Regional Water Quality Control Board

CENTRAL VALLEY REGION (5)

SECTION 303 (d) LIST PROPOSALS

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Region 5: American River, Lower
Group A Pesticides

Water Body	American River, Lower
Stressor/Media/Beneficial Use	Group A Pesticides/Tissue/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Group A Pesticides are linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan, WQO for pesticides and toxicity for Group A pesticides. NAS/USFDA tissue criteria.
Water Body-specific Information	Data = 11 years (1979-1990) and 2 years later (1997-1999), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	The American River was originally placed on the 303(d) List for Group A Pesticide Concentrations based on fish tissue data reported by the TSMP. The TSMP analysis included all the group A pesticide for 15 fish tissue samples. 3 out of those15 samples were above 100 ppb. The15 samples had an average concentration of 56.2 ppb. exceeding the criteria of NAS and USFDA. When only considering Dieldrin and Chlordane concentration the weighted average changes to 55.7 ppb. Therefore Dieldrin and Chlordane account for almost all of the Group A pesticides historically found in fish in the River. Recently fish tissue collected for SRWP, 7 tissue samples were examined for Dieldrin and Chlordane. None of the samples analyzed exceeded the criteria for NAS and USFDA. The WQO is being attained. A direct comparison of the earlier TSMP study and the SRWP study can be made, the recent data show the criteria are not being exceeded.
Spatial representation	In the TSMP studies, fish were collected from the River at Highway 160 and downstream of Watt Ave. In the SRWP studies the fish were collected from the river at Discovery park and J St. The spatial coverage from the two studies overlaps sufficiently so that fish tissue concentration are comparable.
Temporal representation	The data were collected for the TSMP study from 1979-1990, and the SRWP study sampled from 1997-1999.
Data type	Numerical Data.
Use of standard method	TSMP and SRWP methods.
Potential Source(s) of Pollutant	Urban Runoff/ Storm Sewers.
Alternative Enforceable Program	
RWQCB Recommendation	Delist.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the

water body should be removed from the section 303(d) list because applicable water quality standards are not exceeded.

This conclusion is based on the staff findings that:
1. The data is considered to be of adequate quality.
2. The data exhibited sufficient spatial and temporal coverage.
3. Beneficial uses have been established.
4. Water quality standard used is applicable.
5. Data are numerical.
6. Standard methods were used.
7. Other water body- or site-specific information including the age of the data were considered.

The new data show that the NAS and USFDA criteria are not being exceeded. The WQO for Group A pesticides for toxicity and pesticides are being attained and no longer needs to be listed on the 303(d) List for Group A Pesticide, WQO exceedance. Remove the entire length of the lower American River, Nimbus Dam to the Sacramento River attains WQO for Group A pesticides.

Region 5: Arcade Creek
Copper

Water Body	Arcade Creek
Stressor/Media/Beneficial Use	Copper/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Copper linked to Aquatic Life Beneficial Use.
Utility of measure for judging if standards or uses are not attained	USEPA CTR Freshwater Aquatic Life Criteria for Dissolved Copper, WQO.
Water Body-specific Information	Data = 4 years (2/96-5/00), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Copper Concentration Data = 40 samples, 8 exceeded the CCC and 3 exceeded the CMC. They used the USEPA CTR criteria for dissolved copper.
Spatial representation	The USGS and the SWRP combined collected 40 samples from Arcade Creek.
Temporal representation	Data collected by USGS and SWRP from 2/1996 to 5/2000.
Data type	Numerical data.
Use of standard method	USGS and City of Sacramento methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. List the entire reach of Arcade Creek from it's headwaters to the Natomas East Main drainage Canal.

Region 5: Avena Drain
Pathogens

Water Body	Avena Drain
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to REC-1 Beneficial Uses.
Utility of measure for judging if standards or uses are not attained	WQO for toxicity, USEPA Criterion.
Water Body-specific Information	Data = 4 months (10/2000-1/2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	E.coli Data = 14 samples collected from six locations, three locations have Geometric Means, and they all exceeded USEPA criterion for E. coli. 13 of the 14 samples collected exceed the USEPA single sample criterion for E. coli levels.
Spatial representation	Data collected from six locations on Avena Drain.
Temporal representation	Data collected on 5 dates between 10/2000 and 1/2001.
Data type	Numerical data.
Use of standard method	Delta Keeper Bacteria Data.
Potential Source(s) of Pollutant	Agriculture/Dairies (manure carried in wastewater to Avena Drain).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. Most of the water quality measurements exceeded the water quality

standard. The staff confidence that standards were exceeded is high. List for Pathogens, the drain begins on a dairy farm east of Brennan Ave. The upper 6.5 miles of Avena Drain has E. coli. levels in exceedance of USEPA criterion.

Region 5: Avena Drain
Ammonia

Water Body	Avena Drain
Stressor/Media/Beneficial Use	Ammonia/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Ammonia linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for ammonia levels, WQO.
Water Body-specific Information	Data =10 years (1991- 2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Ammonia Data = Over a period of 10 years, all of the samples contained undissociated ammonia levels above CDFG criterion, and all of the samples exceed some to most of the LC50s for various freshwater species.
Spatial representation	The Avena Drain, (at Van Allen Rd. and Brennan Avenue), 10 of the 12 Dairies located along the drain are located on the upper 6.5 miles.
Temporal representation	Data collected over a period of 10 years, during known discharges of wastewater.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture/Dairies (manure carried in wastewater to Avena Drain).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. All of the water quality measurements exceeded the water quality standard.

Region 5: Avena Drain
Ammonia

The staff confidence that standards were exceeded is high. List for Ammonia, the drain begins on a dairy farm east of Brennan Ave. The upper 6.5 miles of Avena Drain has disassociated ammonia levels in exceedance of CDFG criterion, WQO for Toxicity is being exceeded.

Region 5: Bear Creek
Mercury

Water Body	Bear Creek
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	USEPA CTR for Mercury, WQO.
Water Body-specific Information	Data = 13 days over two years (4/96 to 2/98), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Water quality data = 19 samples total, 13 samples out of the 19 had concentrations of mercury above USEPA criterion (50 ng/L).
Spatial representation	Four separate locations were sampled along the creek.
Temporal representation	Data collected on thirteen days between April 1996 and February 1998.
Data type	Numerical data.
Use of standard method	
Potential Source(s) of Pollutant	Extraction/Abandoned Mines.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List

for Mercury in Bear Creek from it's confluence with the unnamed creek that flows along Rathburn Mercury Mine to it's confluence with Cache Creek.

Region 5: Bear River, Lower
Diazinon

Water Body	Bear River, Lower
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for Diazinon levels(acute and chronic), WQO.
Water Body-specific Information	Data = 2 years (1994 and 2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Diazinon Data = 14 samples total, 3 samples exceeded the CDFG criteria.
Spatial representation	The Data was collected from Berry Road along the River.
Temporal representation	Data was collected over 14 days, 14 times during two years (1994 and 2000).
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture (Diazinon Spray used on dormant almond and stonefruit crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is moderate. List Lower Bear River, Diazinon was shown to be in exceedance

of the objectives by using CDFG criteria to determine criterion exceedance.

Region 5: Bear River, Upper
Mercury

Water Body	Bear River, Upper
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	USEPA criteria for Mercury, Human Consumption Levels.
Water Body-specific Information	Data = 3 fish in 1 day, Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Mercury Data. Three fish were collected from the River by USGS, tissue had concentrations of 0.38 to 0.43 ppm, all of them exceeding the USEPA mercury criteria of 0.3 ppm. This criteria is used to determine attainment of the narrative toxicity objective.
Spatial representation	All the trophic level 3 fish were collected in the river at Dog Bar Road.
Temporal representation	All the fish were collected on Sept. 23, 1999.
Data type	Numerical data.
Use of standard method	USGS methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established for the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. All of the water quality measurements exceeded the water quality standard.

Region 5: Bear River, Upper
Mercury

The staff confidence that standards were exceeded is high. List for Mercury in the Upper Bear River from the Rollins reservoir to Lake Combie. Data shows the WQO is not being attained.

Region 5: Black Butte Reservoir
Mercury

Water Body	Black Butte Reservoir
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish consumption.
Utility of measure for judging if standards or uses are not attained	USEPA criteria for Mercury, Human Consumption Levels.
Water Body-specific Information	Data = 3 days over 1year, Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = There were 65 fish sampled total. 38 composite samples of trophic level 3 fish, 27 composite samples of trophic level 4 fish, all of the samples were at or above USEPA mercury criteria, this criteria is used to determine attainment of the narrative toxicity objective.
Spatial representation	Fish collected from three regions of the reservoir, Burris Creek arm, Stony Creek Arm and Angler's cove.
Temporal representation	The samples of 65 fish were collected on 11/25/97, and 12/4-5/97.
Data type	Numerical data.
Use of standard method	OEHHA methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Black Butte Reservoir
Mercury

List for Mercury in all of Black Butte Reservoir. All of the composite samples were at or above USEPA criterion, used to determine that the objective is not being attained.

Region 5: Butte Slough
Molinate

Water Body	Butte Slough
Stressor/Media/Beneficial Use	Molinate/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Molinate linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for Molinate levels, WQO.
Water Body-specific Information	Data = 6 years (1994-2000), Data measured at the site, Species or indicator present at site, Environmental conditions considered at the site.
Data used to assess water quality	Molinate Data = 99 samples were collected and over six years 7 samples exceeded the CDFG criterion for Molinate. The CDFG criteria was used to determine that the narrative objectives for pesticide and toxicity are not being attained. An inadequate number of samples exceeded the evaluation criteria value. All the data used in this assessment were collected during the period of application of molinate to rice (generally may and June). The data reviewed show that the evaluation values was exceeded five times in 1996 and two times in 1997. The magnitude of the observed concentrations were very close to the 13 ug/L evaluation value; in 1996 and 1997 the highest values observed were 15.7 ug/L and 16.42 ug/L. The evaluation value was not exceeded in data from 1994, 1995, 1998, 1999, and 2000. Given the circumstances in this particular situation, Butte Slough should not be listed for molinate. There is a low confidence in 5% of the samples exceeding the objective.
Spatial representation	Samples were collected at one site only, Lower pass road.
Temporal representation	99 samples were collected during 1994 to 2000 during May and June.
Data type	Numerical data.
Use of standard method	CDPR and Regional Board study method.
Potential Source(s) of Pollutant	Agriculture (Molinate Aerial Spray used on rice fields).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the Monitoring List because an inadequate number of measurements exceed water quality standards.

Region 5: Butte Slough
Diazinon

Water Body	Butte Slough
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for Diazinon levels (acute and chronic), WQO.
Water Body-specific Information	Data = 2 years (1994 and 2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Diazinon Data = 38 samples total, 20 samples exceeded the chronic CDFG criteria and 18 samples exceeded the acute CDFG criteria.
Spatial representation	Samples were collected at one site only, Lower pass road.
Temporal representation	Samples were collected during two years, 1994 and 2000 during January and February.
Data type	Numerical data.
Use of standard method	Regional board and USGS study methods.
Potential Source(s) of Pollutant	Agriculture (Diazinon Spray used on dormant almond and stonefruit crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Butte Slough
Diazinon

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Cache Creek, Lower
Mercury and Unknown Toxicity

Water Body	Cache Creek, Lower
Stressor/Media/Beneficial Use	Mercury and Unknown Toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 96 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 60 miles to 81 miles. Extent of impairment to be changed from 35 miles to 81 miles. Foe and Croyle (1998) indicated that the total length of Cache creek is 81 miles.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. The area extent is from Clear Lake Dam to Cache Creek Settling basin near the Yolo Bypass. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 96 miles.

Region 5: Calaveras River, Lower
Pathogens

Water Body	Calaveras River, Lower
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to REC-1 Beneficial uses.
Utility of measure for judging if standards or uses are not attained	WQO, USEPA Criterion.
Water Body-specific Information	Data = 2 years (2000- 2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	E. coli Data = 37 samples collected from two locations,26 samples from an upstream location have a Geometric Mean, and they all exceeded USEPA criterion for E. coli. The 11 samples collected from the downstream location have a Geometric that doesn't exceed the USEPA criterion for E.coli. However some of the downstream samples individually exceed the CDHS 'single' sample criterion for E. coli levels. The USEPA criteria is used to translate the narrative WQO, and it has been shown that it has been exceeded.
Spatial representation	Two sampling locations exist. One Sampling location is near the mouth of the river and the other is 4 miles upstream.
Temporal representation	The upstream location samples were collected over 10 months, 2000-2001. The downstream location was sampled over 7 months in 2000.
Data type	Numerical data.
Use of standard method	Delta Keeper data.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate.

6. Data are numerical.
7. Standard methods were used.
8. Other water body- or site-specific information including the age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. Both sampling locations are within the urban Stockton Area. The lower 5 miles of Lower Calaveras River are in exceedance of USEPA criterion, WQO is exceeded.

Region 5: Calaveras River, Lower
Diazinon

Water Body	Calaveras River, Lower
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for Diazinon levels(acute and chronic), WQO.
Water Body-specific Information	Data = 2 years (1994 and 1996), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Available data summarized by Lee and Jones-Lee (2001) and data reported in the Department of Pesticide Regulation's Surface Water Database (SWDB-2000) were reviewed. Diazinon data summarized by Lee and Jones-Lee were taken in conjunction with toxicity testing. All four samples collected in 1994 had diazinon levels above CDFG criteria (199 ng/L to 450 ug/L). The samples collected in 1996 had a diazinon concentration of 36 ug/L. The data used from the SWDB were from a report prepared for the city of Stockton's storm water program. Three of six samples collected in 1996 had samples greater than CDFG criteria (130 ng/L, 1,300 ng/L and 1,700 ng/L). Two of the samples (1,300 ng/L and 1,700 ng/L) were taken at two different sites on the same day. Out of a total of 11 data points available, 7 are above CDFG criteria.
Spatial representation	Samples collected from Lower Calaveras River, including two sites in the Stockton urban area.
Temporal representation	11 Samples total, collected during 1994 and 1996.
Data type	Numerical Data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	N/A
RWQCB Recommendation	List the Lower Calaveras River, between the Stockton Diversion Canal and the San Joaquin River.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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.

Region 5: Calaveras River, Lower
Diazinon

This conclusion is based on the staff findings that:
1. The data is considered to be of adequate quality.
2. The data exhibited sufficient spatial and temporal coverage.
3. Beneficial uses apply to the water body.
4. Water quality standard used is applicable.
5. The evaluation guideline used to interpret narrative water quality standards is adequate.
6. Data are numerical.
7. Standard methods were used.
8. Other water body- or site-specific information including the age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List the Lower Calaveras River, between the Stockton Diversion Canal and the San Joaquin River.

Region 5: Calaveras River, Lower
Organic Enrichment-Low Dissolved Oxygen

Water Body	Calaveras River, Lower
Stressor/Media/Beneficial Use	Organic Enrichment-Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Low Dissolved Oxygen linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Dissolved Oxygen.
Water Body-specific Information	Data = 2 Years (1996 and 1999-2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Dissolved Oxygen Data = 44 samples were collected, and of those samples 18 were below the Objective (5.0 mg/L), showing that the WQO is not being attained.
Spatial representation	Samples were collected at one site in the middle of the Stockton Urban area.
Temporal representation	44 samples were collected over a 2 year period. Samples were taken Oct./Nov. 1996 and from Nov. 1999 -Feb. 2000.
Data type	Numerical data.
Use of standard method	Delta Keeper data.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Calaveras River, Lower
Organic Enrichment-Low Dissolved Oxygen

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List for Low Dissolved Oxygen in the Lower Calaveras River between Stockton Diversion Channel and the San Joaquin River.

Region 5: Camanche Reservoir
Aluminum

Water Body	Camanche Reservoir
Stressor/Media/Beneficial Use	Aluminum/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Aluminum linked to Aquatic Life uses.
Utility of measure for judging if standards or uses are not attained	WQO, USEPA NWRAQ criteria for aluminum.
Water Body-specific Information	Data = 7 Years, Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	There were 260 samples taken over seven years. Of those samples 18 exceeded the NWRAQ criterion. The NWRAQ was used to determine the narrative objective for toxicity. In 1995 data had unusually high TSS values based on the EBMUD data set. Three of 18 the exceedances were during storm events. Since storm events that resulted in the highest observed aluminum levels it is unlikely that the aluminum criteria will be exceeded. There exists a low confidence in 5.7% of the samples exceeding the objective.
Spatial representation	Data collected from 8 locations on Camanche Reservoir.
Temporal representation	Data were collected over 7 years (1993-2000).
Data type	Numerical data.
Use of standard method	EBMUD methods for sampling.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the Monitoring List because an inadequate number of measurements exceed water quality standards .

Region 5: Camanche Reservoir
Zinc

Water Body	Camanche Reservoir
Stressor/Media/Beneficial Use	Zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Camanche Reservoir was included in the 1998 303(d) list as part of the lower Mokelumne River listing for Zinc. RB wants to list the Camanche Reservoir separate from the Mokelumne River, as a listing for Zinc.
Data used to assess water quality	The entire lake was originally listed in 1992, Camanche Reservoir is listed for Zinc as part of the Mokelumne. RB feels that it should now be listed separate from the original Mokelumne River listing because, it is more appropriate to list reservoirs separate from their downstream drainages, from a watershed management strategy perspective. Rivers and reservoirs have different management strategies.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned Mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in listing to include reservoir on list separate from the river.
SWRCB Staff Recommendation	Change in listing to include reservoir on list separate from the river.

Region 5: Camanche Reservoir
Copper

Water Body	Camanche Reservoir
Stressor/Media/Beneficial Use	Copper
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Camanche Reservoir was included in the 1998 303(d) list as part of the lower Mokelumne River listing for Copper. RB wants to list the Camanche Reservoir separate from the Mokelumne River, as a listing for Copper.
Data used to assess water quality	The entire lake was originally listed in 1992, Camanche Reservoir is listed for Zinc as part of the Mokelumne. RB feels that it should now be listed separate from the original Mokelumne River listing because, it is more appropriate to list reservoirs separate from their downstream drainages, from a watershed management strategy perspective. Rivers and reservoirs have different management strategies.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned Mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in listing to include reservoir on list separate from the river.
SWRCB Staff Recommendation	Change in listing to include reservoir on list separate from the river.

Region 5: Camp Far West Reservoir
Mercury

Water Body	Camp Far West Reservoir
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to fish consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 12 years (1987 to 1999), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 36 sampled fish from Trophic level 4. The fish had an average level of mercury of 0.69 ppm, more than double the concentration level criteria of the USEPA which is 0.3 ppm. OEHHA is in the process of developing a state advisory for Placer, Yuba and Nevada Counties, based on this USGS data.
Spatial representation	Sampled 4 targeted areas of the Reservoir.
Temporal representation	Samples were collected during twelve years, 1987 to 1999.
Data type	Numerical data.
Use of standard method	USGS and TSMP sampling methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the waterbody. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the

data were considered.

List all of Camp Far West Reservoir (2,002 acres) for Mercury.

Region 5: Clover Creek
Fecal Coliform

Water Body	Clover Creek
Stressor/Media/Beneficial Use	Fecal Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Fecal coliform linked to (REC-1) WQO for Bacteria.
Utility of measure for judging if standards or uses are not attained	WQO for bacteria, REC-1 objective.
Water Body-specific Information	Data = 5 months (June - October 1999), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data was collected and the average levels were above 300 MPN/100ml, exceeding the WQO Geometric Mean levels of 200 MPN/100ml for at least 5 months. The WQO has been exceeded. Many of the samples were above the 30 day basin plan criteria of 400 MPN/100ml.
Spatial representation	Data were collected from the lower reach of Clover Creek (10.5 miles).
Temporal representation	5 Months from 6/1999- 10/1999.
Data type	Numerical data.
Use of standard method	Hannaford and North State Institute for Sustainable Communities, sampling methods.
Potential Source(s) of Pollutant	Human and/or Livestock Sources.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. The data have shown that using the WQO criteria there exist exceedances of the WQO for bacteria for REC-1, list the lower 10.5 miles of Clover creek.

Region 5: Colusa Basin Drain
Azinphos-methyl

Water Body	Colusa Basin Drain
Stressor/Media/Beneficial Use	Azinphos-methyl/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Azinphos-methyl linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, USEPA criteria for azinphos-methyl.
Water Body-specific Information	Data = 3 years (1996-1998), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 21 samples were analyzed, out of those 6 (28%) of the samples were equal or above the USEPA criteria used to determine the narrative objectives attainment. The majority of the data (15 of 21 sample dates) occurred in 1997. The samples dates in 1997 likely spanned a more representative period than the 1996 (two sample dates) and 1998 (4 sample dates) periods and indicated a significant frequency of exceedance (40% in 1997, 28% over all three years).
Spatial representation	Data were collected at Road 99E, along the Colusa Basin Drain.
Temporal representation	Data were collected over 3 years (1996-1998), at least once a month.
Data type	Numerical data.
Use of standard method	CDPR method.
Potential Source(s) of Pollutant	Agriculture (Used to control insects on almonds, walnuts and other crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used.

8. Other water body- or site-specific information including the age of the data were considered.

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 49 miles.

Region 5: Colusa Basin Drain
Diazinon

Water Body	Colusa Basin Drain
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life.
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, CDFG criteria for Diazinon.
Water Body-specific Information	Data = 5 years (1994-2000), Data measured at the site, Species or indicator present at site, Environmental conditions considered at the site.
Data used to assess water quality	Data = 56 samples were analyzed for Diazinon, out of those 14 (25%) exceeded the chronic CDFG criterion, and 10 (18%) samples exceeded the CDFG Acute Criterion for Diazinon. The CDFG criterion was used to determine whether the WQO was being attained.
Spatial representation	Data were collected at Road 99E, along the Colusa Basin Drain.
Temporal representation	Data were collected for 5 years from 1994-2000.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is high. List the entire Colusa Basin drain. The levels of Diazinon are in exceedance of the WQO. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 49 miles.

Region 5: Colusa Basin Drain
Molinate

Water Body	Colusa Basin Drain
Stressor/Media/Beneficial Use	Molinate/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Molinate linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria for Molinate levels, WQO.
Water Body-specific Information	Data = 6 years (1994-2000), Data measured at the site, Species or indicator present at site, Environmental conditions considered at the site.
Data used to assess water quality	Data = 133 samples, of those 42 (32%) samples were equal or above the CDFG criterion used to determine if the WQO was being exceeded.
Spatial representation	Data were collected in the Colusa Basin Drain.
Temporal representation	Data were collected over 6 years (1994-2000).
Data type	Numerical data.
Use of standard method	CDPR methods.
Potential Source(s) of Pollutant	Agriculture (Molinate Aerial Spray used on rice fields).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 49 miles.

Region 5: Deer Creek (Yuba River)
pH

Water Body	Deer Creek (Yuba River)
Stressor/Media/Beneficial Use	pH/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures. Friends of Deer Creek QAPP provided adequate assurance that data were of acceptable quality.
Linkage between measurement endpoint and benefical use or standard	pH linked to Aquatic Life beneficial use.
Utility of measure for judging if standards or uses are not attained	Basin Plan Water Quality Objective. Numeric Objective for pH.
Water Body-specific Information	Data =1 year and 5 months. Data measured at site, indicator present at Site, environmental conditions considered at site.
Data used to assess water quality	pH measured monthly (up to 18 measurements) between December 2000 and May 2002. A diurnal study was performed at two sites: a control site upstream of Lake Wildwood and an experimental site downstream of Lake Wildwood. pH and other parameters were measured at 6-hour intervals during four days within a one-week period. Temperatures at the control site ranged from 9.20ºC to 14.55ºC and pH during the same period ranged from 6.53 to 7.13. The pH measurements at the control site generally increased or decreased as the temperature increased or decreased. Temperatures at the experimental site were generally higher than at the control site and ranged from 20.22ºC to 29.88ºC. pH measurements at the experimental site during the same period were generally higher and ranged more widely from 7.2 to 9.9. The pH measurements at the experimental site fluctuated more widely to temperature diurnal variations than at the control site. pH levels exceeded the Basin Plan numeric criteria (6.5 to 8.5) and were greater than 8.5 at several sites downstream from the Lake Wildwood Dam between May and October 2001.
Spatial representation	The data were collected at six sites upstream from Lake Wildwood and at four sites downstream of Lake Wildwood.
Temporal representation	Data were collected monthly between December 2000 and May 2002.
Data type	Numerical data.
Use of standard method	Standard methods are presented in the QAPP.
Potential Source(s) of Pollutant	Algal respiration and probably nutrients downstream form Lake Wildwood.
Alternative Enforceable Program	N/A
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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.

This conclusion is based on the staff findings that:
1. The data exhibited sufficient spatial and temporal coverage.
2. Beneficial uses have been established.
3. Water quality standard used is applicable.
4. Data are numerical.
5. Standard methods were used.
6. Other water body- or site-specific information including the effects of season and age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. Data has shown that the pH values exceeded the WQO for pH. The staff confidence that standards were exceeded is high. List for high pH for approximately four miles of Deer Creek, from below the Lake Wildwood Dam to the confluence with the Yuba River.

Region 5: Del Puerto Creek
Diazinon

Water Body	Del Puerto Creek
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Narrative WQO for Toxicity and pesticides, CDFG criterion for Diazinon.
Water Body-specific Information	Data = 3 Years (1991-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 30 Samples, of those 10 samples (33%) exceeded the chronic criteria, and 9 of those samples (30%) exceeded the acute criteria of the CDFG. These criteria were used to show exceedance of the WQO.
Spatial representation	Data were collected for the lower section (5 miles) of the creek.
Temporal representation	Data were collected for 3 years from 1991-1993.
Data type	Numerical data.
Use of standard method	CDPR methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Del Puerto Creek
Diazinon

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List the lower 5 miles between I-5 and the San Joaquin River.

Region 5: Del Puerto Creek
Chlorpyrifos

Water Body	Del Puerto Creek
Stressor/Media/Beneficial Use	Chlorpyrifos/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Chlorpyrifos linked to Aquatic life.
Utility of measure for judging if standards or uses are not attained	CDFG criterion Chlorpyrifos levels, WQO.
Water Body-specific Information	Data = 3 Years (1991-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 30 Samples, of those 10 samples (33%) exceeded the chronic criterion, and 10 of those samples (33%) exceeded the acute criterion of CDFG. These criterion were used to show exceedance of the WQO.
Spatial representation	Data were collected for the lower section (5 miles) of the creek.
Temporal representation	Data were collected for 3 years from 1991-1993.
Data type	Numerical data.
Use of standard method	CDPR methods.
Potential Source(s) of Pollutant	Agriculture (application on orchards and field crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Del Puerto Creek
Chlorpyrifos

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List for Chlorpyrifos, the lower 5 miles between I-5 and the San Joaquin River.

Region 5: Delta Waterways (Eastern Portion)
Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, Unknown Toxi +

Water Body	Delta Waterways (Eastern Portion)
Stressor/Media/Beneficial Use	Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, Unknown Toxicity.
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 22,904 acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total size of 480,000 acres to 48,000 acres. The total size of the Delta is 48,000 acres, a misprint occurred in the final 1998 303(d) list. The size should be changed from 480,000 acres to 48,000 acres for Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, and Unknown Toxicity. Electrical Conductivity is impaired for 16,000 acres.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 22,904 acres. A distinct "water only" eastern portion of the Delta has been created and the name has been revised to reflect this change.

Region 5: Delta Waterways (Stockton Ship Channel)
Low Dissolved Oxygen, Organic Enrichment

Water Body	Delta Waterways (Stockton Ship Channel)
Stressor/Media/Beneficial Use	Low Dissolved Oxygen, Organic Enrichment/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 952 acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total size of 480,000 acres to 48,000 acres. Extent of affected area to be changed from a size affected of 75 acres to 1,461 acres. The total size of the Delta is 48,000 acres, a misprint occurred in the final 1998 303(d) list. The size should be changed to the true size. The area of the Delta affected by Low Dissolved Oxygen is an area of 1,461 acres. Therefore the total size of the Delta should be changed for Low D.O listing.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 952 acres. A distinct "water only" Stockton Ship Channel portion of the Delta has been created and the name has been revised to reflect this change.

Region 5: Delta Waterways (Western Portion)
Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, and EC , Unk +

Water Body	Delta Waterways (Western Portion)
Stressor/Media/Beneficial Use	Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, and EC, Unknown Toxicity.
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is for Electrical Conductivity is 22,904 acres. The extent impacted for the other pollutants was agreed to be 22,904 Acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total size of 480,000 acres to 48,000 acres. The total size of the Delta is 48,000 acres, a misprint occurred in the final 1998 303(d) list. The size should be changed from 480,000 acres to 48,000 acres for Chlorpyrifos, DDT, Diazinon, Group A pesticides, Mercury, and Unknown Toxicity. Electrical Conductivity is impaired for 16,000 acres.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted for Electrical Conductivity is 22,904 acres. The extent impacted for the other pollutants was agreed to be 22,904 Acres. A distinct " water only" western portion of the Delta has been created and the name has been revised to reflect this change.

Region 5: Delta-Mendota Canal (DMC)
Selenium

Water Body	Delta-Mendota Canal (DMC)
Stressor/Media/Beneficial Use	Selenium/Water/Aquatic life
Data quality assessment. Extent to which data quality requirements met.	Limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Selenium linked to WARM (warm fresh water habitat) beneficial use.
Utility of measure for judging if standards or uses are not attained	Selenium California Toxics Rule criterion of 5 ppb as a four-day average applies to waters of the U.S. with aquatic life beneficial uses.
Water Body-specific Information	Four years of data from two sites.
Data used to assess water quality	92 data points from sites in the DMC upstream and downstream of agricultural tile drainage sumps. 19 samples were above the criterion.
Spatial representation	Data collected upstream of tile drainage sumps represents DMC from O'Neil Forebay to mile post 100.85. Downstream site represents reach to Mendota Pool.
Temporal representation	Four years of data reviewed.
Data type	Numerical data.
Use of standard method	
Potential Source(s) of Pollutant	Ground water inflow and tile drainage discharge.
Alternative Enforceable Program	N/A
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is high. The extent of this listing is from O'Neill Forebay to the Mendota Pool.

Region 5: Don Pedro Lake
Mercury

Water Body	Don Pedro Lake
Stressor/Media/Beneficial Use	Mercury/Water/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 6 Years (1981-1987), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 32 Trophic Level 4 fish, the fish sampled had an average 0.54ppm concentration of mercury, clearly exceeding the USEPA criteria of 0.3 ppm. The USEPA criterion was used to determine that the narrative WQO was being exceeded.
Spatial representation	Data were collected from the northern most arms of Don Pedro Lake, (12,960 acres).
Temporal representation	Data were collected from 1981-1987 (6 years).
Data type	Numerical data.
Use of standard method	TSMP methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Don Pedro Lake
Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Dunn Creek
Mercury and Metals

Water Body	Dunn Creek
Stressor/Media/Beneficial Use	Mercury and Metals/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 0.7 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned Mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 9 miles to 3 miles. Extent of affected area to be changed from 9 miles to 1 mile. The impaired extent is from below Mt. Diablo Mine to Marsh Creek. Stotton et al. (1996a) and Lovenitti et al. (1989) indicate that the total length of the creek is 3 miles.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 0.7 miles. The extent is below Mt. Diablo Mine to Marsh Creek.

Region 5: Englebright Lake
Mercury

Water Body	Englebright Lake
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Toxicity for Mercury, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 4 Years (1996-1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USGS and UC Davis Data = 21 trophic level 4 fish and 9 trophic level 3 fish. The level 4 and level 3 fish had an average mercury concentration of 0.55 ppm and 0.51ppm respectively, exceeding the 0.3 ppm USEPA criteria. OEHHA is in the process of developing a state advisory for Nevada County based on this Data.
Spatial representation	Data was collected for fish tissue at three locations on the lake.
Temporal representation	Data was collected between 1994 and 2000.
Data type	Numerical data.
Use of standard method	USGS and UC Davis methods.
Potential Source(s) of Pollutant	Resource Extraction (all from abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Englebright Lake
Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Fall River
Sedimentation and Siltation

Water Body	Fall River
Stressor/Media/Beneficial Use	Sedimentation and Siltation/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 9.5 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in size affected. Change listing from the impaired length of 25 miles to 9.5 miles. Evidence suggests that the upper Fall River is impaired relative to lower Fall River. CRWQCB-CVR 1982, CDWR 1998, NSR and T. Holmes 1997, Tetra Tech 1998, USDA 1983.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 9.5 miles.

Region 5: Feather River, Lower
Diazinon, Group A pesticides, mercury, unknown toxicity

Water Body	Feather River, Lower
Stressor/Media/Beneficial Use	Diazinon, Group A pesticides, mercury, unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 42 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is from Lake Orville Dam to the confluence with the Sacramento River. The mapped impaired extent was changed from 86 miles to 42 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 42 miles.

Region 5: Five Mile Slough
Pathogens

Water Body	Five Mile Slough
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to REC-1 Beneficial uses.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO.
Water Body-specific Information	Data = 10 Months (2000-2001), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 29 samples were collected and the average levels were above the USEPA bacterial criteria, exceeding the WQO. Some of the Geometric Mean levels also exceeded the single day USEPA criterion.
Spatial representation	Data were collected at two locations, one upstream and one downstream. A total of 29 samples were collected.
Temporal representation	The samples were collected during 10 months, 2000-2001. The upstream location was sampled once each month in April, August 2000 and February 2001.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Five Mile Slough
Pathogens

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. The bacteria data have shown exceedance for the USEPA criterion and the WQO has been exceeded. List the Five Mile Slough from Alexandria Place to the confluence with Fourteen Mile Slough. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 1.6 miles.

Region 5: Five Mile Slough
Organic Enrichment-Low Dissolved Oxygen

Water Body	Five Mile Slough
Stressor/Media/Beneficial Use	Organic Enrichment-Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Dissolved Oxygen linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Dissolved Oxygen.
Water Body-specific Information	Data = 2 Years (1999-2000 and 1996), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 41 samples of Dissolved Oxygen values, with 24 of those samples falling below the WQO of 5 mg/L .
Spatial representation	Data were collected in the Five Mile Slough.
Temporal representation	The Data were collected over 2 years, from 11/99-2/00 and also from 10/96- 11/96.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. An adequate of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List

for dissolved oxygen in Five Mile Slough from Alexandria Place to the confluence with Fourteen Mile Slough. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 1.6 miles.

Region 5: French Ravine
Bacteria

Water Body	French Ravine
Stressor/Media/Beneficial Use	Bacteria
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 4 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 1 mile to 4 miles. French Revine has a length of 4 miles from it's headwaters to it's confluence with Wolf Creek. Horizons Technology, Inc. 1997.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 4 miles.

Region 5: Harding Drain
Ammonia, chlorpyrifos, diazinon, unknown toxicity

Water Body	Harding Drain
Stressor/Media/Beneficial Use	Ammonia, chlorpyrifos, diazinon, unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Spelled out the abbreviated words in the water body name to read Harding Drain (Turlock Irrigation District Lateral #5). Size change: The mapped impaired extent was changed from 16 miles to 8.3 miles.
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 8.3 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 8.3 miles.

Region 5: Horse Creek
All metals (Cadmium, Copper, Lead, Zinc)

Water Body	Horse Creek
Stressor/Media/Beneficial Use	All metals (Cadmium, Copper, Lead, Zinc)
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 0.52 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in size affected. Change listing from the impaired length of 2 miles to 1 mile. Water Quality data indicate that metals affect Horse Creek downstream from rising star mine, which is located 1 mile downstream of the headwater. Montoya and Pan (1992) indicate that Horse creek is 2 miles. The listing should start at the mine which is 1 mile downstream. Total size of listing for metals should be 1 mile, not 2.
SWRCB Staff Recommendation	Change in size affected. RWQCB staff worked with SWRCB staff and this area was remapped. The extent is from Rising Star Mine to Shasta Lake. It was agreed that the new extent impacted is 0.52 miles.

Region 5: Humbug Creek
Sedimentation and Siltation, Mercury, Copper, and Zinc.

Water Body	Humbug Creek
Stressor/Media/Beneficial Use	Sedimentation and Siltation, Mercury, Copper, and Zinc.
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 3 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in size affected. Change listing extent of impairment from 9 miles to 3 miles. Montoya and Pan (1992) indicate that Humbug creek is 9 miles. The listing should start at the Malakoff Diggins mine which is 3 miles upstream of the confluence with the Yuba River. Total size of listing for metals should be in Humbug creek downstream of Malakoff Diggins mine 3 miles, not 9.
SWRCB Staff Recommendation	Change in size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 3 miles.

Region 5: Ingram/Hospital Creek
Diazinon

Water Body	Ingram/Hospital Creek
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, CDFG criteria for Diazinon.
Water Body-specific Information	Data = 3 years (1991-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 32 samples, out of those 16 samples exceeded the chronic criterion and 11 samples exceeded the acute criteria. The criterion used are the CDFG criterion used to determine if the WQO has been exceeded.
Spatial representation	The samples were collected from the Ingram/Hospital Creek.
Temporal representation	The samples were collected over 3 years, with 32 samples total.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. The data have shown exceedance for the CDFG criterion and the WQO has been exceeded. List the Ingram/Hospital Creek from their confluence east of Diary Rd. to the San Joaquin River.

Region 5: Ingram/Hospital Creek
Chlorpyrifos

Water Body	Ingram/Hospital Creek
Stressor/Media/Beneficial Use	Chlorpyrifos/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Chlorpyrifos linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria Chlorpyrifos levels, WQO.
Water Body-specific Information	Data = 3 years (1991-93), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 26 samples, out of those 7 samples exceeded the chronic criteria and 7 samples exceeded the acute criterion. The criteria used are the CDFG criterion used to determine if the WQO has been exceeded.
Spatial representation	The samples were collected from the Ingram/Hospital Creek.
Temporal representation	The samples were collected from December to June, for three years.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. The data have shown exceedance for the CDFG criterion and hence the WQO has been exceeded. List the Ingram/Hospital Creek from their confluence east of Diary Rd. to the San Joaquin River.

Region 5: Jack Slough
Diazinon

Water Body	Jack Slough
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, CDFG criteria for Diazinon.
Water Body-specific Information	Data = 2 years (1994 and 2000), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 19 samples, out of those 19 samples exceeded the chronic criterion and the acute criterion,19 total of 19 (100%). The criterion used are the CDFG criterion used to determine if the WQO has been exceeded. Some of the samples were16 times the chronic levels of CDFG water quality criterion.
Spatial representation	The samples were collected from the slough during rain events.
Temporal representation	The samples were collected over 2 years (1994 and 2000), during January and February.
Data type	Numerical data.
Use of standard method	Regional board and USGS study methods.
Potential Source(s) of Pollutant	Agriculture (application on orchards and field crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the effects of

season and age of the data were considered.

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: James Creek
Nickel and Mercury

Water Body	James Creek
Stressor/Media/Beneficial Use	Nickel and Mercury
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 8.5 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 6 miles to 9 miles. Extent of affected area to be changed from 6 miles to 8.5 mile. Buer et al. (1979), Montoya and Pan (1992), USGS (1980, 1987a, 1987b, 1997), indicate that the total length of James Creek is 9 miles. The inflow mine drainage starts 0.5 miles downstream, hence 8.5 miles affected size.
SWRCB Staff Recommendation	Change in total size and size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 8.5 miles. Total length is 9 miles.

Region 5: Keswick Reservoir
Cadmium, copper, zinc

Water Body	Keswick Reservoir
Stressor/Media/Beneficial Use	Cadmium, copper, zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 135 acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is the portion downstream from Spring Creek. Size change: The mapped impaired extent changed from 555 acres to 135 acres.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 135 acres.

Region 5: Kings River, Lower
Electrical conductivity, molybdenum, toxaphene

Water Body	Kings River, Lower
Stressor/Media/Beneficial Use	Electrical conductivity, molybdenum, toxaphene
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 36 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is from Island Weir to Stinson and Empire Weirs. Size change: The mapped impaired extent changed from 52 to 36 miles
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 36 miles.

Region 5: Lake Combie
Mercury

Water Body	Lake Combie
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 1 Year (1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USGS Data = 9 trophic level 4 fish. They had an average mercury concentration of 0.91ppm, exceeding the 0.3 ppm USEPA criteria. OEHHA is in the process of developing a state advisory for Nevada County based on this data.
Spatial representation	Data was collected from Lake Combie (360 acres).
Temporal representation	The data was collected during one year, 1999.
Data type	Numerical data.
Use of standard method	USGS methods.
Potential Source(s) of Pollutant	Resource Extraction (Abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Lake Combie
Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Little Cow Creek
Cadmium, copper, zinc

Water Body	Little Cow Creek
Stressor/Media/Beneficial Use	Cadmium, copper, zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 1.1 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is downstream from the Afterthought Mine. Size change: The mapped impaired extent changed from 2.7 miles to 1.1 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 1.1 miles.

Region 5: Little Deer Creek
Mercury

Water Body	Little Deer Creek
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Toxicity for Mercury, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 1 Year (1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USGS and UC Davis Data = 6 trophic level 3 fish. They had an average mercury concentration of 0.32 ppm, exceeding the 0.3 ppm USEPA criterion. OEHHA is in the process of developing a state advisory for Nevada County based on this data.
Spatial representation	Samples collected in Little Deer Creek at Pioneer Park.
Temporal representation	Samples were collected on October 6th, 1999.
Data type	Numerical data.
Use of standard method	USGS methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Little Deer Creek
Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Lone Tree Creek
Ammonia, BOD, Electrical Conductivity

Water Body	Lone Tree Creek
Stressor/Media/Beneficial Use	Ammonia, BOD, Electrical Conductivity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 15 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The mapped impaired extent changed from 25 miles to 15 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 15 miles.

Region 5: Marsh Creek
Metals

Water Body	Marsh Creek
Stressor/Media/Beneficial Use	Metals
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is10 mile section and a second 11 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 24 miles to 8.5 miles. Extent of affected area to be changed from all of Marsh Creek to Marsh Creek from Dunn Creek to Marsh Creek Reservoir. The affected length of Marsh Creek for this listing is only the 8.5 miles from Dunn Creek to the Marsh Creek Reservoir.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. This area was split into a ten mile section from Marsh Creek Reservoir to the San Joaquin River for mercury and metals and a second 11 mile section from Dunn Creek to Marsh Creek Reservoir for metals only.

Region 5: Marsh Creek
Mercury

Water Body	Marsh Creek
Stressor/Media/Beneficial Use	Mercury
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is10 mile section and a second 11 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 24 miles to 16.5 miles. Extent of affected area to be changed from all of Marsh Creek, to Marsh Creek from Dunn Creek to Marsh Creek Reservoir. The affected length of Marsh Creek for this listing is only the 16.5 miles from Dunn Creek to the Marsh Creek Reservoir.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. RWQCB staff worked with SWRCB staff and this area was remapped. This area was split into a ten mile section from Marsh Creek Reservoir to the San Joaquin River for mercury and metals and a second 11 mile section from Dunn Creek to Marsh Creek Reservoir for metals only. The new extent impacted for Marsh Creek Reservoir for mercury is 728 acres.

Region 5: Mendota Pool
Selenium

Water Body	Mendota Pool
Stressor/Media/Beneficial Use	Selenium/Water/WILD
Data quality assessment. Extent to which data quality requirements met.	Limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Selenium linked to WILD (wildlife) beneficial use.
Utility of measure for judging if standards or uses are not attained	Selenium objective (2 ppb monthly mean) applicable to nearby wetlands used to evaluate impact to wetland habitat associated with Mendota Pool.
Water Body-specific Information	The Mendota Pool includes the San Joaquin River 3 miles upstream of the Mendota Dam and Fresno Slough 8 miles upstream of the Mendota Dam.
Data used to assess water quality	Data from 3 years from the Mendota Pool and 2 years just downstream of the Mendota Pool. Seven of 26 samples from the Mendota Pool and 4 of 20 just downstream of the Pool were greater than 2 ppb.
Spatial representation	Data analyzed is from one site within the Mendota Pool and one site just downstream of the Mendota Pool.
Temporal representation	Samples were collected over a several year period.
Data type	Numeric water column concentration data.
Use of standard method	RWQCB sample collection and analytical protocols for selenium were used.
Potential Source(s) of Pollutant	Ground water pumping into the pool and the source water (Delta-Mendota Canal).
Alternative Enforceable Program	N/A
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established for the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Mendota Pool
Selenium

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Merced River, Lower
Chlorpyrifos, diazinon, Group A pesticides

Water Body	Merced River, Lower
Stressor/Media/Beneficial Use	Chlorpyrifos, diazinon, Group A pesticides
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 50 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is from McSwain Reservoir to the San Joaquin River. Size change: The mapped impaired extent was changed from 51 miles to 50 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 50 miles.

Region 5: Middle River
Low Dissolved Oxygen

Water Body	Middle River
Stressor/Media/Beneficial Use	Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data comes from real-time sensors operated by the California Department of Water Resources as part of the Interagency Ecological Program.
Linkage between measurement endpoint and benefical use or standard	Dissolved oxygen linked to various aquatic life uses (WARM/COLD/MIGR/SPWN).
Utility of measure for judging if standards or uses are not attained	RWQCB dissolved oxygen water quality objective.
Water Body-specific Information	10 months of data from one site. (January 2001-October 2001).
Data used to assess water quality	22,000 data points. DO analyzed about every 15 minutes. Range 2.7 mg/L to saturation. 4.5 % of samples below 5.0 mg/L. More frequent violations in June & July.
Spatial representation	Data collected from the approximate mid-point of the identified impaired reach. No major inflows in the reach identified.
Temporal representation	One year of 15-minute interval data available for the critical time period (June/July).
Data type	Numerical data.
Use of standard method	
Potential Source(s) of Pollutant	Unknown. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	N/A
RWQCB Recommendation	List Middle River from the San Joaquin River to the Victoria Canal.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the effects of season and age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is high. List Middle River from the San Joaquin River to the Victoria Canal.

Region 5: Mokelume River, Lower
Aluminum

Water Body	Mokelume River, Lower
Stressor/Media/Beneficial Use	Aluminum/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Aluminum linked to WQO for Toxicity and chemical constituents.
Utility of measure for judging if standards or uses are not attained	WQO , USEPA NWRAQ and MCL criteria for aluminum.
Water Body-specific Information	The older U.S. Fish and Wildlife Service Data = 257 samples collected between 1988 and 1992. 35 samples exceeded the NRWAQ Maximum Criterion, and 24 exceeded the MCL criterion. Regional Board staff evaluated this data in lieu of the older U.S. Fish and Wildlife Service data that was collected prior to the remediation at Penn Mine. Two of the 76 samples were above USEPA national acute criteria for the protection of aquatic life (750 ug/L). The two samples were also above the MCL (1,000 ug/L). The two samples were collected in January 1997 and February 1997 respectively. No samples taken from 1994 to that time or after have been above the aquatic life or MCL criteria. The average concentration of all samples taken since 1994 is 250 ug/L (see EBMUD comment letter).
Data used to assess water quality	The issue addressed is whether the two samples collected were truly outliers (unlikely to occur) or whether the two samples were representative of conditions that may occur again. The significant rainfall that fell during December and January likely triggered the high aluminum levels observed in January and February of 1997. The high and frequent rainfall likely resulted in higher than normal amounts of erosion. In addition, the retention time for water in upstream reservoirs would have been decreased, since higher than normal releases would have been required. The decreased retention time would give less time for suspended sediment, which would be the source of most of the aluminum, to settle. Precipitation data from Camp Pardee, which is located upstream of the Camanche reservoir and the lower Mokelumne River were reviewed. The highest rainfall recorded at Camp Pardee in the last 50 years occurred on January 2, 1997. The frequency of rain-days in December and January 1997 was higher than average (it rained over 51% of the days versus a historic average of 32%) (UC IPM, 2002). Flow records for the Mokelumne River below Camanche Dam were reviewed. The U.S. Geological Survey's historic monthly mean daily flow records (USGS, 2002) indicate that the monthly mean daily flow in January and February 1997 were the highest and third highest, respectively, on record. (97 years). Since the storm events that resulted in the high observed aluminum levels are the most severe on record, it is unlikely that the aluminum criteria will be exceeded. The data set consists of 76 samples from the Camanche

	reservoir, just downstream of the Camanche reservoir since 1994.
Spatial representation	The samples were collected at three locations along the river.
Temporal representation	The samples were collected over 4 years (1988-1992).
Data type	Numerical data.
Use of standard method	EBMUD methods for sampling.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	Exclude from Listing.
SWRCB Staff Recommendation	Exclude from listing. In the review of the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should not be placed on the section 303(d) list because applicable water quality standards are not exceeded.

Region 5: Mokelumne River, Lower
Zinc

Water Body	Mokelumne River, Lower
Stressor/Media/Beneficial Use	Zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Mokelumne River was included in the 1998 303(d) list as all of the lower Mokelumne River listing for Zinc. RB wants to list the Mokelumne from the Camanche Dam to the Delta, as a listing for Zinc.
Data used to assess water quality	The original listing was in 1992, all of lower Mokelumne River was listed for Zinc as part of the Mokelumne. RB feels that it should now be listed as Lower Mokelumne River listing from Camanche Dam to Delta because, it is more appropriate to list reservoirs separate from their downstream drainages, from a watershed management strategy perspective. Rivers and reservoirs have different management strategies.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in areal extent.
SWRCB Staff Recommendation	Change in areal extent.

Region 5: Mokelumne River, Lower Copper

Water Body	Mokelumne River, Lower
Stressor/Media/Beneficial Use	Copper
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Mokelumne River was included in the 1998 303(d) list as all of the lower Mokelumne River listing for Copper. RB wants to list the Mokelumne from the Camanche Dam to the Delta, as a listing for Copper.
Data used to assess water quality	The original listing was in 1992, all of lower Mokelumne River was listed for Copper as part of the Mokelumne. RB feels that it should now be listed as Lower Mokelumne River listing from Camanche Dam to Delta because, it is more appropriate to list reservoirs separate from their downstream drainages, from a watershed management strategy perspective. Rivers and reservoirs have different management strategies.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Resource Extraction/Abandoned mines.
Alternative Enforceable Program	
RWQCB Recommendation	Change in areal extent.
SWRCB Staff Recommendation	Change in areal extent.

Region 5: Mormon Slough
Organic Enrichment-Low Dissolved Oxygen

Water Body	Mormon Slough
Stressor/Media/Beneficial Use	Organic Enrichment-Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Low Dissolved Oxygen linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Dissolved Oxygen.
Water Body-specific Information	Data = 2 Years (1999- 2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 30 samples with 27 of those samples falling below the WQO of 5 mg/L.
Spatial representation	The data were collected from Mormon Slough.
Temporal representation	The data were collected over 2 years, from 11/99-2/00.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It

was agreed to split Mormon Slough into a 0.93 mile section from Commerce Street to Stockton Deep Water Channel for organic enrichment/low dissolved oxygen and pathogens and a second 5.2 mile section from Stockton Diverting Canal to Commerce Street for pathogens only.

Region 5: Mormon Slough
Pathogens

Water Body	Mormon Slough
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to REC-1 beneficial uses.
Utility of measure for judging if standards or uses are not attained	CDHS and USEPA criteria.
Water Body-specific Information	Data = 10 Months (2000-2001), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data =31 samples with a calculated Geometric mean. The Geometric mean = 1,272 MPN per 100ml, exceeding the 126 per 100 ml USEPA criterion. The WQO has been exceeded.
Spatial representation	The data were collected from Mormon Slough at one sampling location.
Temporal representation	The data were sampled from one location over a ten month period of time (2000-2001).
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the effects of natural sources, season, storm events, and age of the data were considered. All of the water quality measurements exceeded the water quality standard.

Region 5: Mormon Slough Pathogens

The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Mormon Slough into a 0.93 mile section from Commerce Street to Stockton Deep Water Channel for organic enrichment/low dissolved oxygen and pathogens and a second 5.2 mile section from Stockton Diverting Canal to Commerce Street for pathogens only.

Region 5: Mosher Slough
Diazinon and Chlorpyrifos

Water Body	Mosher Slough
Stressor/Media/Beneficial Use	Diazinon and Chlorpyrifos
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is a 1.3 mile section and a second 3.5 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total size affected. Change listing from the total length of 3 miles to 5 miles. Mosher Slough is 5 miles in length. Horizons Technology, Inc. 1997, DeLorme 1998.
SWRCB Staff Recommendation	Change in Total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Mosher Slough into a 1.3 mile section downstream of I-5 for chlorpyrifos, diazinon, organic enrichment/low dissolved oxygen impacts and a second 3.5 mile section upstream of I-5 for pathogen impacts.

Region 5: Mosher Slough
Pathogens

Water Body	Mosher Slough
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to REC-1 Beneficial uses.
Utility of measure for judging if standards or uses are not attained	CDHS and USEPA Bacteria criteria.
Water Body-specific Information	Data = 10 months (in 2000- 2001), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 31 samples, 29 of which exceeded the CDHS 30 day criterion for E. coli.
Spatial representation	The date were collected in Mosher Slough.
Temporal representation	The data were collected from May 2000 - February 2001.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. Most of the water quality measurements exceeded the water quality

standard. The staff confidence that standards were exceeded is high. The bacterial data show the WQO is exceeded (REC-1). RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Mosher Slough into a 1.3 mile section downstream of I-5 for chlorpyrifos, diazinon, organic enrichment/low dissolved oxygen impacts and a second 3.5 mile section upstream of I-5 for pathogen impacts.

Region 5: Mosher Slough
Low Dissolved Oxygen

Water Body	Mosher Slough
Stressor/Media/Beneficial Use	Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Low Dissolved Oxygen linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Dissolved Oxygen.
Water Body-specific Information	Data = 2 Years (1996 and 1999- 2000), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = 43 samples of Dissolved Oxygen values, with 19 (44%) of those samples falling below the WQO of 5 mg/L.
Spatial representation	The Dissolved Oxygen data were collected in Mosher Slough.
Temporal representation	The data were collected 11/99 and 2/00, and also in 11/96 and 10/96.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Drains. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Mosher Slough into a 1.3 mile section downstream of I-5 for chlorpyrifos, diazinon, organic enrichment/low dissolved oxygen impacts and a second 3.5 mile section upstream of I-5 for pathogen impacts.

Region 5: Natomas East Main Drainage Canal, Upper
Diazinon, PCBs

Water Body	Natomas East Main Drainage Canal, Upper
Stressor/Media/Beneficial Use	Diazinon, PCBs
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is a 3.5 mile section and a second 12 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. Split Natomas East Main Drainage Canal into a 3.5 mile section downstream of the confluence with Arcade Creek for Diazinon and PCBs and a second 12 mile section upstream of the confluence with Arcade Creek for PCBs.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was split into 3.5 mile downstream and 12 mile upstream sections.

Region 5: Newman Wasteway
Chlorpyrifos

Water Body	Newman Wasteway
Stressor/Media/Beneficial Use	Chlorpyrifos/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Chlorpyrifos linked to Aquatic life.
Utility of measure for judging if standards or uses are not attained	CDFG criteria Chlorpyrifos levels, WQO.
Water Body-specific Information	Data = 3 years (1991-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data =10 samples, out of those, 2 samples exceeded the chronic criteria and 2 samples exceeded the acute criteria. Data ranged to up to 15 times the criteria levels.
Spatial representation	The data were collected from the Newman Wasteway.
Temporal representation	Data were collected for 3 years from 1991-1993. Sampling between January and April.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is moderate. List the entire Wasteway. The data have shown exceedance of the WQO, using CDFG criteria.

Region 5: Newman Wasteway
Diazinon

Water Body	Newman Wasteway
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO for Toxicity and Pesticides, CDFG criteria for Diazinon.
Water Body-specific Information	Data = 3 years (1991-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data =10 samples, out of those, 4 samples exceeded the chronic criteria and 3 samples exceeded the acute criteria. Data ranged to up to 700 times the criteria levels.
Spatial representation	The data were collected from the Newman Wasteway.
Temporal representation	Data were collected for 3 years (1991-93).
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture (Used on nut and fruit orchards in winter months).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is

high. List the entire Wasteway. The data have shown exceedance of the WQO, using CDFG criteria.

Region 5: Oak Run Creek
Fecal Coliform

Water Body	Oak Run Creek
Stressor/Media/Beneficial Use	Fecal Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Fecal coliform linked to REC-1 WQO for Bacteria.
Utility of measure for judging if standards or uses are not attained	WQO for bacteria, REC-1.
Water Body-specific Information	Data = 5 months (June - October 1999), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data was collected and the average levels were 400 MPN/100ml, exceeding the WQO Geometric Mean levels of 200 MPN/100ml for at least 5 months. The WQO has been exceeded. Many of the samples were above the 30 day basin plan criteria of 400 MPN/100ml.
Spatial representation	Data were collected from the middle reach of Oak Creek.
Temporal representation	Data were collected between June and October of 1999.
Data type	Numerical data.
Use of standard method	Hannaford and North State Institute for Sustainable Communities, sampling methods.
Potential Source(s) of Pollutant	Human and/or Livestock Sources.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Oak Run Creek
Fecal Coliform

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List the middle reach, 4.5 miles of Oak run creek. From 16.5 miles before the confluence to 12 miles from the confluence.

Region 5: Old River
Low Dissolved Oxygen

Water Body	Old River
Stressor/Media/Beneficial Use	Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Data comes from real-time sensors operated by the California Department of Water Resources as part of the Interagency Ecological Program.
Linkage between measurement endpoint and benefical use or standard	Dissolved oxygen linked to various aquatic life uses (WARM/COLD/MIGR/SPWN).
Utility of measure for judging if standards or uses are not attained	RWQCB dissolved oxygen water quality objective.
Water Body-specific Information	10 months of data from three sites. (January 2001-October 2001).
Data used to assess water quality	55,000 data points. DO analyzed about every 15 minutes. Range 1.0 mg/L to saturation. 13 % of samples below 5.0 mg/L. More frequent violations during June-September.
Spatial representation	Data collected from the near to San Joaquin River to near the Delta-Mendota Canal and midway between.
Temporal representation	Two years of data available for the critical time period (June-September).
Data type	Numerical data.
Use of standard method	
Potential Source(s) of Pollutant	Unknown. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	N/A
RWQCB Recommendation	List Old River from the San Joaquin River to the Delta-Mendota Canal.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Old River
Low Dissolved Oxygen

An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List Old River from the San Joaquin River to the Delta-Mendota Canal.

Region 5: Orestimba Creek
Azinphos-methyl

Water Body	Orestimba Creek
Stressor/Media/Beneficial Use	Azinphos-methyl/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Azinphos-methyl linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, USEPA criteria for azinphos-methyl.
Water Body-specific Information	Data = 2 years (1992-1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 46 samples, 9 of which are above the USEPA criteria levels.
Spatial representation	Data were collected from the Creek at River Road.
Temporal representation	Data were collected from 1992-1993 from Feb. 1992- November 1993.
Data type	Numerical data.
Use of standard method	USEPA methods.
Potential Source(s) of Pollutant	Agriculture (Used to control insects on almonds, walnuts and other crops).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Orestimba Creek into a 9.1 mile section

above Kilburn Road for azinphos-methyl, chlorpyrifos, DDE, and diazinon impacts and a second 2.7 mile section below Kilburn Road for azinphos-methyl, chlorpyrifos, DDE, diazinon, and unknown toxicity.

Region 5: Orestimba Creek
DDE

Water Body	Orestimba Creek
Stressor/Media/Beneficial Use	DDE/Tissue & Water/Fish Consumption and Drinking Water
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	DDE linked to Fish Consumption and Drinking Water for the protection of Human health.
Utility of measure for judging if standards or uses are not attained	USEPA - CTR for DDE, WQO.
Water Body-specific Information	Data = 1 year (1993), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data =40 samples, 15 of which exceed the USEPA criterion for DDE, exceeding the WQO.
Spatial representation	Data were collected by USGS from the Creek at River Road.
Temporal representation	Data were collected in 1993, primarily in Jan. and March, with additional sampling May- June, and minimal sampling during the rest of the year.
Data type	Numerical data.
Use of standard method	USGS methods.
Potential Source(s) of Pollutant	Historical Agriculture (prior to being banned in 1972).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the water

quality standard. The staff confidence that standards were exceeded is high. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed to split Orestimba Creek into a 9.1 mile section above Kilburn Road for azinphos-methyl, chlorpyrifos, DDE, and diazinon impacts and a second 2.7 mile section below Kilburn Road for azinphos-methyl, chlorpyrifos, DDE, diazinon, and unknown toxicity.

Region 5: Panoche Creek
Mercury, sedimentation/siltation, selenium

Water Body	Panoche Creek
Stressor/Media/Beneficial Use	Mercury, sedimentation/siltation, selenium
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 18 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is from Silver Creek to Belmont Avenue. Size change: The mapped impaired extent changed form 46 miles to 18 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 18 miles.

Region 5: Putah Creek, Lower
Mercury

Water Body	Putah Creek, Lower
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 2 Years (1997-1998), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USDHHS-ATSDR and UC Davis Data = 67 trophic level 4 fish and 204 trophic level 3 fish. The level 4 fish had 39 fish in exceedance of the criteria levels above 0.3 ppm. Four of Seven Trophic Level 4 fish species had mean mercury concentrations exceeding the 0.3 ppm USEPA criteria.
Spatial representation	Data was collected from Lower Putah creek between Lake Berryesa and Putah Creek.
Temporal representation	Data was collected in 1997 and 1998.
Data type	Numerical data.
Use of standard method	USDHHS-ATSDR and UCD methods.
Potential Source(s) of Pollutant	Mining, unknown source.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Putah Creek, Lower Mercury

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List the Lower Putah Creek from Lake Solano to Putah Creek for Mercury. The data show exceedance of the WQO using USEPA criteria for mercury.

Region 5: Putah Creek, Lower
Unknown Toxicity

Water Body	Putah Creek, Lower
Stressor/Media/Beneficial Use	Unknown Toxicity/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Toxicity linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin plan WQO for toxicity and comparing toxicity data results to Lab control results.
Water Body-specific Information	Data = 2 Years (1998-1999), Data measured at the site, Environmental conditions considered at site.
Data used to assess water quality	Toxicity Data was collected monthly and during rain events as well (at least 24 samples). 16 of the samples resulted in impaired growth, impaired reproduction and/or mortality. Further TIE test were run and the tests failed to pinpoint the cause while ammonia and pathogenicity were eliminated as causes because no toxicity was observed.
Spatial representation	Routine monthly samples and samples during rain events were collected. Water quality analysis, toxicity tests and TIEs were conducted on water samples collected in lower Putah Creek.
Temporal representation	The water samples were collected during 1998 and 1999, routine monthly sampling and sampling rain events.
Data type	Toxicity, TIE, and Numerical data for diuron, ammonia, and pathogens.
Use of standard method	Laboratory Methods conducting TIEs.
Potential Source(s) of Pollutant	Unknown.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the Monitoring List for unknown toxicity, the toxicity is transient and because a pollutant or pollution that contributes or causes any standards exceedance has not been identified.

Region 5: Putah Creek, Upper
Unknown Toxicity

Water Body	Putah Creek, Upper
Stressor/Media/Beneficial Use	Unknown Toxicity/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Toxicity linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin plan WQO for toxicity and comparing toxicity data results to Lab control results.
Water Body-specific Information	Data = 2 Years (1998-1999), Data measured at the site, Environmental conditions considered at site.
Data used to assess water quality	On four of the sampling dates the water caused reproductive impairments to Ceriodaphnia They were analyzed using TIE. The results indicate an unknown toxicant that suggests that a non-polar, organic chemical caused the impairments. A July 1999 sample showed impairment to growth to Selenastrum, toxicity unknown. Overall 5 out of 12 (42%) of the samples resulted in toxicity. Follow-up toxicity tests showed not toxicity. Studies did show that non-polar chemicals when increased to three times the concentration ambient waters did cause toxicity. These higher concentrations do not represent ambient water concentrations and could not be linked tot he originally observed toxicity.
Spatial representation	Data were collected just upstream from Lake Berryesa on Upper Putah Creek.
Temporal representation	Data were collected from the Upper Putah Creek between 1998-1999 and were collected once a month.
Data type	Toxicity, TIE data, and Numerical Data for metals.
Use of standard method	Laboratory Methods conducting TIEs.
Potential Source(s) of Pollutant	Unknown.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the Monitoring List for unknown toxicity because of the transient observed toxicity and because a pollutant that contributes or causes any standards exceedance has not been identified.

Region 5: Rollins Reservoir
Mercury

Water Body	Rollins Reservoir
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 15 Years (1984-1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USGS and TSMP Data = 50 trophic level 4 fish. The level 4 fish had an average mercury concentration of 0.32 ppm exceeding the 0.3 ppm USEPA criteria used to determine attainment of the WQO. The WQO has been exceeded. OEHHA is in the process of developing a state advisory for Nevada County based on this Data.
Spatial representation	50 Fish were collected from Rollins Reservoir from the midsection, Bear River Arm and the Greenhorn Creek Arm.
Temporal representation	50 fish were collected from Rollins reservoir between 1984 and 1999, over 15 years.
Data type	Numerical data.
Use of standard method	USGS and TSMP sampling methods.
Potential Source(s) of Pollutant	Resource Extraction.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used.

8. Other water body- or site-specific information including the age of the data were considered.

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List all of Rollins Reservoir for Mercury. The data show exceedance of the WQO using USEPA criteria for mercury.

Region 5: Sacramento River (Red Bluff to Delta)
Diazinon, mercury, unknown toxicity

Water Body	Sacramento River (Red Bluff to Delta)
Stressor/Media/Beneficial Use	Diazinon, mercury, unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is an 82 mile section and a second 16 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. Split Sacramento River (Red Bluff to Delta) into an 82 mile section from Red Bluff to Knights Landing for unknown toxicity and a second 16 mile section from Knights Landing to the Delta for diazinon, mercury, and unknown toxicity.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was split into two sections, an 82 mile section and a second 16 mile section.

Region 5: Sacramento River (Shasta Dam to Red Bluff)
Zinc

Water Body	Sacramento River (Shasta Dam to Red Bluff)
Stressor/Media/Beneficial Use	Zinc/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	TMDL Completed.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA.

Region 5: Sacramento River (Shasta Dam to Red Bluff)
Unknown toxicity

Water Body	Sacramento River (Shasta Dam to Red Bluff)
Stressor/Media/Beneficial Use	Unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is a 15 mile section and a 16 mile section. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. Split Sacramento River (Shasta Dam to Red Bluff) into a 16 mile section from Cottonwood Creek to Red Bluff for unknown toxicity and a second 15 mile section from Keswick Dam to Cottonwood for unknown toxicity and cadmium, copper, and zinc on the TMDL Completed List.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was split into two sections, a 15 mile section and a second 16 mile section.

Region 5: Sacramento River (Shasta Dam to Red Bluff)
Copper

Water Body	Sacramento River (Shasta Dam to Red Bluff)
Stressor/Media/Beneficial Use	Copper/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	TMDL Completed.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA.

Region 5: Sacramento River (Shasta Dam to Red Bluff)
Cadmium

Water Body	Sacramento River (Shasta Dam to Red Bluff)
Stressor/Media/Beneficial Use	Cadmium/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	TMDL Completed.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA.

Region 5: Salt Slough
Boron, chlorpyrifos, diazinon, Electrical Conductivity, unknown toxici +

Water Body	Salt Slough
Stressor/Media/Beneficial Use	Boron, chlorpyrifos, diazinon, EC, unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 17 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is upstream from the confluence with the San Joaquin River. Size change: The mapped impaired extent changed from 33 miles to 17 miles
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 17miles.

Region 5: Salt Slough
Selenium

Water Body	Salt Slough
Stressor/Media/Beneficial Use	Selenium/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	TMDL Completed.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA.

Region 5: San Carlos Creek
Mercury

Water Body	San Carlos Creek
Stressor/Media/Beneficial Use	Mercury
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 5.1 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	Add a new pollutant source: Acid Mine Drainage.
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected. Change listing from the total length of 1 mile to 9 miles. Extent of affected area to be changed from 1 mile to 4 miles. San Carlos Creek has a length of 9 miles, from its headwaters at San Benito Mountain to its confluence with Silver Creek. CRWQCB-CVR 1995, USGS 1958-2000.
SWRCB Staff Recommendation	Change in Total Size and Size Affected and add "Acid Mine Drainage" as a pollutant source. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 5.1 miles. The impaired extent is downstream from the New Idria Mine. The mapped impacted extent was changed from 8.5 miles to 5.1 miles. Acid mine drainage has been added to the pollutant source, along with Resource Extraction.

Region 5: San Joaquin River, Lower
Mercury

Water Body	San Joaquin River, Lower
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to fish consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 20 Years (1979-1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	TSMP and SFEI Data = 264 trophic level 4 fish. The level 4 fish had an average mercury concentration of 0.45 ppm exceeding the 0.3 ppm USEPA criteria used to determine attainment of the WQO. The WQO has been exceeded.
Spatial representation	Data were collected in the San Joaquin River.
Temporal representation	Fish were collected in the San Joaquin River between 1979 and 1999, over a 20 year period.
Data type	Numerical data.
Use of standard method	TSMP and SFEI methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: San Joaquin River, Lower Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List Lower San Joaquin River for Mercury from its confluence with Bear Creek to Vernalis. The data show exceedance of the WQO using USEPA criteria for mercury.

Region 5: San Joaquin River, Merced River to the South Delta Boundary Selenium

Water Body	San Joaquin River, Merced River to the South Delta Boundary
Stressor/Media/Beneficial Use	Selenium/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	N/A
Data used to assess water quality	N/A
Spatial representation	N/A
Temporal representation	N/A
Data type	N/A
Use of standard method	N/A
Potential Source(s) of Pollutant	N/A
Alternative Enforceable Program	N/A
RWQCB Recommendation	TMDL Completed.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body should be placed on the TMDLs Completed List because a TMDL has been developed for the water body-pollutant combination. The TMDL has been approved by USEPA. The San Joaquin River from Mud Slough to the confluence with the Merced River should continue to be listed as not attaining water quality standards for selenium. This reach is approximately 3 river miles long.

Region 5: Scotts Flat Reservoir
Mercury

Water Body	Scotts Flat Reservoir
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to fish consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 2 Days (9/1999), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	USGS Data = 7 trophic level 4 fish. The level 4 fish had an average mercury concentration of 0.38 ppm exceeding the 0.3 ppm USEPA criteria used to determine attainment of the WQO. The WQO has been exceeded.
Spatial representation	Data were collected from Scotts reservoir.
Temporal representation	7 fish were collected on September 7 and 8th, 1999.
Data type	Numerical data.
Use of standard method	USGS sampling methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Scotts Flat Reservoir
Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List all of Scotts Flat Reservoir for Mercury. The data show exceedance of the WQO using USEPA criteria for mercury.

Region 5: Shasta Lake
Cadmium, copper, zinc

Water Body	Shasta Lake
Stressor/Media/Beneficial Use	Cadmium, copper, zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 20 acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is only approximately 20 acres of the lake, where West Squaw Creek enters. Size change: The mapped impaired extent changed from 27,335 acres to 20 acres.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. It was agreed that the new extent impacted is 20 acres.

Region 5: Smith Canal
Pathogens

Water Body	Smith Canal
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked to narrative WQO for toxicity.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for toxicity.
Water Body-specific Information	Data = 10 months (May 2000- Feb. 2001), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = A Geometric Mean has been calculated for samples at three separate locations along the canal. Two of the three locations all exceeded the USEPA criteria for E. coli. Two of the locations exceeded the criteria up to 50 times the criteria level, and the other location has exceeded the USEPA single sample bacterial criterion. Using the USEPA criteria the WQO is exceeded.
Spatial representation	The data were collected at three separate locations. Yosemite Lake canal, one quarter mile downstream in the canal, and near the mouth of the canal.
Temporal representation	The data were collected during 10 months (May 2000 to Feb. 2001).
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used.

8. Other water body- or site-specific information including the age of the data were considered.

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List Smith Canal from Yosemite Lake to the confluence with the San Joaquin River for Pathogens. The data show an exceedance of the WQO.

Region 5: Smith Canal
Organophosphorus Pesticides

Water Body	Smith Canal
Stressor/Media/Beneficial Use	Organophosphorus Pesticides/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pesticides linked to WQO for pesticides.
Utility of measure for judging if standards or uses are not attained	WQO, USEPA criteria for Organophosphorus Pesticides.
Water Body-specific Information	Data = 5 Years (1994 - 98), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data = OP pesticides were tested from 8 water samples between 1994-98. TIE , toxicity tests and TUs of the OP pesticides were run and calculated. 4/8 samples showed survival impairment as indicated by 100% mortality to Ceriodaphnia within 7 days. Data indicate that the OP pesticide caused the toxicity, Diazinon and Chlorpyrifos were present but did not account for all organo-phosphorus pesticide toxicity. The OP concentrations are all above the chronic and acute CDFG criteria. Using the CDFG criteria the WQO has been exceeded.
Spatial representation	Data were collected from one location in the Smith Canal.
Temporal representation	Data were collected between 1994 and 1998.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Urban Runoff.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used.

8. Other water body- or site-specific information including the age of the data were considered.

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List the Smith Canal from the Yosemite Lake to the confluence with the San Joaquin River for OP pesticides. The data show exceedance of the WQO.

Region 5: Smith Canal
Low Dissolved Oxygen

Water Body	Smith Canal
Stressor/Media/Beneficial Use	Low Dissolved Oxygen/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Low Dissolved Oxygen linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO for Dissolved Oxygen.
Water Body-specific Information	Data = 5 Years (1994 - 98), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	RB/Delta Keeper Data = 41 samples of Dissolved Oxygen values, with 31 (75%) of those samples falling below the WQO of 5 mg/L. Other data was considered from resident observation of fish kills in 1994 to DeltaKeeper Data collected over the years. The WQO for Dissolved Oxygen has not been attained.
Spatial representation	Data were collected from Smith Canal by the RB and others.
Temporal representation	The data were collected from Smith Canal over a period of 5 years, during dry seasons and rain seasons, yearly.
Data type	Numerical data.
Use of standard method	RWQCB, DeltaKeeper, City of Stockton methods.
Potential Source(s) of Pollutant	Urban Runoff/Storm Sewers. It is likely this problem is due to pollutants such as nutrients or pollution (low flow or channel morphology of the water body).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Smith Canal
Low Dissolved Oxygen

Most of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List Smith Canal from Yosemite lake to the confluence with the San Joaquin River for Dissolved Oxygen. The data have shown that the WQO for Dissolved Oxygen is not being attained.

Region 5: South Cow Creek
Fecal Coliform

Water Body	South Cow Creek
Stressor/Media/Beneficial Use	Fecal Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Fecal coliform linked to REC-1 Beneficial Use and WQO for Bacteria.
Utility of measure for judging if standards or uses are not attained	WQO for bacteria, REC-1.
Water Body-specific Information	Data = 5 months (June - October 1999), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data was collected and the average levels were approx. 800 MPN/100ml, exceeding the WQO Geometric Mean levels of 200 MPN/100ml, at this level for at least 5 months in 1999. The WQO has been exceeded. Many of the samples were above the 30 day basin plan criteria of 400 MPN/100ml.
Spatial representation	Waters were sampled from the middle reach of the creek.
Temporal representation	The samples were taken over 5 months, between June and October of 1999.
Data type	Numerical data.
Use of standard method	Hannaford and North State Institute for Sustainable Communities, sampling methods.
Potential Source(s) of Pollutant	Human and/or Livestock Sources.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. All of the water quality measurements exceeded the water quality standard. The data show an average that is clearly in exceedance of the WQO for

Bacteria, REC-1.The staff confidence that standards were exceeded is high. The RWQCB recommendation was to list South Cow Creek 14 miles from the confluence to 7 miles before the confluence for Fecal Coliform. The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the new revised extent impacted is from 3.8 miles to 7.9 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.

Region 5: Spring Creek, Lower
Acid mine drainage, cadmium, copper, zinc

Water Body	Spring Creek, Lower
Stressor/Media/Beneficial Use	Acid mine drainage, cadmium, copper, zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	The impaired extent is from Iron Mountain Mine to Keswick Reservoir. Comment change: Removed comments describing impaired extent because they are now part of the water body name.
Data used to assess water quality	
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. The impaired extent is from Iron Mountain Mine to Keswick Reservoir.

Region 5: Stanislaus River, Lower
Diazinon, Group A Pesticides, Unknown toxicity

Water Body	Stanislaus River, Lower
Stressor/Media/Beneficial Use	Diazinon, Group A Pesticides, Unknown toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Change listing from the total length of 48 miles to 58 miles. Extent of affected area to be changed from 48 miles to 58 miles.
Data used to assess water quality	USGS topographic maps indicate that the total length of the River is 58 miles. (USGS 1958-2000)
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected.
SWRCB Staff Recommendation	Change in Total Size and Size Affected.

Region 5: Stanislaus River, Lower
Mercury

Water Body	Stanislaus River, Lower
Stressor/Media/Beneficial Use	Mercury/Tissue/Fish Consumption
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Mercury linked to Fish Consumption.
Utility of measure for judging if standards or uses are not attained	Basin Plan WQO, USEPA criterion for human health consumption levels of mercury.
Water Body-specific Information	Data = 20 Years (1978-1998), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	TSMP and SFEI Data = 45 trophic level 4 fish. The level 4 fish had an average mercury concentration of 0.53 ppm exceeding the 0.3 ppm USEPA criteria used to determine attainment of the WQO. The WQO has been exceeded.
Spatial representation	The data were collected from the Lower Stanislaus River.
Temporal representation	The data were collected over 20 years from 1978-1998.
Data type	Numerical data.
Use of standard method	TSMP and SFEI methods.
Potential Source(s) of Pollutant	Resource Extraction (abandoned mines).
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered.

Region 5: Stanislaus River, Lower Mercury

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high.

Region 5: Stockton Deep Water Channel
Pathogens

Water Body	Stockton Deep Water Channel
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked REC-1 beneficial uses.
Utility of measure for judging if standards or uses are not attained	Basin Plan for WQO for bacteria (REC-1).
Water Body-specific Information	Data = 6 months (2000), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = A Geometric Mean has been calculated for 28 samples at 14 each at two separate locations along the canal. Both the locations have exceeded the USEPA criteria for E. coli. Using the USEPA bacterial criteria the WQO is exceeded.
Spatial representation	The data were collected from two separate sampling, locations. One at McLeod Lake and the other one mile upstream at Morelli Park.
Temporal representation	The data were collected over six months in 2000, with 14 samples at two different locations, 28 samples total.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered. All of the water quality measurements exceeded the water quality standard.

Region 5: Stockton Deep Water Channel
Pathogens

The staff confidence that standards were exceeded is high. List all of the Stockton Deep Water Channel for Pathogens. The WQO has been exceeded.

Region 5: Sulphur Creek
Mercury

Water Body	Sulphur Creek
Stressor/Media/Beneficial Use	Mercury
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	The wrong Sulphur Creek (different county) had been mapped. The creek was re-mapped to be the Sulphur Creek in Colusa County. Size change: Re-mapping the water body created a size change. The mapped impaired extent was changed from 2.1 miles to 14 miles.
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 14 miles . The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. The extent of the impacted area is 14 miles.

Region 5: Sutter Bypass
Diazinon

Water Body	Sutter Bypass
Stressor/Media/Beneficial Use	Diazinon/Water/Aquatic Life
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Diazinon linked to Aquatic Life.
Utility of measure for judging if standards or uses are not attained	WQO, CDFG criteria for Diazinon.
Water Body-specific Information	Data = 4 years (1996-2000), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = 78 samples, out of those, 18 samples exceeded the chronic criteria and 6 samples exceeded the acute criteria. The criteria used are the CDFG criteria used to determine if the WQO has been exceeded.
Spatial representation	The data were collected from the Sutter Bypass.
Temporal representation	The data were sampled 78 times between December and March, the winter orchard dormant season.
Data type	Numerical data.
Use of standard method	CDFG methods.
Potential Source(s) of Pollutant	Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. The evaluation guideline used to interpret narrative water quality standards is adequate. 6. Data are numerical. 7. Standard methods were used. 8. Other water body- or site-specific information including the age of the data were considered. An adequate number of the water quality measurements exceeded the

water quality standard. The staff confidence that standards were exceeded is high. List the entire length of Sutter Bypass for Diazinon. The data show an exceedance of the WQO.

Region 5: Tuolumne River, Lower
Group A Pesticides, Unknown Toxicity

Water Body	Tuolumne River, Lower
Stressor/Media/Beneficial Use	Group A Pesticides, Unknown Toxicity
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Change listing from the total length of 32 miles to 54 miles. Extent of affected area to be changed from 32 miles to 54 miles.
Data used to assess water quality	USGS topographic maps indicate that the total length of the River is 54 miles. (USGS 1958-2000) Chemical analysis indicate the entire length is affected by Group A pesticides.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. The impaired extent is from Don Pedro Reservoir to the San Joaquin River.

Region 5: Tuolumne River, Lower
Diazinon

Water Body	Tuolumne River, Lower
Stressor/Media/Beneficial Use	Diazinon
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Change listing from the total length of 32 miles to 54 miles. Extent of affected area to be changed from 32 miles to 42 miles.
Data used to assess water quality	USGS topographic maps indicate that the total length of the River is 54 miles. (USGS 1958-2000) Chemical analysis indicate the length affected by Diazinon is 42 miles.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in Total Size and Size Affected.
SWRCB Staff Recommendation	Change in Total Size and Size Affected. The impaired extent is from Don Pedro Reservoir to the San Joaquin River.

Region 5: Walker Slough
Pathogens

Water Body	Walker Slough
Stressor/Media/Beneficial Use	Pathogens/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Pathogens linked REC-1 Beneficial uses.
Utility of measure for judging if standards or uses are not attained	Basin Plan for WQO for bacteria (REC-1).
Water Body-specific Information	Data = 6 months (2000-2001), Data measured at the site, Species or Indicator present at site, Environmental conditions considered at site.
Data used to assess water quality	Data = A Geometric Mean has been calculated for 28 samples at 14 each at two separate locations along the canal. Both the locations have greatly exceeded the USEPA criteria for E. coli. The geometric mean was 4-8 times higher than the criteria level. Using the USEPA criteria the WQO is exceeded.
Spatial representation	The data were collected from two locations, one upstream and one downstream.
Temporal representation	The data were collected during six months over 2000-2001, and 14 samples were taken at two separate locations, for a total of 28 samples.
Data type	Numerical data.
Use of standard method	DeltaKeeper methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses have been established for the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the data were considered.

Region 5: Walker Slough Pathogens

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List all of Walker Slough for Pathogens. The WQO has been exceeded, using the USEPA criterion.

Region 5: West Squaw Creek, Upper and Lower
Cadmium, copper, lead, and zinc

Water Body	West Squaw Creek, Upper and Lower
Stressor/Media/Beneficial Use	Cadmium, copper, lead, and zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Upper and Lower West Squaw Creek were combined to be one segment/water body and the impaired extent begins below the Balaklala Mine. Name change: Inserted a clarifying description to the water body name that the impaired extent is below Balaklala Mine. Comment change: Comments on lower squaw creek were deleted because they are now part of the water body name. Size change: The mapped impaired extent was changed from 1.3 miles to 2.0 miles.
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 2.0miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. Size change: The mapped impaired extent changed from 1.3 miles to 2.0 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. The extent of the impacted area is 2.0 miles.

Region 5: Whiskeytown Reservoir
High coliform count

Water Body	Whiskeytown Reservoir
Stressor/Media/Beneficial Use	High coliform count
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 98 acres. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. The impaired extent is only for the areas near Oak Bottom, Brandy Creek Campgrounds and Whiskeytown. Size change: The mapped impaired extent changed 3,116 acres to 98 acres.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. The extent of the impacted area is 98 acres.

Region 5: Willow Creek (Shasta County)
Acid mine drainage, copper, zinc

Water Body	Willow Creek (Shasta County)
Stressor/Media/Beneficial Use	Acid mine drainage, copper, zinc
Data quality assessment. Extent to which data quality requirements met.	N/A
Linkage between measurement endpoint and benefical use or standard	N/A
Utility of measure for judging if standards or uses are not attained	N/A
Water Body-specific Information	Inserted a clarifying description to the water body name that the impaired extent is from below the Greenhorn Mine to Clear Creek and that the creek is in Shasta County. "Whiskeytown" was deleted and Shasta County was added to better reflect the location of the creek. Size change: The mapped impaired extent was changed from 6.9 miles to 4.0 miles.
Data used to assess water quality	The total size and size affected were reassessed by SWRCB staff and RWQCB staff, subsequent to the RWQCB's first change recommendation. This waterbody has been remapped and the revised extent impacted is 4.0 miles. The new extent is calculated by the Geospatial Water Body System (GeoWBS), using staff's best estimate of the extent to which water quality standards are not met.
Spatial representation	
Temporal representation	
Data type	
Use of standard method	
Potential Source(s) of Pollutant	
Alternative Enforceable Program	
RWQCB Recommendation	Change in total size affected. Size change: The mapped impaired extent was changed from 6.9 miles to 4.0 miles.
SWRCB Staff Recommendation	Change in total size affected. RWQCB staff worked with SWRCB staff and this area was remapped. "Whiskeytown" was deleted and Shasta County was added to better reflect the location of the creek. The waterbody now is shown as Willow Creek (Shasta County. The extent of the impacted area is 4.0 miles.

Region 5: Wolf Creek
Fecal Coliform

Water Body	Wolf Creek
Stressor/Media/Beneficial Use	Fecal Coliform/Water/REC-1
Data quality assessment. Extent to which data quality requirements met.	Generally limited consideration to those organizations that conduct monitoring using documented QA/QC procedures.
Linkage between measurement endpoint and benefical use or standard	Fecal coliform linked to REC-1 WQO for Bacteria.
Utility of measure for judging if standards or uses are not attained	WQO for bacteria, REC-1.
Water Body-specific Information	Data = 2 years (2000-2001), Data measured at the site, Species or Indicator present at site, Environmental Conditions considered at site.
Data used to assess water quality	Data was collected upstream and downstream of the GVWTP and the calculated Geometric Mean was 1491 MPN/100ml for the Total coliform, exceeding the WQO Geometric Mean levels of 200 MPN/100ml,. Downstream of the GVWTP the Geometric Mean was 1000MPN/100ml for the total coliform, exceeding the WQO Geometric Mean levels of 200 MPN/100ml.The WQO has been exceeded. Both the upstream and downstream calculated Geometric Means for Fecal Coliform were in exceedance as well. Some of them reached 2300MPN/100ml, in February 2000.
Spatial representation	The data were collected upstream and downstream of the GVWTP.
Temporal representation	The data were collected over two years, 2000-2001.
Data type	Numerical data.
Use of standard method	Waste Discharge Reports GVWTP, and Regional Board methods.
Potential Source(s) of Pollutant	Urban Runoff/Recreation/Agriculture.
Alternative Enforceable Program	
RWQCB Recommendation	List.
SWRCB Staff Recommendation	After reviewing the available data and information and the RWQCB documentation for this recommendation, SWRCB staff conclude that the water body 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. This conclusion is based on the staff findings that: 1. The data is considered to be of adequate quality. 2. The data exhibited sufficient spatial and temporal coverage. 3. Beneficial uses apply to the water body. 4. Water quality standard used is applicable. 5. Data are numerical. 6. Standard methods were used. 7. Other water body- or site-specific information including the age of the

data were considered.

All of the water quality measurements exceeded the water quality standard. The staff confidence that standards were exceeded is high. List all of Wolf Creek for Fecal Coliform.

Water Bodies Proposed for the Monitoring List in Region 5

Water Body	Pollutant/Stressor	Rationale
American River, Lower		
	Pathogens	Based on a single beach closure (in 2000) and occasional high fecal coliform bacteria measurements. The fecal coliform objectives specifically allow the maximum (400 MPN/ml) to be exceeded 10% of the time. The available data indicates that the fecal coliform number is not exceeded more than 10% of the time. Other pathogen measurements, including E. coli, Cryptosporidium, giardia, and virus measurements, indicate that these indicators are below applicable guidelines. The lower river has a high recreation value and with increased urbanization and increasing use should be monitored to ensure that the pathogen levels in the river do not rise above standards.
Arcade Creek		
	Malathion	A USGS NAWQA study conducted from 1996 and 1998 analyzed 31 ambient water samples in Arcade Creek. Of the 31 samples collected and analyzed, 3 out of 31 (about 10%) exceeded the USEPA recommended criterion of 0.1ug/l. Samples collected in 4/97, 5/97, and 6/97 had concentrations of 0.634, 0.144, and 0.135 ug/l, respectively. The study did not include sampling during April through June in 1996 or 1998. Further assessment is needed to confirm that the exceedances recur.
Butte Slough		
	Malathion	Between 1995 and 1998, a total of 70 ambient water samples collected in the Butte Slough were analyzed for malathion. Overall, 2 of 70 samples contained malathion concentrations above the USEPA recommended criterion of 0.1 ug/l. These two samples above the criteria have the same sample date, as reported in the Department of Pesticide Regulation's Surface Water Database. The samples are, therefore, likely duplicates. Since only one sample date indicates malathion levels above the criterion, there is no indication that elevated levels of malathion are recurring in Butte Slough.
	Molinate	Molinate Data = 99 samples were collected and over six years 7 samples exceeded the CDFG criterion for Molinate. The CDFG criteria was used to determine that the narrative objectives for pesticide and toxicity are not being attained. An inadequate number of samples exceeded the evaluation criteria value. All the data used in this assessment were collected during the period of application of molinate to rice (generally may and June). The data reviewed show that the evaluation values was exceeded five times in 1996 and two times in 1997. The magnitude of the observed concentrations were very close to the 13 ug/L evaluation value; in 1996 and 1997 the highest values observed were 15.7 ug/L and 16.42 ug/L. The evaluation value was not exceeded in data from 1994, 1995, 1998, 1999, and 2000. Given the circumstances in this particular situation, Butte Slough should not be listed for molinate. There is a low confidence in 5% of the samples exceeding the objective.
	Thiobencarb	Between 1995 and 1998, a total of 77 ambient water samples collected in the Butte Slough were analyzed for thiobencarb. Overall, 1 of 77 samples contained thiobencarb concentrations above the CDFG recommended criterion of 3.1 ug/l. Since only one sample was above the criterion, there is no indication that elevated levels of thiobencarb are recurring in Butte Slough.
Camanche Reservoir		
	Aluminum	There were 260 samples taken over seven years. Of those samples 18 exceeded the NWRAQ criterion. The NWRAQ was used to determine the narrative objective for toxicity. In 1995 data had unusually high TSS values based on the EBMUD data set. Three of 18 the exceedances were during storm events. Since storm events that resulted in the highest observed aluminum levels it is unlikely that the aluminum criteria will be exceeded. There exists a low confidence in 5.7% of the samples exceeding the objective.

Water Body	Pollutant/Stressor	Rationale
Colusa Basin Drain		
	Chlorpyrifos	Between 1994 and 1998, multiple studies analyzed a total of 24 ambient water samples collected in the CBD for chlorpyrifos. Overall, 3 of 24 samples contained chlorpyrifos concentrations at or above CDFG chronic (4-day average) water quality criterion of 0.014 ug/l and 0 of 24 samples exceeded CDFG acute water quality criterion of 0.02 ug/l. The 3 sample dates on which chlorpyrifos concentrations were above the chronic criteria were relatively minor exceedances (0.019, 0.0164, 0.0149 ug/l). In addition, there was no evidence that the 4-day average concentration would have been above 0.014 ug/l. Further assessment of chlorpyrifos levels in Colusa Basin Drain is needed.
	Dicamba	Between 1992 and 1998, multiple studies analyzed a total of 38 ambient water samples collected in the CBD for dicamba. Two of 38 samples exceeded the Canadian Environmental Quality Guidelines of 0.006 ug/l. The two samples that were above the Canadian guidelines were collected in 1992. Samples analyzed from 1996-1998 did not have detectable levels of dicamba, so there is no indication that current levels of dicamba are above applicable guidelines.
Del Puerto Creek		
	Malathion	Between 1991 and 1993, a total of 33 ambient water samples collected in Del Puerto Creek were analyzed for malathion. Overall, 2 of 33 samples contained malathion concentrations above the USEPA recommended criterion of 0.1ug/l. An apparent duplicate of one of the samples above the criterion had non-detectable levels of malathion. When the duplicates are averaged, the concentration for that day is below the criterion. Since only one sample date had malathion concentrations above the criterion, there is no indication that current levels of malathion are above applicable guidelines.
Delta Waterways (Eastern Portion)		
	Pathogens	Data was available from the DeltaKeeper for a large number of sites throughout the Delta. The data was generally limited in time, with a relatively few sampling events. None of the sites appeared to exceed the Department of Health Services 30 day log mean E. coli guidelines. A few sites had a single exceedance of E. coli single sample guidelines. Due to the limited number of sampling events, it was difficult to determine whether the few observed exceedances of Department of Health Services E. coli guidelines are due to a chronic condition of pollution (likely to occur again) or an acute condition (not likely to occur again). More data, both temporal and spatial, is needed before determining whether or not the Delta is attaining water quality standards with respect to pathogens.
Delta Waterways (Stockton Ship Channel)		
	Pathogens	Data was available from the DeltaKeeper for a large number of sites throughout the Delta. The data was generally limited in time, with a relatively few sampling events. None of the sites appeared to exceed the Department of Health Services 30 day log mean E. coli guidelines. A few sites had a single exceedance of E. coli single sample guidelines. Due to the limited number of sampling events, it was difficult to determine whether the few observed exceedances of Department of Health Services E. coli guidelines are due to a chronic condition of pollution (likely to occur again) or an acute condition (not likely to occur again). More data, both temporal and spatial, is needed before determining whether or not the Delta is attaining water quality standards with respect to pathogens.
Feather River		
	Group A Pesticides	The Delta waterways are currently on the 303(d) list for DDT and Group A pesticides. The Feather River is currently on the 303(d) list for Group A pesticides. Fish tissue data from earlier studies (1980's and early 1990's) had indicated that National Academy of Sciences and/or U.S. Food and Drug Administration guidelines were not being met. More recent studies had indicated substantial reductions in these contaminants in fish tissue. The sampling design and fish collected in the earlier and later studies were not directly comparable (especially in terms of percent lipid content). Additional fish tissue samples should be collected and analyzed to determine whether applicable criteria and guidelines are currently being met.

Water Body	Pollutant/Stressor	Rationale
French Camp Slough		
	Pathogens	There was limited data for French Camp Slough (4 data points over 2 months from a single sample location). Two out of four samples (one each month) were above the single sample value. The geometric mean for the four data points is well below the guidelines. The extremely limited sample set made it difficult to determine whether the elevated E. coli levels are likely to be observed again. Further assessment of French Camp Slough is recommended.
Fresno River		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Hensley Lake		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Ingram/Hospital Creek		
	Carbaryl	Between 1991 and 1993, a total of 26 ambient water samples collected in Ingram/Hospital Creek were analyzed for carbaryl. Two of the 26 samples contained carbaryl concentrations above the CDFG criterion of 2.53ug/l. Those two samples were collected in May 1991 (8.4 ug/l) and May 1992 (2.8 ug/l) respectively. The data indicates that carbaryl may be a problem in May. Since the data was collected about a decade ago and the elevated levels only occurred in one month, further assessment is needed to determine whether carbaryl levels are currently elevated.
Kaweah River		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.

Water Body	Pollutant/Stressor	Rationale
Kern River		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Lake Isabella		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Lake Kaweah		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Lake Success		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available to RWQCB staff indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.

Water Body	Pollutant/Stressor	Rationale
Merced River		
	Mercury	Further assessment is needed because: 1. The weighted-average Trophic Level 4 (TL4) fish tissue mercury concentration for each waterbody closely approached the USEPA criterion of 0.3 ppm. 2.The weighted-average mercury concentrations for the bass and white catfish samples from both water bodies exceeded USEPA criterion. 3. The channel catfish concentrations were consistently lower than the other TL4 species. For widespread comparisons between water bodies throughout the Central Valley, staff considered channel catfish to be a trophic level 4 species because usually channel catfish fish measuring more than 300-380 mm in length are pisciverous (Moyle, 2002). However, staff observed that channel catfish from several water bodies have average mercury concentrations that are lower than mercury concentrations in white catfish and bass samples. Additional information about which fish species humans are catching and eating from the Merced and Tuolumne Rivers is needed. Staff can then calculate the average fish tissue concentration based on distribution of species being caught by humans, rather than basing the calculation on species sampled.
Mormon Slough		
	Diazinon	In February 1994 toxicity tests were performed on two ambient water samples collected from Mormon Slough. The samples were collected on consecutive days. Diazinon levels were analyzed for both samples. Both samples were above the CDFG acute and chronic criteria of 0.08 ug/l and 0.05 ug/l, respectively. Both of the samples caused toxicity to Ceriodaphnia dubia. The addition of PBO to the samples eliminated the toxicity (data as reported in Lee and Jones-Lee, 2001). Further assessment of diazinon levels in Mormon Slough is needed, since the current data set only includes two data points from samples collected on consecutive days. The available data set is not sufficient to determine that elevated diazinon levels recur in Mormon Slough.
Oristemba Creek		
	Methidathion	Between 1996 and 2000, multiple studies analyzed a total of 1050 ambient water samples collected in Orestimba Creek for methidathion. Two of 1050 (about 0.2%) exceeded the USEPA Integrated IRIS Reference Dose of 0.7 ug/l. The two samples were collected in 1993 (2.14 ug/l) and 2000 (1.74 ug/l). Since only 2 out of 1050 samples were above the reference dose and there were seven years between detections of elevated levels, the frequency of occurrence of elevated levels of methidathion is relatively low. In addition, IRIS reference doses are for the protection of human health from consumption of drinking water. RWQCB staff is not aware of any drinking water intakes within Orestimba Creek. The low frequency of exceedance of the IRIS reference dose combined with the low likelihood of exposure suggests that water quality objectives relevant to methidathion are being met
Putah Creek, Lower		
	Unknown Toxicity	Toxicity Data was collected monthly and during rain events as well (at least 24 samples). 16 of the samples resulted in impaired growth, impaired reproduction and/or mortality. Further TIE test were run and the tests failed to pinpoint the cause while ammonia and pathogenicity were eliminated as causes because no toxicity was observed.
Putah Creek, Upper		
	Unknown Toxicity	On four of the sampling dates the water caused reproductive impairments to Ceriodaphnia They were analyzed using TIE. The results indicate an unknown toxicant that suggests that a non-polar, organic chemical caused the impairments. A July 1999 sample showed impairment to growth to Selenastrum, toxicity unknown. Overall 5 out of 12 (42%) of the samples resulted in toxicity. Follow-up toxicity tests showed not toxicity. Studies did show that non-polar chemicals when increased to three times the concentration ambient waters did cause toxicity. These higher concentrations do not represent ambient water concentrations and could not be linked tot he originally observed toxicity.

Water Body	Pollutant/Stressor	Rationale
Salt Slough		
	Malathion	Between 1991 and 1993, a total of 46 ambient water samples collected in Salt Slough were analyzed for malathion. Overall, 2 of 46 samples contained malathion concentrations above the USEPA recommended criterion of 0.1 ug/l. The two samples above the criterion were collected in March 1992 (0.16 ug/l) and March 1993 (0.39 ug/l). Since the data was collected about a decade ago and the elevated levels only occurred in one month, further assessment is needed to determine whether malathion levels are currently elevated.
San Luis Reservoir		
	Copper	Data was received from the California Department of Water Resources (CDWR) on levels of copper in the San Luis Reservoir as part of the initial solicitation. Some of the data submitted was received after the initial May 15, 2001 deadline. The data now available indicates that copper levels exceeded California Toxics Rule criteria frequently from October 1999 to September 2000 (7 out of 10 samples exceeded the chronic criteria, 3 out of 10 exceeded the acute). Since there was only one minor exceedance (0.1 ppb above the criteria) prior to October 1999 and no exceedances since September 2000, the exceedances may have been due to conditions unique to the October 1999- September 2000 time period. Regional Board staff received data from CDWR that included copper results through June 2002 (CDWR, 2002). All samples collected since September 2000 have copper levels well below the CTR criteria. RWQCB staff has discussed with CDWR staff the time period in which CTR criteria were exceeded and it is not clear why those exceedances occurred at that time and not before or since. RWQCB staff reviewed data available on CDWR's web site (http://wwwomwq.water.ca.gov/wqmon.html) to determine whether sites upstream and downstream of the San Luis Reservoir showed elevated levels of copper. A review of data on copper levels at the pumping plants in the Delta, in the Delta-Mendota Canal, and in the O'Neil Forebay, indicates that copper levels were well below CTR criteria even when the observed exceedances in the San Luis Reservoir occurred. Staff does not recommend listing the San Luis Reservoir for non-attainment of copper standards at this time. The combination of the finite time period of the excursions, the relatively low levels of copper since the excursions occurred, and the lack of elevated levels downstream and upstream of the reservoir indicate that the excursions may not occur again (i.e. the evidence suggests that standards are currently attained). Sampling and analysis for copper should continue and that factors that could affect copper analytical results be carefully tracked (e.g. timing of application of copper based pesticides, sampling location, reservoir levels, etc.).
Ten Mile River (South fork Kings River)		
	Nutrients/Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. Regional Board staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.

Water Body	Pollutant/Stressor	Rationale
Tule River		
	Nutrients/ Pathogens	Further assessment is needed based on largely anecdotal information on the water quality in these streams and lakes. RWQCB staff has been made aware of algae die offs, which could be a result of nutrient water quality problems. RWQCB staff has been made aware of cattle in or near these streams and lakes, which could result in pathogen water quality problems. RWQCB staff has at most one or two water quality data points from these streams and lakes. The data and information available to indicates a potential water quality problem, but is not sufficient to determine whether applicable standards are being attained or not. RWQCB staff will try to pursue funding to monitor these waters to determine whether nutrient and or pathogen related water quality problems exist.
Tuolumne River		
	Mercury	Further assessment is needed because: 1. The weighted-average TL4 fish tissue mercury concentration for each waterbody closely approached the USEPA criterion of 0.3 ppm. 2. The weighted-average mercury concentrations for the bass and white catfish samples from both water bodies exceeded USEPA criterion. 3. The channel catfish concentrations were consistently lower than the other TL4 species. For widespread comparisons between water bodies throughout the Central Valley, staff considered channel catfish to be a trophic level 4 species because usually channel catfish fish measuring more than 300-380 mm in length are pisciverous (Moyle, 2002). However, staff observed that channel catfish from several water bodies have average mercury concentrations that are lower than mercury concentrations in white catfish and bass samples. Staff believes that additional information about which fish species humans are catching and eating from the Merced and Tuolumne Rivers is needed. Staff can then calculate the average fish tissue concentration based on distribution of species being caught by humans, rather than basing the calculation on species sampled.
Walker Slough		
	Diazinon	Between 1994 and 1998, 6 samples were collected from Walker Slough and toxicity tests were performed on them (as summarized in Lee and Jones-Lee, 2001). Diazinon levels were measured in three of those samples. Most of these samples were collected during wet weather events in the winter. Of the 6 samples, 2 resulted in 100% mortality within 7 days to Ceriodaphnia dubia. The two samples exhibiting 100% mortality had diazinon concentrations of 0.273 ug/l and 0.170 ug/l. PBO was added to one of the toxic samples and eliminated the toxicity. Further assessment is needed of diazinon levels in Walker Slough due to the limited data set currently available.
Yuba River		
	Pathogens	The Yuba River received much press coverage last summer concerning high levels of bacteria in the river and for beach closures. There has been ongoing concern with possible interference in test methods used at the river. The river was tested for both E. coli and enterococci. The E. coli levels remained low while the enterococci levels were high. Additionally, the county and a citizens monitoring group have been attempting to determine if the sampling indicates impairment or if it was due to a single, non-recurring incident of pollution. Confirmation sampling and method evaluation for the Yuba River is being conducted this summer. Due to the contradictory information regarding the pathogen indicators, further assessment is necessary to determine if water quality standards are attained with respect to pathogens.

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