Final California 2018 Integrated Report (303(d) List/305(b) Report)

Supporting Information

Regional Board 5 - Central Valley Region

Water Body Name:	**Pleasant Grove Creek**
Water Body ID:	**CAR5192200020070510150258**
Water Body Type:	**River & Stream**

DECISION ID **93965** **Region 5**

Pleasant Grove Creek

Pollutant:	**Bifenthrin**
Final Listing Decision:	**Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2016)
Revision Status	Revised
Sources:	A Source Unknown
TMDL Name:	Phase 2 (Pyrethroids)Sacramento and San Joaquin Pesticides Basin Plan Amendment and TMDLs
TMDL Project Code:	872
Date TMDL Approved by USEPA:	04/22/2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.11 of the Listing Policy. Under 4.11 of the Policy, a minimum of one line of evidence is needed to assess listing status.

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

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. 20 of the 25 samples exceed the evaluation guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is an associated sediment toxicity data as required by Section 3.6 of the Listing Policy. These exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Evidence of sediment toxicity was only present at sampling locations in the urbanized portion of the creek upstream of Fiddyment Road.
5. This listing only applies to the portion of Pleasant Grove Creek upstream of Fiddyment Road.
6. The Central Valley Pyrethroid Pesticides TMDL and Basin Plan Amendment was approved by USEPA in 2019.
7. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

Line of Evidence (LOE) for Decision ID 93965, Bifenthrin **Region 5**

Pleasant Grove Creek

LOE ID:	59013
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	19

Number of Exceedances:	15
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; one sample was below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.043 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 15 of 19 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for bifenthrin, 0.043 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 0.43 ug/g OC). The LC50 (0.43 ug/g OC) is the geometric mean of OC normalized LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Line of Evidence (LOE) for Decision ID 93965, Bifenthrin **Region 5**

Pleasant Grove Creek

LOE ID:	131299

Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	0 of the 8 samples collected by SWAMP Stream Pollution Trends for Pleasant Grove Creek exhibited toxicity. A sample may have multiple toxicity test results, but will only be counted once. A sample is defined as being collected on the same day, at the same location with the same lab sample ID (if provided). The following organisms and parameters were utilized for the toxicity tests: Hyalella azteca, for Growth (wt/surv indiv), Hyalella azteca, for Survival
Data Reference:	Water Quality Assessment Data for the 2018 solicitation cycle submitted through CEDEN for SWAMP Stream Pollution Trends
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected at 1 stations. Monitoring site(s): (519SED008)
Temporal Representation:	The samples were collected between the dates of 2013-05-22 and 2015-01-07.
Environmental Conditions:	
QAPP Information:	Quality Assurance Program Plan and Standard Operating Procedures for SWAMP program
QAPP Information Reference(s):	Quality Assurance Program Plan for the Statewide Stream Pollution Trends Monitoring Program

LOE ID:	131990
Pollutant:	Bifenthrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	5
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP Stream Pollution Trends data for Pleasant Grove Creek to determine beneficial use support and the results are as follows: 5 of the 6 samples exceeded the evaluation guideline for Bifenthrin. Although a total of 8 samples were collected, 2 of these samples were not included in the assessment because the laboratory data reporting limit(s) was above the objective and therefore the results could not be quantified with the level of certainty required by the Listing Policy Section 6.1.5.5.
Data Reference:	Water Quality Assessment Data for the 2018 solicitation cycle submitted through CEDEN for SWAMP Stream Pollution Trends
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (Water Quality Control Plan, Central Valley Region, Sacramento River Basin and San Joaquin River Basins)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for bifenthrin, 0.043 ug/g, is one-tenth of the median lethal concentration (LC50; 0.43 ug/g) and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.43 ug/g is the geometric mean of LC50 values for bifenthrin from Amweg et al. (2005) and Amweg and Weston (2007).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Whole-sediment toxicity identification evaluation tools for pyrethroid insecticides: I. piperonyl butoxide addition. Environ. Toxicol. Chem. 26:2389-2396.
Spatial Representation:	Data were collected from 1 (Station Codes: 519SED008).

Temporal Representation:	Data for this waterbody were collected over the date range 2013-05-22 to 2015-01-07
Environmental Conditions:	
QAPP Information:	Quality Assurance Program Plan and Standard Operating Procedures for SWAMP program
QAPP Information Reference(s):	Quality Assurance Program Plan for the Statewide Stream Pollution Trends Monitoring Program

Line of Evidence (LOE) for Decision ID 93965, Bifenthrin **Region 5**

Pleasant Grove Creek

LOE ID:	59085
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	12
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One-tenth the organic carbon normalized LC50 values for sediment-bound pyrethroids were used as toxicity thresholds in a toxicity unit (TU) analysis. Samples containing at least 2 pyrethroids with concentrations above the reporting limit were assessed for additive toxicity. 12 of 12 sediment samples indicated a calculated TU > 1, suggesting that samples had pyrethroid pesticides at levels expected to exert additive, chronic toxicity. A combination of 2 or more of the pyrethroids, bifenthrin, cyfluthrin, cypermethrin and deltamethrin, were present in the assessed samples.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	"The narrative toxicity objective states, ""All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for the TU analysis is based on the following: "The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios are added for substances

	having similar toxicologic effects and, separately, for carcinogens. The additive toxicity criterion has been violated if the sum of the ratios is >1 (CV Basin Plan, 2011)."
Guideline Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Line of Evidence (LOE) for Decision ID 93965, Bifenthrin **Region 5**

Pleasant Grove Creek

LOE ID:	22962
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three of seven statistically significant sediment toxicity testing samples violated the narrative toxicity objective. The three toxic (Mean mortality + standard deviation) sediment samples were collected from: Pleasant Grove Creek at Woodcreek Oaks Boulevard 9/24/04: 25+8; Pleasant Grove Creek at 100 meters downstream of Parkside Way 10/24/04: 55+40, 11/07/04: 90+12. Toxicity observations have been associated with pyrethroid pesticides.
Data Reference:	Five reports and 1 abstract (all PDFs) for SWAMP studies in the Lower Sacramento River: "R5SWAMP04-05_1.pdf" [Weston, D.P, R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. Environmental Science and Technology 39

	(Dec. 15): 9778-9784.] "rb5_sedimentchem_rptmain.pdf" [Holmes, R.W. 2004. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "Sac_River_Benthic_Rpt.pdf" [Holmes, R.W., V. de Vlaming, D. Markiewicz, and K. Goding. 2005. Benthic Macroinvertebrate Colonization on Artificial Substrates in Agriculture-dominated Waterways of the Lower Sacramento River Watershed, Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. June 2005.]; "Sac_River_BioReport_Final.pdf" [V. de Vlaming, D. Markiewicz, K. Goding, T. Kimball, and R. Holmes. Macroinvertebrate Assemblages in Agriculture- and Effluent-dominated Waterways of the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region, Moss Landing Laboratories, and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine.]; "sedimentchem.pdf" [R. W. Holmes. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "SWAMP03-04zooplankton_1.pdf" [V. de Vlaming, K. Goding, D. Markiewicz, R. Wallace, and R. Holmes. Survey of Zooplankton Community Structure and Abundance in Agriculture-dominated Waterways in the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. May 2006.]
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. (CVRWQCB, 2007)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Statistically significant difference from control sediment using Dunnett's test in 10-day Hyalella azteca sediment toxicity tests. Arcsin squareroot transformation was used when necessary to meet the assumptions of normality and homogeneity of variance. Steel's test was used for comparison to control if these assumptions were not met after transformation.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California¿s Central Valley

Spatial Representation:	Samples were collected from six locations along Pleasant Grove Creek in the City of Roseville from Industrial Boulevard on the upstream to Pleasant Grove Road on the downstream. Sediment toxicity was observed from three samples collected from the residential area at Woodcreek Oaks Boulevard and from the Crocker Ranch/Diamond Oaks area (100 meters downstream of Parkside Way) near stormwater outfalls. Two of the three samples were collected about one month apart from the mainstem Pleasant Grove Creek approximately 100 meters downstream of Parkside Way. Pyrethroid pesticides were generally not detected in the other sample locations except for small quantities of permethrin and bifenthrin.
Temporal Representation:	Samples were collected September 2004 - October 2004. Data collected during late summer.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent.. Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

DECISION ID **86703** **Region 5**

Pleasant Grove Creek

Pollutant:	**Cypermethrin**
Final Listing Decision:	**Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2016)
Revision Status	Revised
Sources:	A Source Unknown
TMDL Name:	Phase 2 (Pyrethroids)Sacramento and San Joaquin Pesticides Basin Plan Amendment and TMDLs
TMDL Project Code:	872
Date TMDL Approved by USEPA:	04/22/2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion: This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.11 of the Listing Policy. Under 4.11 of the Policy, a minimum of one line of evidence is needed to assess listing status.

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

Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against removing this water segment-pollutant combination from the CWA section 303(d) List. There is sufficient justification to place it in the Being Addressed portion of the CWA 303(d) List because a

TMDL has been completed and approved by RWQCB and USEPA, and is expected to result in attainment of the standard.

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Three out of the 19 water samples exceed the evaluation guideline and this sample size is sufficient to determine beneficial use support, with the power and confidence of the Listing Policy. There is associated sediment toxicity data as required by Section 3.6 of the Listing Policy. These exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Evidence of sediment toxicity was only present at sampling locations in the urbanized portion of the creek upstream of Fiddyment Road.
5. This listing only applies to the portion of Pleasant Grove Creek upstream of Fiddyment Road.
6. The Central Valley Pyrethroid Pesticides TMDL and Basin Plan Amendment was approved by USEPA in 2019.
7. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

Line of Evidence (LOE) for Decision ID 86703, Cypermethrin **Region 5**

Pleasant Grove Creek

LOE ID:	131299
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	0 of the 8 samples collected by SWAMP Stream Pollution Trends for Pleasant Grove Creek exhibited toxicity. A sample may have multiple toxicity test results, but will only be counted once. A sample is defined as being collected on the same day, at the same location with the same lab sample ID (if provided). The following organisms and parameters were utilized for the toxicity tests: Hyalella azteca, for Growth (wt/surv indiv), Hyalella azteca, for Survival
Data Reference:	Water Quality Assessment Data for the 2018 solicitation cycle submitted through CEDEN for SWAMP Stream Pollution Trends
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected at 1 stations. Monitoring site(s): (519SED008)
Temporal Representation:	The samples were collected between the dates of 2013-05-22 and 2015-01-07.
Environmental Conditions:	
QAPP Information:	Quality Assurance Program Plan and Standard Operating Procedures for SWAMP program
QAPP Information Reference(s):	Quality Assurance Program Plan for the Statewide Stream Pollution Trends Monitoring Program

Line of Evidence (LOE) for Decision ID 86703, Cypermethrin **Region 5**

Pleasant Grove Creek

LOE ID:	22962
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total

Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three of seven statistically significant sediment toxicity testing samples violated the narrative toxicity objective. The three toxic (Mean mortality + standard deviation) sediment samples were collected from: Pleasant Grove Creek at Woodcreek Oaks Boulevard 9/24/04: 25+8; Pleasant Grove Creek at 100 meters downstream of Parkside Way 10/24/04: 55+40, 11/07/04: 90+12. Toxicity observations have been associated with pyrethroid pesticides.
Data Reference:	Five reports and 1 abstract (all PDFs) for SWAMP studies in the Lower Sacramento River: "R5SWAMP04-05_1.pdf" [Weston, D.P, R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. Environmental Science and Technology 39 (Dec. 15): 9778-9784.] "rb5_sedimentchem_rptmain.pdf" [Holmes, R.W. 2004. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "Sac_River_Benthic_Rpt.pdf" [Holmes, R.W., V. de Vlaming, D. Markiewicz, and K. Goding. 2005. Benthic Macroinvertebrate Colonization on Artificial Substrates in Agriculture-dominated Waterways of the Lower Sacramento River Watershed, Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. June 2005.]; "Sac_River_BioReport_Final.pdf" [V. de Vlaming, D. Markiwiecz, K. Goding, T. Kimball, and R. Holmes. Macroinvertebrate Assemblages in Agriculture- and Effluent-dominated Waterways of the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region, Moss Landing Laboratories, and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine.]; "sedimentchem.pdf" [R. W. Holmes. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "SWAMP03-04zooplankton_1.pdf" [V. de Vlaming, K. Goding, D. Markiwiecz, R. Wallace, and R. Holmes. Survey of Zooplankton Community Structure and Abundance in Agriculture-dominated Waterways in the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. May 2006.]
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental

	physiological responses in human, plant, animal, or aquatic life. (CVRWQCB, 2007)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Statistically significant difference from control sediment using Dunnett's test in 10-day Hyalella azteca sediment toxicity tests. Arcsin squareroot transformation was used when necessary to meet the assumptions of normality and homogeneity of variance. Steel's test was used for comparison to control if these assumptions were not met after transformation.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California¿s Central Valley
Spatial Representation:	Samples were collected from six locations along Pleasant Grove Creek in the City of Roseville from Industrial Boulevard on the upstream to Pleasant Grove Road on the downstream. Sediment toxicity was observed from three samples collected from the residential area at Woodcreek Oaks Boulevard and from the Crocker Ranch/Diamond Oaks area (100 meters downstream of Parkside Way) near stormwater outfalls. Two of the three samples were collected about one month apart from the mainstem Pleasant Grove Creek approximately 100 meters downstream of Parkside Way. Pyrethroid pesticides were generally not detected in the other sample locations except for small quantities of permethrin and bifenthrin.
Temporal Representation:	Samples were collected September 2004 - October 2004. Data collected during late summer.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent.. Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 86703, Cypermethrin **Region 5**

Pleasant Grove Creek

LOE ID:	59085
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment

Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	12
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One-tenth the organic carbon normalized LC50 values for sediment-bound pyrethroids were used as toxicity thresholds in a toxicity unit (TU) analysis. Samples containing at least 2 pyrethroids with concentrations above the reporting limit were assessed for additive toxicity. 12 of 12 sediment samples indicated a calculated TU > 1, suggesting that samples had pyrethroid pesticides at levels expected to exert additive, chronic toxicity. A combination of 2 or more of the pyrethroids, bifenthrin, cyfluthrin, cypermethrin and deltamethrin, were present in the assessed samples.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	"The narrative toxicity objective states, ""All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for the TU analysis is based on the following: "The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios are added for substances having similar toxicologic effects and, separately, for carcinogens. The additive toxicity criterion has been violated if the sum of the ratios is >1 (CV Basin Plan, 2011)."
Guideline Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Line of Evidence (LOE) for Decision ID 86703, Cypermethrin **Region 5**

Pleasant Grove Creek

LOE ID:	131646
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Water Board staff assessed SWAMP Stream Pollution Trends data for Pleasant Grove Creek to determine beneficial use support and the results are as follows: 0 of the 8 samples exceeded the evaluation guideline for Cypermethrin, Total .
Data Reference:	Water Quality Assessment Data for the 2018 solicitation cycle submitted through CEDEN for SWAMP Stream Pollution Trends
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (Water Quality Control Plan, Central Valley Region, Sacramento River Basin and San Joaquin River Basins)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for cypermethrin, 0.03 ug/g, is one-tenth of the median lethal concentration (LC50; 0.3 ug/g) and is normalized by the percentage of organic carbon in the sediment sample. The LC50 0.3 ug/g is the geometric mean of LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15
Spatial Representation:	Data were collected from 1 (Station Codes: 519SED008).
Temporal Representation:	Data for this waterbody were collected over the date range 2013-05-22 to 2015-01-07

Environmental Conditions:	
QAPP Information:	Quality Assurance Program Plan and Standard Operating Procedures for SWAMP program
QAPP Information Reference(s):	Quality Assurance Program Plan for the Statewide Stream Pollution Trends Monitoring Program

Line of Evidence (LOE) for Decision ID 86703, Cypermethrin **Region 5**

Pleasant Grove Creek

LOE ID:	59058
Pollutant:	Cypermethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	11
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 9 samples were below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.03 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 3 of 11 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for cypermethrin, 0.03 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 0.3 ug/g OC). The LC50 (0.3 ug/g OC) is the geometric mean of OC normalized LC50 values for cypermethrin from Maund et al. (2002).
Guideline Reference:	Partitioning, bioavailability, and toxicity of the pyrethroid insecticide cypermethrin in sediments. Environmental Toxicology and Chemistry 21:9-15

Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID 73330 **Region 5**

Pleasant Grove Creek

Pollutant:	**Pyrethroids**
Final Listing Decision:	**Do Not Delist from 303(d) list (being addressed with USEPA approved TMDL)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2016)
Revision Status	Revised
Sources:	A Source Unknown
TMDL Name:	Phase 2 (Pyrethroids)Sacramento and San Joaquin Pesticides Basin Plan Amendment and TMDLs
TMDL Project Code:	872
Date TMDL Approved by USEPA:	04/22/2019
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

This pollutant is being considered for removal on the CWA section 303(d) List under sections 2.2 and 4.11 of the Listing Policy. Under 4.11 of the Policy, a minimum of one line of evidence is needed to assess listing status.

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

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.

3. Three of 7 samples exceed the narrative toxicity objective due to occurrences of statistically significant sediment toxicity and this exceeds the allowable frequency listed in Table 3.1 of the Listing Policy. Sediment-bound pyrethroid pesticide concentrations were used to calculate toxic units (TUs) of multiple pyrethroid pesticides observed in sediments. Pyrethroid TU analyses correlated with distribution and magnitude of toxicity. There is associated sediment toxicity data as required by Section 3.6 of the Listing Policy. These exceed the allowable frequency listed in Table 4.1 of the Listing Policy.
4. All of the samples exceeding standards were from the Pleasant Grove Creek in the urbanized area upstream of Fiddyment Road.
5. This listing is for Pleasant Grove Creek upstream of Fiddyment Road.
6. The Central Valley Pyrethroid Pesticides TMDL and Basin Plan Amendment was approved by USEPA in 2019.
7. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

Line of Evidence (LOE) for Decision ID 73330, Pyrethroids **Region 5**

Pleasant Grove Creek

LOE ID:	30942
Pollutant:	Pyrethroids
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	7

Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three of seven statistically significant sediment toxicity testing samples violated the narrative toxicity objective. Toxicity observations were associated with pyrethroid pesticides. LC50s for sediment-bound pyrethroids were used in this study as toxicity threshold benchmarks in a Toxic Unit (TU) analysis normalized to organic carbon content. The TU analysis of Pleasant Grove Creek sediment samples demonstrated that the three toxic samples had pyrethroid pesticide concentrations that would be expected to be acutely toxic. The three toxic samples had 2-3 TUs of pyrethroids pesticides. The remainder of the seven samples from Pleasant Grove Creek where toxicity was not observed had pyrethroid TUs well below 1 TU in the creek sediments. Bifenthrin appears to play a dominant role in the toxicity observations, but was not the only pyrethroid found in toxic sediment samples. Other pyrethroids observed in the toxic samples from Pleasant Grove Creek included cyfluthrin, cypermethrin, deltamethrin, lambda-cyhalothrin, and permethrin.
Data Reference:	Five reports and 1 abstract (all PDFs) for SWAMP studies in the Lower Sacramento River: "R5SWAMP04-05_1.pdf" [Weston, D.P, R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. Environmental Science and Technology 39 (Dec. 15): 9778-9784.] "rb5_sedimentchem_rptmain.pdf" [Holmes, R.W. 2004. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "Sac_River_Benthic_Rpt.pdf" [Holmes, R.W., V. de Vlaming, D. Markiewicz, and K. Goding. 2005. Benthic Macroinvertebrate Colonization on Artificial Substrates in Agriculture-dominated Waterways of the Lower Sacramento River Watershed, Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. June 2005.]; "Sac_River_BioReport_Final.pdf" [V. de Vlaming, D. Markiewicz, K. Goding, T. Kimball, and R. Holmes. Macroinvertebrate Assemblages in Agriculture- and Effluent-dominated Waterways of the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region, Moss Landing Laboratories, and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine.]; "sedimentchem.pdf" [R. W. Holmes. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "SWAMP03-04zooplankton_1.pdf" [V. de Vlaming, K. Goding, D. Markiewicz, R. Wallace, and R. Holmes. Survey of Zooplankton Community Structure and Abundance in Agriculture-dominated Waterways in the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. May 2006.]
SWAMP Data:	SWAMP

Water Quality Objective/Criterion:	No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. (CVRWQCB, 2007)All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. (CVRWQCB, 2007)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Statistically significant difference from control sediment using Dunnett's test in 10-day Hyalella azteca sediment toxicity tests. Arcsin squareroot transformation was used when necessary to meet the assumptions of normality and homogeneity of variance. Steel's test was used for comparison to control if these assumptions were not met after transformation. LC50 values, based on 10-day exposure to Hyallela azteca of pyrethroids in sediment samples, were used to determine Toxic Unit (TUs) for pyrethroids in sediments. Urban creek sediment sample pyrethroid concentrations were compared the TUs to determine exceedances.
Guideline Reference:	Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California¿s Central Valley
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Samples were collected from six locations along Pleasant Grove Creek in the City of Roseville from Industrial Boulevard on the upstream to Pleasant Grove Road on the downstream. Sediment toxicity was observed from three samples collected from the residential area at Woodcreek Oaks Boulevard and from the Crocker Ranch/Diamond Oaks area (100 meters downstream of Parkside Way) near stormwater outfalls. Two of the three samples were collected about one month apart from the mainstem Pleasant Grove Creek approximately 100 meters downstream of Parkside Way. Pyrethroid pesticides were generally not detected in the other sample locations except for small quantities of permethrin and bifenthrin.
Temporal Representation:	Samples were collected September 2004 - October 2004. Data collected during late summer.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent.. Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

LOE ID:	131299
Pollutant:	Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	TOXICITY TESTING
Data Used to Assess Water Quality:	0 of the 8 samples collected by SWAMP Stream Pollution Trends for Pleasant Grove Creek exhibited toxicity. A sample may have multiple toxicity test results, but will only be counted once. A sample is defined as being collected on the same day, at the same location with the same lab sample ID (if provided). The following organisms and parameters were utilized for the toxicity tests: Hyalella azteca, for Growth (wt/surv indiv), Hyalella azteca, for Survival
Data Reference:	Water Quality Assessment Data for the 2018 solicitation cycle submitted through CEDEN for SWAMP Stream Pollution Trends
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	The samples were collected at 1 stations. Monitoring site(s): (519SED008)
Temporal Representation:	The samples were collected between the dates of 2013-05-22 and 2015-01-07.
Environmental Conditions:	
QAPP Information:	Quality Assurance Program Plan and Standard Operating Procedures for SWAMP program
QAPP Information Reference(s):	Quality Assurance Program Plan for the Statewide Stream Pollution Trends Monitoring Program

LOE ID:	22962
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three of seven statistically significant sediment toxicity testing samples violated the narrative toxicity objective. The three toxic (Mean mortality + standard deviation) sediment samples were collected from: Pleasant Grove Creek at Woodcreek Oaks Boulevard 9/24/04: 25+8; Pleasant Grove Creek at 100 meters downstream of Parkside Way 10/24/04: 55+40, 11/07/04: 90+12. Toxicity observations have been associated with pyrethroid pesticides.
Data Reference:	Five reports and 1 abstract (all PDFs) for SWAMP studies in the Lower Sacramento River: "R5SWAMP04-05_1.pdf" [Weston, D.P, R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. Environmental Science and Technology 39 (Dec. 15): 9778-9784.] "rb5_sedimentchem_rptmain.pdf" [Holmes, R.W. 2004. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "Sac_River_Benthic_Rpt.pdf" [Holmes, R.W., V. de Vlaming, D. Markiewicz, and K. Goding. 2005. Benthic Macroinvertebrate Colonization on Artificial Substrates in Agriculture-dominated Waterways of the Lower Sacramento River Watershed, Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. June 2005.]; "Sac_River_BioReport_Final.pdf" [V. de Vlaming, D. Markiewicz, K. Goding, T. Kimball, and R. Holmes. Macroinvertebrate Assemblages in Agriculture- and Effluent-dominated Waterways of the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region, Moss Landing Laboratories, and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine.]; "sedimentchem.pdf" [R. W. Holmes. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "SWAMP03-04zooplankton_1.pdf" [V. de Vlaming, K. Goding, D. Markiewicz, R. Wallace, and R. Holmes. Survey of Zooplankton

	Community Structure and Abundance in Agriculture-dominated Waterways in the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. May 2006.]
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. (CVRWQCB, 2007)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Statistically significant difference from control sediment using Dunnett's test in 10-day Hyalella azteca sediment toxicity tests. Arcsin squareroot transformation was used when necessary to meet the assumptions of normality and homogeneity of variance. Steel's test was used for comparison to control if these assumptions were not met after transformation.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California¿s Central Valley
Spatial Representation:	Samples were collected from six locations along Pleasant Grove Creek in the City of Roseville from Industrial Boulevard on the upstream to Pleasant Grove Road on the downstream. Sediment toxicity was observed from three samples collected from the residential area at Woodcreek Oaks Boulevard and from the Crocker Ranch/Diamond Oaks area (100 meters downstream of Parkside Way) near stormwater outfalls. Two of the three samples were collected about one month apart from the mainstem Pleasant Grove Creek approximately 100 meters downstream of Parkside Way. Pyrethroid pesticides were generally not detected in the other sample locations except for small quantities of permethrin and bifenthrin.
Temporal Representation:	Samples were collected September 2004 - October 2004. Data collected during late summer.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent.. Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

Pollutant:	**Toxicity**
Final Listing Decision:	**Do Not Delist from 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not Delist from 303(d) list (TMDL required list)(2016)
Revision Status	Original
Sources:	A Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

This pollutant is being considered for removal from the CWA section 303(d) List under section 4.1 and 4.6 of the Listing Policy. Under section 4.1 a single line of evidence is necessary to assess listing status.

Two lines of evidence are available in the administrative record to assess pollutant. Fifteen of 19 sediment samples exhibited significant toxicity and violated the narrative toxicity objective.

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Fifteen of 19 sediment samples exhibited significant toxicity and violated the narrative toxicity objective and this exceeds the allowable frequency listed in Table 4.1 of the Listing Policy.
4. Pursuant to section 4.11 of the Listing Policy, no additional data and information are available indicating that standards are met.

Regional Board Decision Recommendation:

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 76466, Toxicity **Region 5**

Pleasant Grove Creek

LOE ID:	59085
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	12
Number of Exceedances:	12
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	One-tenth the organic carbon normalized LC50 values for sediment-bound pyrethroids were used as toxicity thresholds in a toxicity unit (TU) analysis. Samples containing at least 2 pyrethroids with concentrations above the reporting limit were assessed for additive toxicity. 12 of 12 sediment samples indicated a calculated TU > 1, suggesting that samples had pyrethroid pesticides at levels expected to exert additive, chronic toxicity. A combination of 2 or more of the pyrethroids, bifenthrin, cyfluthrin, cypermethrin and deltamethrin, were present in the assessed samples.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	"The narrative toxicity objective states, ""All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for the TU analysis is based on the following: "The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios are added for substances having similar toxicologic effects and, separately, for carcinogens. The additive toxicity criterion has been violated if the sum of the ratios is >1 (CV Basin Plan, 2011)."
Guideline Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in

	2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Line of Evidence (LOE) for Decision ID 76466, Toxicity **Region 5**

Pleasant Grove Creek

LOE ID:	22962
Pollutant:	Sediment Toxicity
LOE Subgroup:	Toxicity
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Warm Freshwater Habitat
Aquatic Life Use:	Warm Freshwater Habitat
Number of Samples:	7
Number of Exceedances:	3
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Three of seven statistically significant sediment toxicity testing samples violated the narrative toxicity objective. The three toxic (Mean mortality + standard deviation) sediment samples were collected from: Pleasant Grove Creek at Woodcreek Oaks Boulevard 9/24/04: 25+8; Pleasant Grove Creek at 100 meters downstream of Parkside Way 10/24/04: 55+40, 11/07/04: 90+12. Toxicity observations have been associated with pyrethroid pesticides.
Data Reference:	Five reports and 1 abstract (all PDFs) for SWAMP studies in the Lower Sacramento River: "R5SWAMP04-05_1.pdf" [Weston, D.P, R.W. Holmes, J. You, and M.J. Lydy. 2005. Aquatic toxicity due to residential use of pyrethroid insecticides. Environmental Science and Technology 39 (Dec. 15): 9778-9784.] "rb5_sedimentchem_rptmain.pdf" [Holmes, R.W. 2004. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "Sac_River_Benthic_Rpt.pdf" [Holmes, R.W., V. de Vlaming, D. Markiewicz, and K. Goding. 2005. Benthic Macroinvertebrate Colonization on Artificial Substrates in Agriculture-dominated Waterways of the Lower Sacramento

	River Watershed, Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. June 2005.]; "Sac_River_BioReport_Final.pdf" [V. de Vlaming, D. Markiwiecz, K. Goding, T. Kimball, and R. Holmes. Macroinvertebrate Assemblages in Agriculture- and Effluent-dominated Waterways of the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region, Moss Landing Laboratories, and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine.]; "sedimentchem.pdf" [R. W. Holmes. Monitoring of Sediment-bound Contaminants In the Lower Sacramento River Watershed Surface Water Ambient Monitoring Program (SWAMP) Lower Sacramento River Watershed, Final Report. Regional Water Quality Control Board - Central Valley Region. July 2004.]; "SWAMP03-04zooplankton_1.pdf" [V. de Vlaming, K. Goding, D. Markiwiecz, R. Wallace, and R. Holmes. Survey of Zooplankton Community Structure and Abundance in Agriculture-dominated Waterways in the Lower Sacramento River Watershed. Regional Water Quality Control Board-Central Valley Region and U.C. Davis Aquatic Toxicology Laboratory and School of Veterinary Medicine. May 2006.]
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. (CVRWQCB, 2007)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Statistically significant difference from control sediment using Dunnett's test in 10-day Hyalella azteca sediment toxicity tests. Arcsin squareroot transformation was used when necessary to meet the assumptions of normality and homogeneity of variance. Steel's test was used for comparison to control if these assumptions were not met after transformation.
Guideline Reference:	Methods for Measuring the Toxicity and Bioaccumulation of Sediment-associated Contaminants with Freshwater Invertebrates, Second Edition. U.S. Environmental Protection Agency Office of Research and Development, Duluth, MI , U.S. Environmental Protection Agency Office of Water, Washington, DC EPA-600/R-99/064
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Guideline Reference:	Distribution and Toxicity of Sediment-Associated Pesticides in Agriculture-Dominated Water Bodies of California¿s Central Valley
Spatial Representation:	Samples were collected from six locations along Pleasant Grove Creek in the City of Roseville from Industrial Boulevard on the upstream to Pleasant Grove Road on the downstream. Sediment toxicity was observed from three samples collected from the residential area at Woodcreek Oaks Boulevard and from the Crocker Ranch/Diamond Oaks area (100 meters downstream of Parkside Way) near stormwater outfalls. Two of the three samples were collected about one month apart from the

	mainstem Pleasant Grove Creek approximately 100 meters downstream of Parkside Way. Pyrethroid pesticides were generally not detected in the other sample locations except for small quantities of permethrin and bifenthrin.
Temporal Representation:	Samples were collected September 2004 - October 2004. Data collected during late summer.
Environmental Conditions:	
QAPP Information:	Data quality: Excellent.. Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

DECISION ID **73916** **Region 5**

Pleasant Grove Creek

Pollutant:	**Ammonia**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data or information was available during the 2014 Integrated Report cycle to reassess this water body segment and pollutant. The decision has not changed.

This pollutant was originally considered for listing under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. Data is available from two lines of evidence for this pollutant.

Based on the readily available data and information, the weight of evidence indicated that there was not sufficient justification for placing this water segment-pollution combination on the section 303(d) list. The recommendation was based on staff findings that 0 of 40 available ammonia concentrations exceeded the USEPA Health Advisory for Ammonia. Zero of 38 ammonia concentrations exceeded the calculated USEPA Freshwater Aquatic Life Protection Criteria Maximum Concentration.
The recommendation is based on staff findings that:
1. The data used satisfied the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfied the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 40 available ammonia concentrations exceeded the Health Advisory for Ammonia, and this does not exceed the allowable frequency using Table 3.1 of the Listing Policy. Zero of 38 ammonia concentrations exceed

	the calculated USEPA Freshwater Aquatic Life Protection Criteria Maximum Concentration, and this does not exceed the allowable frequency using Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data or information was available during the 2014 Integrated Report cycle to reassess this water body segment and pollutant. The decision has not changed. After review of the available data and information, RWQCB staff concluded that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards were not being exceeded.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 73916, Ammonia **Region 5**

Pleasant Grove Creek

LOE ID:	20897
Pollutant:	Ammonia
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Cold Freshwater Habitat
Number of Samples:	38
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of the 38 samples collected by the Surface Water Ambient Monitoring Program exceeded the evaluation guideline for Ammonia.

Data Reference:	SWAMP data entered by SWRCB into BDAT database
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. (CRWQCB, 2006)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Ammonia levels should not to exceed the calculated limit. Freshwater Aquatic Life Protection (Salmonid present) Criteria Maximum Concentration (CMC) (1-hour Average (mg N/L)) calculated based on the following formula: CMC = (0.275/(1 + 107.204-pH)) + (39.0/(1 + 10pH-7.204)) which incorporates pH (US EPA, 2005: Appendix C)
Guideline Reference:	1999 Update of Ambient Water Quality Criteria for Ammonia
Spatial Representation:	Samples were collected at PGC @ Fiddyment. Samples were collected at PGC @ Industrial. Samples were collected at PGC @ Petigrew.
Temporal Representation:	The samples were collected from Jan 17 2001 to Mar 25 2002.
Environmental Conditions:	
QAPP Information:	Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 73916, Ammonia **Region 5**

Pleasant Grove Creek

LOE ID:	20947
Pollutant:	Ammonia
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	40
Number of Exceedances:	0

Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	0 of the 40 samples collected by the Surface Water Ambient Monitoring Program exceeded the evaluation objective for Ammonia.
Data Reference:	SWAMP data entered by SWRCB into BDAT database
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. (CRWQCB, 2006)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Ammonia levels should not exceed 30 mg/L (USEPA Health Advisory).
Guideline Reference:	2006 edition of the drinking water standards and health advisories. EPA 822-R-03-013
Spatial Representation:	Samples were collected at PGC @ Fiddyment. Samples were collected at PGC @ Industrial. Samples were collected at PGC @ Petigrew.
Temporal Representation:	The samples were collected from Jan 17 2001 to Mar 25 2002.
Environmental Conditions:	
QAPP Information:	Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

DECISION ID **91302** **Region 5**

Pleasant Grove Creek

Pollutant:	**Benthic Community Effects**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Conclusion:	Benthic Community Effects is being considered for placement on the CWA section 303(d) List under sections 3.9 of the Listing Policy. Under section 3.9, an additional line of evidence associating the Benthic Community Effects with a water or sediment concentration of pollutants is necessary to assess listing status. One line of

evidence is available in the administrative record to assess this indicator. Zero of the zero samples exceed the Evaluation Guideline.

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of zero samples exceeded the Index of Biological Integrity (IBI) value of poor water quality for this area and this sample size is insufficient to determine with the power and confidence of the Listing Policy if standards are not met. A minimum of 2 samples is needed to determine impairment using Table 3.1.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 91302, Benthic Community Effects **Region 5**

Pleasant Grove Creek

LOE ID:	59094
Pollutant:	Benthic-Macroinvertebrate Bioassessments
LOE Subgroup:	Population/Community Degradation
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	0
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Six sites were sampled in 2006, 2007, and 2008; 2 additional sites were sampled in 2008 for a total of 20 individual IBI scores. Out of a possible IBI score of 100, sample scores ranged from 13 to 32.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative toxicity objective states, "All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	Based on the lack of reference sites for the Central Valley floor, the Central Valley IBI is not adequate to determine impairment thresholds at this time.
Guideline Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Spatial Representation:	BMI samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 BMI samples were collected from 05/16/2006 to 05/19/2006; the 2007 BMI samples were collected from 05/08/2007 to 05/11/2007; the 2008 BMI samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID **86701** **Region 5**

Pleasant Grove Creek

Pollutant:	**Cyfluthrin**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original

Impairment from Pollutant or Pollution:	Pollutant
Regional Board Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1 a single line of evidence is necessary to assess listing status. One line of evidence is available in the administrative record to assess this pollutant. Zero of the 20 samples exceed the Evaluation Guideline. Based on the readily available data and information, the weight of evidence indicates that there is sufficient justification against placing this water segment-pollutant combination on the CWA section 303(d) List in the Water Quality Limited Segments category. This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of 20 samples exceeded the Evaluation Guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 86701, Cyfluthrin **Region 5**

Pleasant Grove Creek

LOE ID:	59049
Pollutant:	Cyfluthrin
LOE Subgroup:	Pollutant-Sediment

Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 0 of 20 exceeded the evaluation guideline (0.11 ug/g OC).
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for cyfluthrin, 0.11 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 1.1 ug/g OC). The LC50 (1.1 ug/g OC) is the geometric mean of OC normalized LC50 values for cyfluthrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

Pollutant:	**Cyhalothrin, Lambda**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

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

One line of evidence is available in the administrative record to assess this pollutant. Zero of the six samples exceed the Evaluation Guideline.

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of six samples exceeded Evaluation Guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Pleasant Grove Creek

LOE ID:	59031
Pollutant:	Cyhalothrin, Lambda
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	6
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 14 samples were below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.044 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 0 of 6 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for lambda-cyhalothrin, 0.044 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 0.44 ug/g OC). The LC50 (0.44 ug/g OC) is the geometric mean of OC normalized LC50 values for lambda-cyhalothrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.

Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID	**86704**	**Region 5**
Pleasant Grove Creek		

Pollutant:	**Deltamethrin**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

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

One line of evidence is available in the administrative record to assess this pollutant. Zero of the eight samples exceed the Evaluation Guideline.

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of eight samples exceeded Evaluation Guideline and this sample size is insufficient to determine, with the power and confidence of the Listing Policy, the applicable beneficial use support rating. A minimum of 16 samples is needed to determine if a beneficial use is fully supported using table 3.1.
4. Pursuant to Section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

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

State Board Review of Regional

Board Conclusion and Recommendation:

State Board Decision Recommendation: After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 86704, Deltamethrin **Region 5**

Pleasant Grove Creek

LOE ID:	59076
Pollutant:	Deltamethrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	8
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 12 samples were below both the reporting limit (0.1 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.079 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 0 of 8 samples exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for deltamethrin, 0.079 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 0.79 ug/g OC). The LC50 (0.79 ug/g OC) is the geometric mean of OC normalized LC50 values for deltamethrin from Amweg et al. (2005).

Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID **86753** **Region 5**

Pleasant Grove Creek

Pollutant:	**Esfenvalerate/Fenvalerate**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

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

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 20 samples exceed the Evaluation Guideline.

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

This conclusion is based on the staff findings that:
1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy.
3. Zero of 20 samples exceeded the Evaluation Guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy.

	4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 86753, Esfenvalerate/Fenvalerate **Region 5**

Pleasant Grove Creek

LOE ID:	59067
Pollutant:	Esfenvalerate/Fenvalerate
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 0 of 20 exceeded the evaluation guideline (0.15 ug/g OC).
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."

Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for esfenvalerate/fenvalerate, 0.15 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 1.5 ug/g OC). The LC50 (1.5 ug/g OC) is the geometric mean of OC normalized LC50 values for esfenvalerate/fenvalerate from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID **86754** **Region 5**

Pleasant Grove Creek

Pollutant:	**Fenpropathrin**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

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

One line of evidence is available in the administrative record to assess this pollutant. Zero of the 20 samples exceed the Evaluation Guideline.

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

	This conclusion is based on the staff findings that: 1. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. 2. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. 3. Zero of 20 samples exceeded the Evaluation Guideline and this does not exceed the allowable frequency listed in Table 3.1 of the Listing Policy. 4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	After review of the available data and information, RWQCB staff concludes that the water body-pollutant combination should not be placed on the section 303(d) list because applicable water quality standards are not being exceeded.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 86754, Fenpropathrin **Region 5**

Pleasant Grove Creek

LOE ID:	59022
Pollutant:	Fenpropathrin
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	20
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 0 of 20 exceeded the evaluation guideline (0.12 ug/g OC).
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.

SWAMP Data:

Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for fenpropathrin, 0.1 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 1 ug/g OC). The LC50 (1 ug/g OC) is the geometric mean of OC normalized LC50 values for fenpropathrin from Ding et al. (2011).
Guideline Reference:	Toxicity of Sediment-Associated Pesticides to Chironomus dilutus and Hyalella azteca. Arch. Environ. Contam. Toxicol. 61:83¿92.
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID **86755** **Region 5**

Pleasant Grove Creek

Pollutant:	**Permethrin, total**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Conclusion:	This pollutant is being considered for placement on the CWA section 303(d) List under section 3.1 of the Listing Policy. Under section 3.1a one line(s) of evidence are necessary to assess listing status.

One line of evidence is available in the administrative record to assess this pollutant. Zero of the one samples exceed the Evaluation Guideline.

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

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

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

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation: After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 86755, Permethrin, total **Region 5**

Pleasant Grove Creek

LOE ID:	59040
Pollutant:	Permethrin, total
LOE Subgroup:	Pollutant-Sediment
Matrix:	Sediment
Fraction:	Total
Beneficial Use:	Cold Freshwater Habitat

Number of Samples:	1
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	A total of 20 individual sediment samples were collected; 19 samples were below both the reporting limit (1.0 ug/kg dry weight) and the organic carbon normalized evaluation guideline (0.89 ug/g OC) and could not be quantified with the level of certainty required by the listing policy. 0 of 1 sample exceeded the evaluation guideline.
Data Reference:	Various Data for Pleasant Grove Creek, Del Puerto Creek and Roseville Area, 2006-2010.
SWAMP Data:	
Water Quality Objective/Criterion:	The narrative objective for pesticides states, "No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. Discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses."
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	The evaluation guideline for permethrin, 0.89 ug/g OC, is one-tenth of the median lethal concentration for H. azteca (LC50; 8.9 ug/g OC). The LC50 (8.9 ug/g OC) is the geometric mean of OC normalized LC50 values for permethrin from Amweg et al. (2005).
Guideline Reference:	Use and Toxicity of Pyrethroid Pesticides in the Central Valley, California, USA. Environmental Toxicology and Chemistry, 24:966-972, with erratum 24:No. 5
Spatial Representation:	Sediment samples were collected along Pleasant Grove Creek at the following station locations in 2006, 2007 and 2008: PGC 1, PGC 2, PGC4, PGC 5, PGC 6 and PGC 7. Two additional sites (PGC 8a and PGC 9a) were also sampled in 2008.
Temporal Representation:	The 2006 sediment samples were collected from 05/16/2006 to 05/19/2006; the 2007 sediment samples were collected from 05/08/2007 to 05/11/2007; the 2008 sediment samples were collected from 05/02/2008 to 05/06/2008.
Environmental Conditions:	
QAPP Information:	Submitted QA data are acceptable.
QAPP Information Reference(s):	Quality Assurance Project Plan for Pyrethroid Working Group.

DECISION ID 71282 **Region 5**

Pleasant Grove Creek

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

Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original
Impairment from Pollutant or Pollution:	Pollutant
Regional Board Conclusion:	This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Data is available from 1 line of evidence for this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollution combination on the section 303(d) list. The recommendation is based on staff findings that 0 of 58 available concentrations exceeded the water quality objective and this does not exceed the allowable frequency using Table 3.2 of the Listing Policy. Table 3.2 of the listing policy recommends listing if a sample size of 58 has 10 or more samples that exceed the evaluation criteria. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 71282, Specific Conductivity **Region 5**

Pleasant Grove Creek

LOE ID:	20990
Pollutant:	Specific Conductivity
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Municipal & Domestic Supply
Number of Samples:	58
Number of Exceedances:	0
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	None of the 58 samples collected by the Surface Water Ambient Monitoring Program exceeded the "recommended" Secondary MCL of 900 uS/cm for electrical conductivity
Data Reference:	SWAMP data entered by SWRCB into BDAT database
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The secondary MCLs for electrical conductivity provide a range of values including a "recommended" level (900 uS/cm), upper level (1600 uS/cm) and a short-term level (2200 uS/cm). The ¿recommended¿ concentration was used as it is intended to be protective of all drinking water uses
Objective/Criterion Reference:	California Code of Regulations, Title 22, Division 4, Chapter 15. Domestic Water Quality and Monitoring
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected from Pleasant Grove Creek at Crocker-Ranch East, at (Crocker-Ranch West), at Brewer Road, at Crocker Ranch - West Outfall, at Woodcreek Oaks Boulevard, at Fiddyment, at Industrial, at Petigrew, and at Pleasant Grove Boulevard
Temporal Representation:	The samples were collected between October 25, 2000 and October 24, 2004
Environmental Conditions:	
QAPP Information:	Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

DECISION ID 71624 **Region 5**

Pleasant Grove Creek

Pollutant:	**pH**
Final Listing Decision:	**Do Not List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	Do Not List on 303(d) list (TMDL required list)(2016)
Revision Status	Original

Impairment from Pollutant or Pollution:	Pollutant
Regional Board Conclusion:	The decision has not changed. Region 5 data was not included in the 2012 Integrated Report so all decisions are carried over from the 2010 listing cycle. This pollutant is being considered for listing under sections 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Data is available from 1 line of evidence for this pollutant. Based on the readily available data and information, the weight of evidence indicates that there is not sufficient justification for placing this water segment-pollution combination on the section 303(d) list. The recommendation is based on staff findings that 4 of 56 available concentrations exceeded the water quality objective and this does not exceed the allowable frequency using Table 3.2 of the Listing Policy. Table 3.2 of the listing policy recommends listing if a sample size of 56 has 10 or more samples that exceed the evaluation criteria. The data used satisfies the data quality requirements of section 6.1.4 of the Policy. The data used satisfies the data quantity requirements of section 6.1.5 of the Policy. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.
Regional Board Decision Recommendation:	This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data were assessed by the Regional Board for the current cycle. The decision has not changed.
State Board Review of Regional Board Conclusion and Recommendation:	
State Board Decision Recommendation:	After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 71624, pH **Region 5**

Pleasant Grove Creek

LOE ID:	21090
Pollutant:	pH
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None

Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Cold Freshwater Habitat
Number of Samples:	56
Number of Exceedances:	4
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	4 of the 56 samples collected by the Surface Water Ambient Monitoring Program exceeded the evaluation objective for pH.
Data Reference:	SWAMP data entered by SWRCB into BDAT database
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	pH levels should not be lower than 6.5 or higher than 8.5 (Basin Plan Objective)
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Samples were collected at PG Ck (Crocker-Ranch East). Samples were collected at PG Ck (Crocker-Ranch West). Samples were collected at PG Creek @ Brewer Rd. Samples were collected at PG Creek @ Crocker Ranch - West Outfall. Samples were collected at PG Creek @ Woodcreek Oaks Blvd. Samples were collected at PGC @ Fiddyment. Samples were collected at PGC @ Industrial. Samples were collected at PGC @ Petigrew. Samples were collected at South Branch @ Pleasant Grove Blvd..
Temporal Representation:	The samples were collected from Oct 25 2000 to Oct 24 2004
Environmental Conditions:	
QAPP Information:	Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

DECISION ID 73546 **Region 5**

Pleasant Grove Creek

Pollutant:	**Oxygen, Dissolved**
Final Listing Decision:	**List on 303(d) list (TMDL required list)**
Last Listing Cycle's Final Listing Decision:	List on 303(d) list (TMDL required list)(2016)

Revision Status	Original
Sources:	A Source Unknown
Expected TMDL Completion Date:	2021
Impairment from Pollutant or Pollution:	Pollutant

Regional Board Conclusion:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data or information was available during the 2014 Integrated Report cycle to reassess this water body segment and pollutant. The decision has not changed.

This pollutant was originally considered for placement on the section 303(d) list under section 3.2 of the Listing Policy. Under section 3.2 a single line of evidence is necessary to assess listing status. Two lines of evidence are available in the administrative record to assess this pollutant. Four hundred eighty-one of 1,291 pH measurements exceeded the water quality objective.

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

This conclusion was based on the staff findings that:
1. The data used satisfied the data quality requirements of section 6.1.4 of the Policy.
2. The data used satisfied the data quantity requirements of section 6.1.5 of the Policy.
3. Four hundred eighty-one of 1,291 water measurements were lower than the Basin Plan objective of 7 mg/L, and this exceeds the allowable frequency listed in Table 3.2 of the Listing Policy. Of the total 1,291 water measurements that exceeded water quality standards, 259 were made downstream of the Pleasant Grove Wastewater Treatment Plant's effluent outfall. Thirty of these 259 measurements exceeded the Basin Plan objective. This listing only applies upstream of Fiddyment Road.
4. Pursuant to section 3.11 of the Listing Policy, no additional data and information are available indicating that standards are not met.

Regional Board Decision Recommendation:

This is a decision previously approved by the State Water Resources Control Board and the USEPA. No new data or information was available during the 2014 Integrated Report cycle to reassess this water body segment and pollutant. The decision has not changed.

State Board Review of Regional Board Conclusion and Recommendation:

State Board Decision Recommendation:

After review of this Regional Board decision, SWRCB staff recommend the decision be approved by the State Board.

Line of Evidence (LOE) for Decision ID 73546, Oxygen, Dissolved **Region 5**

Pleasant Grove Creek

LOE ID:	21129
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Aquatic Life Use:	Cold Freshwater Habitat
Number of Samples:	55
Number of Exceedances:	22
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	Twenty-two of the 55 samples collected by the Surface Water Ambient Monitoring Program exceeded the evaluation objective for Dissolved Oxygen.
Data Reference:	SWAMP data entered by SWRCB into BDAT database
SWAMP Data:	SWAMP
Water Quality Objective/Criterion:	The Basin Plan Objective sets the minimum Dissolved Oxygen content at 7 mg/L.
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Upstream sites: Pleasant Grove Creek (Crocker-Ranch East), Pleasant Grove Creek (Crocker-Ranch West), Pleasant Grove Creek @ Brewer Road, Pleasant Grove Creek @ Crocker Ranch - West Outfall, Pleasant Grove Creek @ Woodcreek Oaks Blvd., Pleasant Grove Creek @ Fiddyment, and Pleasant Grove Creek @ Industrial. Downstream site: Pleasant Grove Creek @ Petigrew.
Temporal Representation:	The samples were collected from October 2000 to October 2004.
Environmental Conditions:	

QAPP Information:	Monitoring was conducted in accordance with the State Water Resources Control Board's Quality Assurance Program Plan for the State of California's Surface Water Ambient Monitoring Program.
QAPP Information Reference(s):	

Line of Evidence (LOE) for Decision ID 73546, Oxygen, Dissolved **Region 5**

Pleasant Grove Creek

LOE ID:	28181
Pollutant:	Oxygen, Dissolved
LOE Subgroup:	Pollutant-Water
Matrix:	Water
Fraction:	None
Beneficial Use:	Cold Freshwater Habitat
Number of Samples:	1236
Number of Exceedances:	459
Data and Information Type:	PHYSICAL/CHEMICAL MONITORING
Data Used to Assess Water Quality:	City of Roseville dataset from the Pleasant Grove Wastewater Treatment Plant NPDES permit monitoring.
Data Reference:	Waste Discharge Requirements for the City of Roseville Pleasant Grove Wastewater Treatment Plant monitoring results.
SWAMP Data:	Non-SWAMP
Water Quality Objective/Criterion:	The Basin Plan objective of 7 mg/L for COLD beneficial use designation.
Objective/Criterion Reference:	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region, Sacramento and San Joaquin River Basins. 4th ed
Evaluation Guideline:	
Guideline Reference:	
Spatial Representation:	Upstream sites: Samples were collected at PS1 (12,000 feet upstream of outfall) and R1 (200 feet upstream of outfall). Downstream site: R2 (200 feet downstream of outfall).
Temporal Representation:	Samples were collected weekly from September 1999 to February 2009.
Environmental Conditions:	

QAPP Information:	Monitoring conducted in accordance with the Pleasant Grove Wastewater Treatment Plant NPDES permit.
QAPP Information Reference(s):	