sample and varies based on the ambient hardness during sampling. Section (b)(1) in CTR contains the hardness dependent formula for the metals criterion.
 Objective/Criterion Reference: [Code of Federal Regulations 40 part 131.38 Establishment of numeric criteria for priority toxic pollutants for the State of California. 7/1/2011 Edition](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples collected at stations 723NRBDY (New River at Boundary), and 723NROTWM (New River Outlet).
 Temporal Representation: Samples collected between 10/25/2005 and 10/28/2008.
 Environmental Conditions:
 QAPP Information: SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30385, Zinc Region 7
New River (Imperial County)

LOE ID: 35413
 Pollutant: Zinc
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 10
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 0 of 10 samples exceed the criterion for Zinc.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 2 monitoring sites [New River Outlet, New River at Boundary]

Temporal Representation: Data was collected over the time period 10/25/2005-4/21/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Line of Evidence (LOE) for Decision ID 30385, Zinc **Region 7**
New River (Imperial County)

LOE ID: 35897
 Pollutant: Zinc
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 1
 Number of Exceedances: 0
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for New River (Imperial County) to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Zinc.
 Data Reference: [Statewide Stream Pollution Trends Study 2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: In freshwater sediments the probable effect concentration (predictive of sediment toxicity) for zinc is 459 mg/Kg dry weight (MacDonald et al. 2000).
 Guideline Reference: [Development and evaluation of consensus-based sediment quality guidelines for freshwater ecosystems. Environmental Contamination and Toxicology. 39: 20-31](#)
 Spatial Representation: Data for this line of evidence for New River (Imperial County) was collected at 1 monitoring site [New River Outlet]
 Temporal Representation: Data was collected on a single day 10/28/2008.
 Environmental Conditions: Staff is not aware of any special conditions that might affect interpretation of the data.
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 31008 **Region 7**
Palo Verde Outfall Drain and Lagoon

Pollutant: Chloride
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is

necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Nine of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Nine of 12 water samples exceed the USEPA National Recommended Water Quality Criteria and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff
Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 31008, Chloride Palo Verde Outfall Drain and Lagoon **Region 7**

LOE ID:	33107
Pollutant:	Chloride
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	8
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	8 of the 12 samples exceeded the criteria of 230 mg/L.
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Chloride criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 230000 ug/L (230 mg/L)(USEPA National Recommended Water Quality Criteria, 2006).
Objective/Criterion Reference:	National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at stations 715CPVLG1 (Palo Verde Lagoon (LG1)) and 715CPVOD2 (Palo Verde Outfall Drain (PVOD2)).
Temporal Representation:	Samples were collected on 10/25/2005, 5/2/2006, 5/8/2007, 10/23/2007, 4/22/2008, and 10/29/2008.
Environmental Conditions:	
QAPP Information:	SWAMP QAPP (2008).
QAPP Information Reference(s):	Surface Water Ambient Monitoring Program Quality Assurance Program Plan

Pollutant: Selenium
Final Listing Decision: Delist from 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not Delist from 303(d) list (TMDL required list)(2010)
Revision Status: Revised
Reason for Delisting: Applicable WQS attained; reason for recovery unspecified
Impairment from Pollutant or Pollution: Pollutant
Pollutant or Pollution:
Regional Board Staff Conclusion: This pollutant is being considered for removal from the section 303(d) list under section 4.1, 4.4 and 4.5 of the Listing Policy. Under this section a single line of evidence is necessary to assess listing status.

Six lines of evidence are available in the administrative record to assess this pollutant. None of samples exceeded the water quality objective.

Line of evidence No 4395 is a placeholder line of evidence, containing no data, and it is used to indicate this was a listing made prior to 2006. However, the impairment was not observed in the more current water data, collected from 2005 to 2008 (LOE No. 46833). Although it is not included in current assessment cycle, data collected from April 2009 to current years by the SWAMP, shows no exceedance as well. Since no data can be tractable for the LOE No. 4935, the LOE No. 4935 is not included in the final use rating.

LOE No. 23499 was created in last assessment cycle because the Office of Environmental Health Hazard Assessment has issued a Fish Advisory for the Salton Sea. According to the Listing Policy section 3.4, a health advisory can be used as a basis for listing if data must be available indicating the evaluation guideline for tissue is exceed. LOE No. 5430, which was assessed in last assessment cycle, shows none of 35 fish tissue samples exceedances. Thus, the LOE No. 23499, a health advisory, can't be used to show that this water body is impaired, and therefore, it is not included in the final use rating.

LOE No. 30093 received a use rating of insufficient in last assessment cycle because no evaluation guideline of sediment fraction for selenium was available.

LOE ID 46434 is combined with LOE 5430 to determine a final use rating.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. None of 39 fish tissue samples exceeded the OEHHA fish contaminant goal, and none of 20 water samples exceeded the Basin Plan Objective. These do not exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

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

Line of Evidence (LOE) for Decision ID 21429, Selenium Salton Sea Region 7

LOE ID: 4395
 Pollutant: Selenium

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

Line of Evidence (LOE) for Decision ID 21429, Selenium Region 7
Salton Sea

LOE ID: 5430
 Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 35
 Number of Exceedances: 0
 Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Thirty-five fish fillet samples were taken at 3 locations in the sea. The fish samples were generally collected from 8/1985 through 11/2000. Of these total samples, none exceeded the OEHHA Fish Contaminant Goal (TSMP, 2007).
 Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: Office of Environmental Health Hazard Assessment (OEHHA) Fish Contaminant Goal of 7400 ug/kg to protect human health when consuming fish (OEHHA, 2008).
 Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
 Spatial Representation: Samples were collected from the following Salton Sea locations: from the North end, the South end and the West Side.
 Temporal Representation: Fish samples were generally collected from 6/1984 through 11/2000. Fish samples were not collected from each location every sampling round. Thirty five fish fillet samples of bairdiella, orangemouth corvina, redbelly tilapia, tilapia, and sargo were collected. Five bairdiella fillet composite samples were collected in the years 1985, 1987, (2)1989, and 2000. Ten

orangemouth corvina fillet composite samples were collected in the years 1984-87, (4)1991, 1997, and 1999. Six orangemouth corvine single fish fillet samples were collected in the year (6)1986. Two redbelly tilapia fillet composite samples were collected in year (2)1995. Nine tilapia fillet composite samples were collected in the years 1985,1987, (2)1996, 1997, (2)1998, and (2)2000. Three sargo fillet composite samples were collected in the years 1985, 1987, and 1991.

Environmental Conditions:
QAPP Information:

Field procedures described in TSMP Data Reports and associated Appendices. Used CDFG's Laboratory Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s):

[Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality, Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21429, Selenium **Region 7**
Salton Sea

LOE ID: 23499
 Pollutant: Selenium
 LOE Subgroup: Health Advisories
 Matrix: Tissue
 Fraction: Fish whole body
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples:
 Number of Exceedances:
 Data and Information Type: Not Specified
 Data Used to Assess Water Quality: A fish consumption advisory has been established for selenium in the Salton Sea by the Office of Environmental Health Hazard Assessment. Because of elevated selenium levels, no one should eat more than four ounces of croaker, orangemouth corvina, sargo, or tilapia taken from the Salton Sea in any two-week period.
 Data Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion:
 Objective/Criterion Reference:
 Evaluation Guideline: A fish consumption advisory has been established for selenium in the Salton Sea by the Office of Environmental Health Hazard Assessment. Because of elevated selenium levels, no one should eat more than four ounces of croaker, orangemouth corvina, sargo, or tilapia taken from the Salton Sea in any two-week period.
 Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
 Spatial Representation:
 Temporal Representation:
 Environmental Conditions:
 QAPP Information: Assume good Quality Control
 QAPP Information Reference(s):

Line of Evidence (LOE) for Decision ID 21429, Selenium **Region 7**
Salton Sea

LOE ID: 30093
 Pollutant: Selenium
 LOE Subgroup: Pollutant-Sediment
 Matrix: Sediment
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 29

Number of Exceedances:
 Data and Information Type: Fixed station physical/chemical (conventional plus toxic pollutants)
 Data Used to Assess Water Quality: Twenty-nine sediment quality samples were collected and analyzed biannually from 5/2002 through 5/2004 at eight locations in the Salton Sea (SWAMP, 2006).
 Data Reference: [Surface Water Ambient Monitoring Program \(SWAMP\) Data for organic and inorganic constituents in water and sediment samples collected from water bodies located in the Colorado River Basin- Region 7. May 2002 - May 2004.](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).
 Objective/Criterion Reference: No evaluation guideline for the sediment fraction of Selenium for the protection of human, animal or aquatic life in fresh waters could be found that met the requirements of Section 6.1.3 of the Listing Policy.
 Evaluation Guideline: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Guideline Reference:
 Spatial Representation: Samples were collected from the following Salton Sea location: Salton Sea Drain NW1, Salton Sea Drain NW2, Salton Sea GS2, Salton Sea GS3, Salton Sea GS5, Salton Sea GS7, Salton Sea GS9, Salton Sea GS10.
 Temporal Representation: Twenty-nine sediment samples were collected. Sediment samples were generally collected and analyzed biannually, in May and October, from 5/2002 through 5/2004 from the Salton Sea NW2, GS2, GS7, and GS9 sampling locations. An extra sample was collected and analyzed from the Salton Sea GS9 sampling location in September of 2002. The Salton Sea NW1, GS3, GS5, and GS10 sampling locations were sampled in May and October of 2002 only.
 Environmental Conditions:
 QAPP Information: The sampling and analysis portions of this study were conducted in accordance with the SWAMP Quality Assurance Management Plan (QAMP) (Puckett, 2002).
 QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21429, Selenium Region 7
Salton Sea

LOE ID: 46434
 Pollutant: Selenium
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Fish fillet
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 4
 Number of Exceedances: 0
 Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Salton Sea to determine beneficial use support and results are as follows: 0 of 4 samples exceed the criterion for Selenium. Four composites (5 fish per composite) were generated from one species: *Tilapia leucosticta*. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
 Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical](#)

	Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA
	Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008
	Statewide Lakes Sportfish Contamination Study 2007 2008
	Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	The OEHHA Fish Contaminant Goal for selenium in fish tissue is 7.4 ppm. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day. A background dietary consumption rate of 0.114 mg/day is applied for this micronutrient.
Guideline Reference:	Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene
Spatial Representation:	Data for this line of evidence for Salton Sea was collected at 1 monitoring site [Salton Sea - 728PSS171]. Samples were collected from 4 locations. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).
Temporal Representation:	Data was collected on a single day 10/30/2007.
Environmental Conditions:	Staff is not aware of any special conditions that might affect interpretation of the data.
QAPP Information:	Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).
QAPP Information Reference(s):	Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 (1st version)

Line of Evidence (LOE) for Decision ID 21429, Selenium		Region 7
Salton Sea		
LOE ID:	46833	
Pollutant:	Selenium	
LOE Subgroup:	Pollutant-Water	
Matrix:	Water	
Fraction:	Dissolved	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	20	
Number of Exceedances:	0	
Data and Information Type:	Fixed station physical/chemical (conventional plus toxic pollutants)	
Data Used to Assess Water Quality:	Twenty water quality samples were generally collected and analyzed biannually from 10/2005 through 10/2008 at 4 locations along the Salton Sea. Of these total samples , none exceeded the Basin Plan Objective.	
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	Basin Plan: For all surface waters that are tributaries to the Salton Sea, a	

Objective/Criterion Reference: four day average value of selenium shall not exceed 5 ug/L (CRBRWQCB, 2006).
[Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected at stations: Salton Sea Drain NW2 (Torrez Martinez 2) - 728SSDNW2, Salton Sea USGS2 - 728SSGS02, Salton Sea USGS7 - 728SSGS07, and Salton Sea USGS9 - 728SSGS09.

Temporal Representation: Data were collected 10/26/2005-10/29/2008.
 Environmental Conditions:
 QAPP Information: The SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	31168	Region 7
Salton Sea		

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

Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant

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

One line of evidence is available in the administrative record to assess this pollutant. Twenty of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Twenty of 20 water sample exceeded the USEPA National Recommended Water Quality Criteria and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 31168, Chloride	Region 7
Salton Sea	

LOE ID:	33108
Pollutant:	Chloride
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Total

Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 20
 Number of Exceedances: 20
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: 20 of the 20 samples exceeded the criteria of 230 mg/L.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: The Chloride criterion continuous concentration (expressed as a 4-day average) to protect aquatic life in freshwater is 230000 ug/L (230 mg/L)(USEPA National Recommended Water Quality Criteria, 2006).
 Objective/Criterion Reference: [National Recommended Water Quality Criteria. United States Environmental Protection Agency. Office of Water. Office of Science and Technology](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples were collected at stations 728SSDNW2 (Salton Sea Drain NW2 (Torrez Martinez 2)), 728SSGS02 (Salton Sea USGS2), 728SSGS07 (Salton Sea USGS7), and 728SSGS09 (Salton Sea USGS9).
 Temporal Representation: Samples were collected on 10/26/2005, 5/3/2006, 5/9/2007, 10/24/2007, 4/22/2008, and 10/29/2008.
 Environmental Conditions:
 QAPP Information: SWAMP QAPP (2008).
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID	22365	Region 7
Salton Sea		

Pollutant: Low Dissolved Oxygen
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2010)
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess this pollutant. All two LOEs are combined for a use rating determination, which results in six of 25 exceedances. Although individual LOE contain insufficient information due to insufficient total sample size, the combined total exceedance exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. Thus both of LOEs received a not supporting. Six of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Six of 25 water samples exceed the Basin Plan Objective and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 22365, Low Dissolved Oxygen Salton Sea

Region 7

LOE ID:	5236
Pollutant:	Low Dissolved Oxygen
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	Dissolved
Beneficial Use:	Warm Freshwater Habitat
Number of Samples:	5
Number of Exceedances:	3
Data and Information Type:	Other Agencies/Organizations provided monitoring data
Data Used to Assess Water Quality:	Five water quality measurements were taken at 5 locations in the Salton Sea, collected between 7/20/1998 and 7/22/1998. Out of these total measurements, 3 exceeded the Basin Plan Objective. The exceedences were found in measurements collected from 7/20/1998 through 7/21/1998 at 3 locations in the sea, near center of South Basin, between South Basin and New and Alamo River Deltas, and in San Felipe Creek Delta (USGS, 2007).
Data Reference:	Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System (NWIS) Water Quality database. 1961-2005.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	Basin Plan: The dissolved oxygen concentration shall not be reduced below the following minimum levels at any time: Water designated WARM 5 mg/l (CRBRWQCB, 2006).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Measurements were collected at the following Salton Sea locations: USGS Station No. 332908116011501 between North Basin and Coachella Valley Storm Water Channel, USGS Station No. 332637115512001 in Salt Creek Delta, USGS Station No. 331400115450001 near center of South Basin, USGS Station No. 331215115410001 between South Basin and New and Alamo River Deltas, and USGS Station No. 331023115473701 in San Felipe Creek Delta.
Temporal Representation:	Five measurements were collected in 7/98. The exceedences were found in measurements collected from 7/20/1998 through 7/21/1998.
Environmental Conditions:	
QAPP Information:	Assume samplers used standard USGS methods for sample collection (Wilde, variously dated). Assume analysts used standard analytical methods and quality assurance as described in (USGS, 2007).
QAPP Information Reference(s):	Data for organic and inorganic chemicals in water and sediment samples collected from waterbodies located in the Colorado River Basin-Region 7, collected and reported on the National Water Information System (NWIS) Water Quality database. 1961-2005. Field measurements: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chap. A6. In United States Geological Survey (USGS). Variously dated. National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9, available online at http://pubs.water.usgs.gov/twri9A.

**Line of Evidence (LOE) for Decision ID 22365, Low Dissolved Oxygen
Salton Sea**

Region 7

LOE ID: 32830
Pollutant: Oxygen, Dissolved
LOE Subgroup: Pollutant-Water
Matrix: Water
Fraction: Dissolved
Beneficial Use: Warm Freshwater Habitat
Number of Samples: 20
Number of Exceedances: 3
Data and Information Type: PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality: Three of the fourteen samples exceeded the water quality objective for dissolved oxygen.
Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
SWAMP Data: SWAMP
Water Quality Objective/Criterion: From the Colorado River Water Quality Control Plan 'The dissolved Oxygen concentration shall not be reduced below the following minimum levels at any time: for waters designated as WARM-5.0 mg/L.
Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
Evaluation Guideline:
Guideline Reference:
Spatial Representation: Data were collected at the following stations: Salton Sea Drain NW2 (Torrez Martinez 2) - 728SSDNW2, Salton Sea USGS2 - 728SSGS02, Salton Sea USGS7 - 728SSGS07, Salton Sea USGS9 - 728SSGS09, .
Temporal Representation: The samples were collected on 10/26/2005 - 10/29/2008.
Environmental Conditions:
QAPP Information: The SWAMP QAPP (2008) was followed.
QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

**DECISION ID 31177 Region 7
Salton Sea**

Pollutant: Nitrogen, ammonia (Total Ammonia)
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Three of the samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Three of 20 water samples exceeded the USEPA Temperature and pH-Dependent values of the chronic criterion and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.

4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff

Decision

Recommendation:

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 31177, Nitrogen, ammonia (Total Ammonia) Salton Sea

Region 7

LOE ID: 34587
 Pollutant: Nitrogen, ammonia (Total Ammonia)
 LOE Subgroup: Pollutant-Water
 Matrix: Water
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 20
 Number of Exceedances: 3
 Data and Information Type: PHYSICAL/CHEMICAL MONITORING
 Data Used to Assess Water Quality: 3 of the 20 samples exceed the water USEPA Temperature and pH-Dependent values of the CCC (Chronic Criterion) for Fish Early Life Stages Present for ammonia. 3 of the 20 data samples are reported as Non-Detect (ND). These 3 ND values are less than or equal to the water quality standard, the value will be considered as meeting the water quality standard, objective, criterion, or evaluation guideline.
 Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)
 SWAMP Data: SWAMP
 Water Quality Objective/Criterion: Water Quality Control Plan, Colorado River Basin Region (RWQCB 2006): All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. There is no water quality objective for ammonia in the Water Quality Control Plan, Colorado River Basin. Instead, the USEPA criteria for ammonia was used as Temperature and pH-Dependent Values of the CCC (Chronic Criterion) for Fish Early Life Stages Present.
 Objective/Criterion Reference: [1999 Update of Ambient Water Quality Criteria for Ammonia](#)
 Evaluation Guideline:
 Guideline Reference:
 Spatial Representation: Samples collected at 728SSDNW2 [Salton Sea Drain NW2 (Torrez Martinez 2)], 728SSGS02 (Salton Sea USGS2), 728SSGS07 (Salton Sea USGS7), and 728SSGS09 (Salton Sea USGS9).
 Temporal Representation: Samples collected between 10/26/2005 and 10/29/2008.
 Environmental Conditions:
 QAPP Information: SWAMP QAPP (2008) was followed.
 QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

DECISION ID 31179 Salton Sea Region 7

Pollutant: Toxicity
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: New Decision
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from: Pollutant

**Pollutant or Pollution:
Regional Board Staff
Conclusion:**

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

Two lines of evidence are available in the administrative record to assess this pollutant. Seven water samples and nine sediment samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Seven of 12 water samples and nine of 10 sediment samples exhibit toxicity when compared to control samples and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff
Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 31179, Toxicity		Region 7
Salton Sea		
LOE ID:	32021	
Pollutant:	Toxicity	
LOE Subgroup:	Toxicity	
Matrix:	Water	
Fraction:	None	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	11	
Number of Exceedances:	6	
Data and Information Type:	TOXICITY TESTING	
Data Used to Assess Water Quality:	Eleven samples were collected to evaluate water toxicity. Six of the samples exhibited significant toxicity. The toxicity tests included survival and biomass of <i>Atherinops affinis</i> . One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).	
Data Reference:	RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008	
SWAMP Data:	SWAMP	
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.	
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006	
Evaluation Guideline:	Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.	
Guideline Reference:	Short-term Methods for Estimating the Chronic Toxicity of Effluents and	

[Receiving Waters to Freshwater Organisms. Fourth Edition. Office of Water, U.S. Environmental Protection Agency. Washington, D.C. EPA-821-R-02-013](#)

Spatial Representation: The samples were collected at stations 728SSGS02, 728SSGS09, 728SSGS07, and 728SSDNW2.

Temporal Representation: The samples were collected from October 2005 to 2007.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 31179, Toxicity **Region 7**
Salton Sea

LOE ID: 32020

Pollutant: Toxicity

LOE Subgroup: Toxicity

Matrix: Sediment

Fraction: None

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 10

Number of Exceedances: 9

Data and Information Type: TOXICITY TESTING

Data Used to Assess Water Quality: Ten samples were collected to evaluate sediment toxicity. Nine of the samples exhibited significant toxicity. The toxicity test included survival and growth of *Hyalella azteca*. One sample can have multiple toxicity test results but will be counted only once. One sample is defined as being collected on the same day at the same location with the same lab sample id (if provided).

Data Reference: [RWB7 Trend Monitoring CY2005 CY2006 CY2007 CY2008](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, human, plant, animal, or aquatic life. Region 7 Basin Plan.

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Toxicity is defined as a statistically significant effect in the sample exposure compared to the control using EPA-recommended hypothesis testing. For SWAMP data exceedances are counted using the significant effect code: S equals significant, SG equals significantly greater and SL equals significantly lower. If a sample has any one of these codes, it will be considered an exceedance.

Guideline Reference: [Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI, U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064](#)

Spatial Representation: The samples were collected at stations 728SSGS02, 728SSGS07, 728SSGS09, and 728SSDNW2.

Temporal Representation: The samples were collected from October 2005 to April 2008.

Environmental Conditions:

QAPP Information: Data quality is good. Data results were recorded in the SWAMP database and followed SWAMP protocols.

QAPP Information Reference(s): [Surface Water Ambient Monitoring Program Quality Assurance Program Plan](#)

Wiest Lake

Pollutant: Dieldrin
Final Listing Decision: List on 303(d) list (TMDL required list)
Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2010)
Revision Status: Revised
Sources: Source Unknown
Expected TMDL Completion Date: 2025
Impairment from Pollutant or Pollution: Pollutant
Regional Board Staff Conclusion: This pollutant is being considered for placement on the section 303(d) list under section 3.5 of the Listing Policy. Under section 3.5 a single line of evidence is necessary to assess listing status.

Seven lines of evidence are available in the administrative record to assess this pollutant. Three of sample exceeds the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of three fish tissue samples exceeded the modified OEHHA fish tissue guideline and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Staff Decision Recommendation: After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 21133, Dieldrin**Region 7****Wiest Lake**

LOE ID: 46299
Pollutant: Dieldrin
LOE Subgroup: Pollutant-Tissue
Matrix: Tissue
Fraction: Fish fillet
Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
Number of Samples: 1
Number of Exceedances: 1
Data and Information Type: Fish tissue analysis
Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for Dieldrin. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).
Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)

[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.

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

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin		Region 7
Wiest Lake		
LOE ID:	46301	
Pollutant:	Dieldrin	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	1	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).	

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin		Region 7
Wiest Lake		
LOE ID:	46095	
Pollutant:	Dieldrin	
LOE Subgroup:	Pollutant-Tissue	
Matrix:	Tissue	
Fraction:	Fish fillet	
Beneficial Use:	Warm Freshwater Habitat	
Number of Samples:	2	
Number of Exceedances:	0	
Data and Information Type:	Fish tissue analysis	
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Dieldrin. Six composites were generated from two species: black crappie and channel catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Composites collected at the same time on the same day for the same species were averaged in	

accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin Wiest Lake **Region 7**

LOE ID: 46094

Pollutant: Dieldrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for Dieldrin. Six composites were generated from two species: black crappie and channel catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin **Region 7**
Wiest Lake

LOE ID: 5599

Pollutant: Dieldrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Total

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Two fish fillet samples were taken at 1 location in the lake. The samples were generally collected in 10/1989 and 12/1999. Of these two samples, neither exceeded the NAS tissue guideline (TSMP, 2007).

Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science (NAS) tissue guideline of 100 ug/kg for the protection of aquatic life uses (NAS, 1973).

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Samples were collected from the interior of Wiest Lake.

Temporal Representation: Two largemouth bass fillet composite samples were collected in 10/1989 and 12/1999.

Environmental Conditions:

QAPP Information: The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality. Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin **Region 7**
Wiest Lake

LOE ID: 46283

Pollutant: Dieldrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

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

Number of Samples: 2

Number of Exceedances: 2

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 2 of 2 samples exceed

the criterion for Dieldrin. Six composites were generated from two species: black crappie and channel catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Composites collected at the same time on the same day for the same species were averaged in accordance with the listing policy.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for dieldrin in fish tissue is 0.32 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.

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

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21133, Dieldrin **Region 7**
Wiest Lake

LOE ID: 46300

Pollutant: Dieldrin

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for Dieldrin. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009).

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs. Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum Dieldrin concentration of 100 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

DECISION ID	21304	Region 7
Wiest Lake		

Pollutant: PCBs (Polychlorinated biphenyls)

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

Last Listing Cycle's Final Listing Decision: Do Not List on 303(d) list (TMDL required list)(2010)

Revision Status: Revised

Sources: Source Unknown

Expected TMDL Completion Date: 2025

Impairment from Pollutant or Pollution: Pollutant

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

Nine lines of evidence are available in the administrative record to assess this pollutant. LOE No. 5444 is replaced by the LOE No. 46909, which is assessed based on the new evaluation guideline. Thus, LOE No. 5444 is not used in the final use rating. LOE No. 46909 is combined with LOE Nos. 46319 and 46227 for a use rating determination. Three of samples exceed the water quality objective.

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

This conclusion is based on the staff findings that:

1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three of four fish tissue samples exceeded the modified OEHHA and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

**Regional Board Staff
Decision
Recommendation:**

After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should be placed on the section 303(d) list because applicable water quality standards are exceeded and a pollutant contributes to or causes the problem.

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Region 7

Wiest Lake

LOE ID:	46320
Pollutant:	PCBs (Polychlorinated biphenyls)
LOE Subgroup:	Pollutant-Tissue
Matrix:	Tissue
Fraction:	Fish fillet
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	Fish tissue analysis
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.
Data Reference:	Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program (SWAMP). California State Water Resources Control Board, Sacramento, CA Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008 Statewide Lakes Sportfish Contamination Study 2007 2008 Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).
Objective/Criterion Reference:	Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006
Evaluation Guideline:	National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.
Guideline Reference:	National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency
Spatial Representation:	Data for this line of evidence for Wiest Lake was collected at 1 monitoring

site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Region 7
Wiest Lake

LOE ID: 46319

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

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

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 1 of 1 samples exceed the criterion for PCB, Total. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an

average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.

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

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 46240

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for PCB, Total. Six composites were generated from two species: black crappie and channel catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Composites were averaged for species collected at the same time and location. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 46239

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Cold Freshwater Habitat

Number of Samples: 2

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 2 samples exceed the criterion for PCB, Total. Six composites were generated from two species: black crappie and channel catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Composites were averaged for species collected at the same time and location. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 46909

Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Commercial or recreational collection of fish, shellfish, or organisms
 Number of Samples: 1
 Number of Exceedances: 1
 Data and Information Type: Fish tissue analysis
 Data Used to Assess Water Quality: Two fish fillet samples were taken at 1 location in lake. One fish fillet sample result could not be used in this assessment because the sample results were non-detect and the detection limit was above the criteria concentrations. The 1 fish fillet sample that was acceptable was generally collected in 12/1999. Of these total samples, 1 sample collected at 1 location exceeded the OEHHA Fish Contaminant Goal. The exceedance was found in a largemouth bass fillet composite sample collected on 12/06/1999 (TSMP, 2007).
 Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)
 SWAMP Data: Non-SWAMP
 Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).
 Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)
 Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied.
 Guideline Reference: [Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene](#)
 Spatial Representation: Samples were collected from the interior of Wiest Lake.
 Temporal Representation: Two largemouth bass fillet composite samples were collected in 10/1989 and 12/1999. The exceedance was found in the sample collected on 12/06/1999.
 Environmental Conditions:
 QAPP Information: Field procedures described in TSMP Data Reports and associated Appendices. Used CDFG's Laboratory Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).
 QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality. Sacramento, CA.](#)

**Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls)
Wiest Lake**

Region 7

LOE ID: 5646
 Pollutant: PCBs (Polychlorinated biphenyls)
 LOE Subgroup: Pollutant-Tissue
 Matrix: Tissue
 Fraction: Total
 Beneficial Use: Warm Freshwater Habitat
 Number of Samples: 2
 Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Two fish fillet samples were taken at 1 location in the lake. The samples were generally collected in 10/1989 and 12/1999. Of these two samples, neither exceeded the NAS tissue guideline (TSMP, 2007).

Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science (NAS) tissue guideline of 500 ug/kg for the protection of aquatic life uses (NAS, 1973).

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Samples were collected from the interior of Wiest Lake.

Temporal Representation: Two largemouth bass fillet composite samples were collected in 10/1989 and 12/1999.

Environmental Conditions:

QAPP Information: The field procedures are described in TSMP Data Reports and associated Appendices. CDFG's Laboratory applies Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality. Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 5444

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Total

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

Number of Samples: 1

Number of Exceedances: 1

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Two fish fillet samples were taken at 1 location in lake. One fish fillet sample result could not be used in this assessment because the sample results were non-detect and the detection limit was above the criteria concentrations. The 1 fish fillet sample that was acceptable was generally collected in 12/1999. Of these total samples, 1 sample collected at 1 location exceeded the OEHHA Fish Contaminant Goal. The exceedance was found in a largemouth bass fillet composite sample collected on 12/06/1999 (TSMP, 2007).

Data Reference: [Toxic Substances Monitoring Program \(TSMP\) Data for organic and inorganic chemicals in fish and sediment samples collected from water bodies located in the Colorado River Basin-Region 7. 1978-2000. State Water Resources Control Board. Sacramento, CA.](#)

SWAMP Data: Non-SWAMP

Water Quality Objective/Criterion: Basin Plan: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (CRBRWQCB, 2006).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: Office of Environmental Health Hazard Assessment (OEHHA) Fish Contaminant Goal of 3.6 ug/kg to protect human health when consuming fish (OEHHA, 2008).

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

Spatial Representation: Samples were collected from the interior of Wiest Lake.

Temporal Representation: Two largemouth bass fillet composite samples were collected in 10/1989 and 12/1999. The exceedance was found in the sample collected on 12/06/1999.

Environmental Conditions:
QAPP Information: Field procedures described in TSMP Data Reports and associated Appendices. Used CDFG's Laboratory Quality Assurance Program Plan procedures for laboratory Quality Assurance and Quality Control, as described in Rasmussen (1993).

QAPP Information Reference(s): [Toxic Substances Monitoring Program 1991 Data Report. 93-1WQ. State Water Resources Control Board \(SWRCB\), Division of Water Quality, Sacramento, CA.](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 46329

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

Beneficial Use: Warm Freshwater Habitat

Number of Samples: 1

Number of Exceedances: 0

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 0 of 1 samples exceed the criterion for PCB, Total. One composite (3 fish per composite) was generated from one species: channel catfish. Details of the compositing protocol can be found in the March 2009 report entitled: "Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Study" (SWAMP, 2009). Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [Contaminants in Fish from California Lakes and Reservoirs: Technical Report on Year One of a Two-Year Screening Survey. A Report of the Surface Water Ambient Monitoring Program \(SWAMP\). California State Water Resources Control Board, Sacramento, CA](#)
[Cruise Report for the Surface Waters Ambient Monitoring Program \(SWAMP\) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008](#)
[Statewide Lakes Sportfish Contamination Study 2007 2008](#)
[Contaminants in Fish from California Lakes and Reservoirs, 2007-2008: Summary Report on a Two-Year Screening Survey](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: No individual chemical or combination of chemicals shall be present in concentrations that adversely affect beneficial uses. There shall be no increase in hazardous chemical concentrations found in bottom sediments or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: National Academy of Science guidelines (NAS 1972) establish a maximum total PCB concentration of 500 ug/Kg (wet weight) in tissue samples for protection of aquatic life from bioaccumulation of toxic substances.

Guideline Reference: [National Academy of Sciences. Water Quality Criteria 1972. EPA-R3-73-033. Washington, D.C.: U.S. Environmental Protection Agency](#)

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake_BOG - 723PWT019]. Samples were collected from 1 location. Individual sample locations consisted of an area within a given waterbody from which fish tissue samples were collected. The number of sample locations per waterbody was based on the overall size of the waterbody (SWAMP, 2010). Specifics of individual sampling locations can be found in the supplemental report entitled "Cruise Report for the Surface Waters Ambient Monitoring Program (SWAMP) Bioaccumulation Screening Study in California Lakes and Reservoirs, Sampling Dates: June 2007- March 2008" (SWAMP, 2008).

Temporal Representation: Data was collected on a single day 11/1/2007.

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

QAPP Information: Samples were collected, processed, and analyzed in accordance with the methods described in Quality Assurance Project Plan "Screening Study of Bioaccumulation in California Lakes and Reservoirs." (SWAMP, 2002).

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)

Line of Evidence (LOE) for Decision ID 21304, PCBs (Polychlorinated biphenyls) Wiest Lake **Region 7**

LOE ID: 46227

Pollutant: PCBs (Polychlorinated biphenyls)

LOE Subgroup: Pollutant-Tissue

Matrix: Tissue

Fraction: Fish fillet

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

Number of Samples: 2

Number of Exceedances: 1

Data and Information Type: Fish tissue analysis

Data Used to Assess Water Quality: Water Board staff assessed SWAMP data for Wiest Lake to determine beneficial use support and results are as follows: 1 of 2 samples exceed the criterion for PCB, Total. Six composites were generated from two species: black crappie and channel catfish. Composites were averaged for species collected at the same time and location. Composites comprised of 2-3 fish for channel catfish and 1 fish for Tilapia spp. and flathead catfish. Composites comprised of 3 - 4 fish for black crappie and 2 -3 fish for channel catfish. Total PCB was assessed for as follows: PCB aroclors and congeners were summed separately and the sum that yielded the highest value was used for the assessment.

Data Reference: [RWB7 Fish Tissue Study 2004](#)

SWAMP Data: SWAMP

Water Quality Objective/Criterion: All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life (Water Quality Control Plan, Colorado River Basin).

Objective/Criterion Reference: [Water Quality Control Plan Colorado River Basin, with amendments adopted through June 2006](#)

Evaluation Guideline: The modified OEHHA Fish Contaminant Goal for polychlorinated biphenyls in fish tissue is 2.6 ppb. This screening level assumes an average body weight of 70 kg and a consumption rate of 32 g/day for a 30 year exposure over a 70-year lifetime. This constituent is a carcinogen

therefore the risk level is set to one in a million. A cooking reduction factor of 1 is applied for skin-off fillets.

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

Spatial Representation: Data for this line of evidence for Wiest Lake was collected at 1 monitoring site [Wiest Lake - 723WIESLK]

Temporal Representation: Data was collected on a single day 11/6/2004.

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

QAPP Information: The SWAMP QAPP (2002) was followed.

QAPP Information Reference(s): [Quality Assurance Management Plan for the State of California's Surface Water Ambient Monitoring Program. Sacramento, CA. State Water Resources Control Board. SWAMP. December 2002 \(1st version\)](#)