



**REGIONAL WATER QUALITY CONTROL BOARD,  
CENTRAL VALLEY REGION**

**2018 JOINT TRIENNIAL REVIEW  
OF THE WATER QUALITY CONTROL PLANS FOR THE  
SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASINS  
AND TULARE LAKE BASIN**

**Proposed Project Prioritization Factors  
Draft Staff Report**

**4 September 2018**



**CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**

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## I. TRIENNIAL REVIEW PURPOSE

To meet requirements of Section 303(c)(1) of the Federal Clean Water Act and Section 13240 of the Water Code, the Central Valley Regional Water Quality Control Board (Central Valley Water Board or Board) reviews the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin (Basin Plans) every three years. The process is known as the Triennial Review. The Basin Plans are the foundation for the Central Valley Water Board's water quality regulatory programs. The Basin Plans contain:

- Designated beneficial uses for both surface and ground water bodies in the three basins that make up the Central Valley
- Water quality objectives to protect those beneficial uses
- Implementation plans that describe the actions necessary to achieve water quality objectives
- Descriptions of the surveillance and monitoring activities needed to determine regulatory compliance and assess the health of the Basins' water resources

## II. TRIENNIAL REVIEW PROCESS

Each Triennial Review begins with a solicitation where the Board asks the public to propose water quality issues that may need to be addressed with basin plan amendments. The Board initiated the 2018 Triennial Review in June 2017 with a 45-day project solicitation. Board staff included an information document with the solicitation that provided a status of the 2014 Triennial Review Workplan, as well as issues that have arisen since 2014.

The project solicitation notice was mailed to over 2,600 entities and emailed to over 1,300 entities. Public workshops to receive oral comments were held on 16 August 2017 in Fresno and 23 August 2017 in Rancho Cordova. The 23 August workshop included a videoconference link for public access through the Central Valley Water Board's office in Redding. The Central Valley Water Board received 21 written comments during the public comment period. Board staff prepared responses to all comments, and will use the comments to help develop a draft 2018 Triennial Review Workplan. In addition to the comments submitted during the comment period, staff also considered comments submitted during other Board processes that raised Basin Planning issues outside the scope of the referenced project. Appendix 1 of this report includes the Board's responses to comments received during the solicitation process.

The next step in the process is to hold a discussion with the Board in October 2018 regarding the criteria that Board staff will use to develop the draft 2018 Triennial Review Workplan (the draft 2018 Triennial Review Workplan will be considered by the Board at a subsequent Board meeting). The proposed prioritization criteria are in Section IV of this document. Stakeholders and members of the public are encouraged to comment on these criteria at the October workshop.

Please note that the October workshop will provide the public with an opportunity to discuss the proposed prioritization **criteria**, not the final prioritized **project list** itself. The prioritized project list will be part of the draft 2018 Triennial Review Workplan, which will be considered by the Board at its December meeting. There will be another opportunity to comment on the draft 2018 Triennial Review Workplan before the Board considers the workplan in December.

After the Board adopts the 2018 Triennial Review Workplan in December, it will be used to direct basin planning efforts over the next three years. Implementation depends upon the Central Valley Water Board's program priorities, resources, and other mandates and commitments. The draft 2018 Triennial Review Workplan will include an overview of the proposed projects, project ranking, and available Board resources.

### **III. BASIN PLAN AMENDMENTS ADOPTED SINCE LAST TRIENNIAL REVIEW (2014)**

Since the last Triennial Review (2014), the following basin plan amendments were adopted for the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins or Tulare Lake Basin and are now in effect:

- Amendment to Remove MUN in Twelve Constructed and/or Modified Water Bodies in the Sacramento River Basin (R5-2015-0022)
- Amendment to Remove MUN and AGR from Groundwater Within the Tulare Lake Bed (R5-2017-0032)
- Amendments to Reformat the Basin Plans (R5-2017-0106)

The following Basin Plan Amendments for the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins or Tulare Lake Basin have been adopted by the Central Valley Water Board but are not yet fully approved and in effect:

- Control of Pyrethroid Pesticide Discharges (R5-2017-0057)
- Add Electrical Conductivity Water Quality Objectives in the San Joaquin River (R5-2017-0062)
- Region-Wide MUN Evaluation Process in Agriculturally Dominated Surface Water Bodies and Removing MUN from 231 Constructed or Modified Ag Drains in the San Luis Canal Company District (R5-2017-0088)
- Amendments to Establish a Central Valley-wide Salt and Nitrate Control Program (R5-2018-0034)

### **IV. POTENTIAL PROJECTS**

Developing proposed projects began by identifying 19 broad issues that face the waters of the Region. These issues include those that were identified in previous Triennial Reviews and new ones. A list of these broad issues is included in Table 1.

**Table 1**  
**Basin Planning Issues Identified During the 2018 Joint Triennial Review**

Issue Number	Issue Name	Affected Basin	
		Sacramento River/San Joaquin River Basin	Tulare Lake Basin
1	Salt and Nitrate Management for Surface and Ground Waters	X	X
2	Beneficial Use Designations for Surface and Ground Waters	X	X
3	Appropriate Beneficial Use Designations in Agriculturally-dominated Water Bodies and Agricultural Conveyance Facilities	X	X
4	Regulatory Guidance to Address Water Bodies Dominated by NPDES Discharges	X	X
5	Participation in State Water Board Plans and Policies and Other Statewide Issues	X	X
6	Secondary Maximum Contaminant Levels (MCLs) as Water Quality Objectives for Surface and Ground Waters	X	X
7	Protection of Central Valley Fisheries and Other Aquatic Life	X	X
8	Evaluating Current United States Environmental Protection Agency (USEPA) Criteria	X	X
9	Prospective Incorporation by Reference of the Maximum Contaminant Levels in the Basin Plans	X	X
10	Updating the Basin Plans	X	X
11	Diurnal Variations in Water Quality and the Effect to Water Quality Objectives	X	X
12	Naturally Occurring Background Conditions	X	X
13	2021 Triennial Review	X	X
14	Implementation of the Delta Strategic Work Plan	X	
15	Pesticide Control Efforts	X	X
16	Mercury Load Reduction Program	X	
17	Battle Creek (Sedimentation Impacting Endangered Species)	X	
18	Pit River (Reassess Beneficial Uses and Water Quality Objectives in Specific Reaches)	X	
19	Clear Lake Nutrients	X	

Twenty-seven proposed projects were developed to help address some of these broad issues. These projects will be proposed to the Central Valley Water Board to guide the Board planning staff for the next three years. The project list includes projects that are already in progress, as well as new projects. Note that some projects have elements currently being implemented, with new project components being proposed. The projects are summarized in Table 2. Fact Sheets for each proposed project are included in Appendix 2.

**Table 2****Proposed Projects to Address Basin Planning Issues Identified During the 2018 Joint Triennial Review**

<b>Project Number</b>	<b>Issue Number</b>	<b>Project Name</b>	<b>Existing Project</b>	<b>New Project</b>
1	1	Support for basin planning and implementation activities related to the proposed Salt and Nitrate Control Program	X	
2	2	Tribal Beneficial Uses		X
3	2	Guidance for seasonal beneficial uses and diurnal variations		X
4	2	MUN in Oil Production Zones		X
5	2	Basin Plan Amendment Work Plans under Irrigated Lands General Waste Discharge Requirements		X
6	2	Individual Beneficial Use Evaluation for West Squaw Creek		X
7	2	Individual Beneficial Use Evaluation for Grassland water supply channels		X
8	2	Individual Beneficial Use evaluation for Groundwater beneath Sulphur Bank Mine in Lake County		X
9	3	Appropriate Beneficial Use Designation in Agriculturally-dominated Water Bodies and Agricultural Conveyance Facilities	X	X
10	4	Evaluation of Effluent-dominated and Individual Water Bodies Dominated by NPDES Discharges		X
11	7	Temperature Criteria and Objectives	X	X
12	7	Dissolved Oxygen Objectives	X	X
13	8	Ammonia Water Quality Objectives	X	
14	8	Review of proposed United States Environmental Protection Agency (USEPA) Water Quality Criteria and 304(a) Criteria		X
15	9	Re-evaluation of the prospective-incorporation-by-reference of the Maximum Contaminant Levels		X
16	14	Delta Nutrient Research Plan	X	
17	14	Fungicides and Herbicides	X	
18	15	Comprehensive Pesticides Control Program	X	
19	15	Pyrethroid Research Plan	X	
20	15	Sacramento and San Joaquin Rivers Organochlorine Pesticides Re-evaluation	X	
21	16	Statewide Mercury Control Program for Reservoirs	X	
22	16	Central Valley Rivers Mercury Control Program		X
23	16	Delta Methylmercury Control Program	X	
24	17	Watershed-based Plan Implementation and Update for Battle Creek	X	
25	18	Reassessment of Beneficial Uses and Water Quality Objectives in Specific Reaches of the Pit River		X
26	19	Implementation of Clear Lake Nutrient Control Program	X	X

Project Number	Issue Number	Project Name	Existing Project	New Project
27	12	Development of Procedures to Define and Determine Naturally-occurring Background Conditions		X

#### V. CENTRAL VALLEY WATER BOARD CORE BASIN PLANNING WORK

Central Valley Water Board staff also have core planning work that is on-going throughout the year. It includes work related to statewide plans and policies, as well as routine basin planning tasks such as non-regulatory updates to the Basin Plans and initiation of subsequent Triennial Reviews. The effort required for this core work can be difficult to predict as statewide priorities change. The following are State Board Plans and Policies under revision/development that contribute to basin planning core work:

- Development of bacterial standards for Ocean and Inland Surface Waters;
- Biostimulatory Substances Project;
- Development of Cadmium Objective and Hardness Implementation Policy;
- Chlorine Residual Objectives and Implementation;
- Mercury TMDLs in Reservoirs;
- Revision of Nonpoint Source Implementation Policy;
- Updates of the Bay-Delta Plan;
- Procedures for Discharges of Dredged or Fill Materials to Waters of the State;
- Recycled Water Policy Amendments;
- Sediment Quality Objectives for Enclosed Bays and Estuaries;
- Toxicity Water Quality Control Plan Amendments; and
- Statewide Urban Pesticide Reduction

## VII. PROPOSED PROJECT PRIORITIZATION PROCESS

To efficiently use Board resources, staff recommends prioritizing the 27 proposed projects. This would ensure that staff time is spent on those issues and projects most important to the Board and to the public. The proposed project prioritization criteria, below, would be used to evaluate the projects:

<b>Criteria</b>	<b>Definition</b>
Project Addresses Tribal Interests or Specifically Addresses the Human Right to Water	While all Basin Planning Projects must be consistent with the Human Right to Water, certain projects specifically address this need in disadvantaged communities or in tribal communities
Projects that represent an Efficient Use of Board Resources	Projects with resource commitments from other agencies and/or stakeholders or that build upon existing studies or research represent an efficient use of Board resources
Projects to Address Impediments to Water Recycling/Efficient Use/Integrated Water Management	These projects modify Basin Plan provisions that may interfere with statewide goals of promoting water recycling, efficient water use, and integrated water management. Such projects may also further SGMA implementation goals.
Projects that Complement Prior Work	Certain projects may compliment the regulatory intent or directives in separate Board-issued Orders or Basin Plan Amendments
Projects of Special Stakeholder Interest	Projects of special importance due to their value to stakeholders, including federal agencies (including USEPA), State Agencies, Local agencies, or NGOs

In addition, Staff propose to set aside a category of projects that would include those projects that the Board has made a legally-enforceable regulatory commitment to completing or that the Board deems, in its discretion, high-priority projects.

## VIII. NEXT STEPS

Once input on the project prioritization process and criteria is received from the Board and public during the October workshop and through written comments, staff will apply the criteria to the list of projects in Table 2. Projects would then be placed into rankings that would be worked on as resources allow.

The draft 2018 Triennial Review Workplan be prepared by staff after the October workshop that will include a proposed prioritization of the projects. The draft 2018 Triennial Review Workplan will be released for public comment prior to the December 2018 Board meeting. Staff will respond to public comments, and the draft 2018 Triennial Review Workplan will be amended based on public comment. The draft 2018 Triennial Review Workplan then will be presented to the Board in December for consideration. The public will have an additional opportunity for oral comment during the December Board meeting. The Central Valley Water Board may then adopt the draft 2018 Triennial Review Workplan by resolution.

**APPENDIX 1:**  
**2018 TRIENNIAL REVIEW RESPONSE TO COMMENT**

**APPENDIX 1: RESPONSE TO COMMENTS  
ON THE  
2018 JOINT TRIENNIAL REVIEW OF THE WATER QUALITY CONTROL PLANS FOR THE  
SACRAMENTO AND SAN JOAQUIN RIVER BASINS AND TULARE LAKE BASIN**

This document summarizes comments pertaining to the 2018 Triennial Review (TR) of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and Tulare Lake Basin (Basin Plans) received by the California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board), and provides staff response to those comments.

In this document comments are listed in chronological order and are referred to by number as indicated in the following table. Comments 1-21 were submitted in response to the Notice of August 2017 Public Workshops.

<b>Comment #</b>	<b>Comment Date</b>	<b>Submitted by</b>	<b>Representative</b>
1	3 July 2017	Dennis Fox	Self
2	13 July 2017	Buffy McQuillen	Federated Indians of Graton Rancheria
3	3 August 2017	Lysa Voight	Sacramento Regional County Sanitation District
4	21 August 2017	Willy Hagge	North Eastern California Water Association
5	28 August 2017	Noah Oppenheim / Regina Chichizola / Bill Jennings	Pacific Coast Federation of Fishermen's Association & Institute for Fisheries Resources / Save California's Salmon / California Sportfishing Protection Alliance
6	30 August 2017	Debbie Webster	Central Valley Clean Water Association
7	30 August 2017	Donald Ikemiya, Nicole Bell	Kaweah Basin Water Quality Association, Kern River Watershed Coalition Authority
8	30 August 2017	Ronda Lucas	Modesto Irrigation District
9	30 August 2017	Patrick Lewis	O'Laughlin & Paris, LLP for the San Joaquin Tributaries Authority
10	30 August 2017	Steve Boyd	Turlock Irrigation District
11	30 August 2017	Matthew Mitchell	United States Environmental Protection Agency, Region 9
12	31 August 2017	Bailey Hunter	Tuolumne Me-Wuk Tribal Council

13	5 September 2017	Maria Rea	United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service
14	8 September 2017	Sarah Ryan	Big Valley Band of Pomo Indians
15	8 September 2017	Karola Kennedy	Elem Indian Colony
16	8 September 2017		Robinson Rancheria Environmental Center
17	8 September 2017	Gary Riley	United States Environmental Protection Agency, Region 9
18	15 September 2017	Rock Zierman	California Independent Petroleum Association
19	11 October 2017	Mickey Gemmill	Pit River Tribe
20	24 October 2017	Agustin Garcia	Elem Indian Colony
21	20 April 2018	Wayne M. Whitlock	Pillsbury Winthrop Shaw Pittman LLP on behalf of Seneca Resources Corporation

Comments 22 to 24 were submitted during the consideration of the Amendments to Incorporate a Central Valley-wide Salt and Nitrate Control Program (Resolution R5-2018-0034):

<b>Comment #</b>	<b>Comment Date</b>	<b>Submitted by</b>	<b>Representative</b>
22	31 May 2018	Laura Rosenberger Haider	Fresnans Against Fracking
23	31 May 2018	Elissa Callman	City of Sacramento on behalf of the Sacramento River Source Water Protection Program
24	31 May 2018	Melissa Thorme	Downey Brand, LLP on behalf of Valley Water Management Company

The following comments (25 to 30) were received as part of the 2014 Clean Water Act Section 303(d)/305(b) Integrated Report process (Resolution R5-2016-0083) but were forwarded to be included in the Triennial Review process. The full comment letters are available at:

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/impaired\\_waters\\_list/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/index.shtml)

Comment #	Commenter from the 2014 Integrated Report Response to Comments
25	Shasta County Board of Supervisors – Pam Giacomini (Shasta County)
26	Steven Wooster page 2, paragraph 5-6; United States Forest Service page 1, paragraph 5; William and Mary Crook Family (2) page 1, paragraph 5
27	Steven Wooster page 2, paragraph 5-6; United States Forest Service page 1, paragraph 5; William and Mary Crook Family (2) page 1, paragraph 5
28	Central Sierra Environmental Resource Center (CSERC)
29	Central Sierra Environmental Resource Center (CSERC)
30	Fresno Metropolitan Flood Control District (FMFCD)

#### 1 Dennis Fox, Bakersfield California

Mr. Fox provided several comments regarding water quality concerns that are not related to basin planning actions. Staff addresses each of the comments below; although, the normal procedure for questions, comments and suggestions is to email the Central Valley Water Board at: [info5@waterboards.ca.gov](mailto:info5@waterboards.ca.gov). Water quality complaints should be filed online through the CalEPA Environmental Complaint System at the following website: <https://calepacomplaints.secure.force.com/complaints/>.

1A. Mr. Fox commented that South Shafter had privies adjacent to wells until this was corrected by the USDA, not the County or the State.

The State Water Board Onsite Wastewater Treatment Systems (OWTS) policy addresses this concern. (SWRCB 2012.) The OWTS policy encourages local agency regulation and allows for Local Area Management Programs (LAMPs). Kern County prepared a LAMP, which was approved by the Central Valley Water Board in June 2017. The Kern County LAMP requires 100 feet of separation between a non-public water supply well and a septic tank or disposal field. The Kern County Environmental Health septic system setback requirements can be found at <http://kernpublichealth.com/wp-content/uploads/2016/03/Typical-Sewage-Design-Setbacks.pdf>. They may also be contacted by phone at (661) 321-3000.

1B. Mr. Fox suggested that the Board investigate the use of tamarisk to absorb the seepage, containing asbestos and selenium, from New Idria Mine.

The Central Valley Water Board is always interested in innovative solutions to addressing contaminants affecting the Region's waters. While tamarisk is known for growing in salty environments, there is no indication that tamarisk will take up toxic pollutants. Staff will stay updated on any studies on beneficial effects from tamarisk.

1C. Mr. Fox was concerned that the Carisso [Carrizo?] Plain is being used for marijuana grows and is causing high groundwater concerns.

The Central Valley Water Board appreciates the comment. The Carrizo Plain is located in the jurisdiction of the Central Coast Water Board, Region 3. This comment has been referred to Region 3.

- 1D. Mr. Fox was concerned that the Bureau of Land Management was siting off-highway vehicle usage in areas where silica is mined and Valley Fever is endemic.

The Central Valley Water Board is responsible for protecting the quality of the state's waters in the Region. The Central Valley Water Board has taken enforcement action where off-highway recreation has adversely impacted water quality (see Central Valley Water Board Orders R5-2008-0713, R5-2009-0030, R5-2012-0700). The Bureau of Land Management does not have any recreational areas within the southern San Joaquin Valley and the Central Valley Water Board does not have any reports of water quality impacts due to off-highway vehicle activities in the Arvin area. Concern may also be voiced to the Kern County Environmental Health Department at (661) 321-3000.

- 1E. Mr. Fox noted that Atwell Island near Alpaugh is toxic and was fallowed but now it is being flooded for waterfowl use so the recharge will exacerbate the problem.

Atwell Island, an area with shallow groundwater previously used for agricultural production, has been retired from agricultural production, restored, and dedicated for habitat restoration under the supervision of the U.S. Department of the Interior (DOI). Prior to beginning the restoration process, the DOI performed baseline sampling of shallow soil and groundwater. The DOI analyzed soil and groundwater for constituents found naturally in area soils: salt, selenium, boron, molybdenum, and arsenic. The results indicated that shallow soils have relatively low concentrations of selenium, with some areas having moderate concentrations of boron. Boron was detected at elevated concentrations in some of the subsoils.

For additional information regarding the Atwell Island habitat restoration, contact the US Bureau of Reclamation. (USDOI 2005.)

- 1F. Farmersville and Lamont are two communities subject to flooding from poor watershed management. Caliente Creek has been diverted and runs down the roads in Lamont. Clean Water Act section 404 permits are not applicable. The Central Valley Water Board will need to assure that dredge and fill activities do not cause adverse impacts to beneficial uses as well as nuisance conditions.

Diversion and channeling of Caliente Creek upstream of Lamont and Arvin was performed in the 1930s and 1940s, prior to the adoption of the Clean Water Act. The actions are therefore not subject to 404 permit requirements nor Central Valley Water Board dredge and fill regulation. Kern County is addressing this issue through a Regional Water Management Group (RWMG). Kern County joined with other local entities to form a RWMG and collaboratively manage water resources in the Kern Region. The RWMG developed an Integrated Regional Water Management Plan (IRWMP). The RWMG has overseen projects that address community flooding, for example the RWMG submitted a grant application to address flooding of Sycamore Road in Arvin (Kern IRMWP 2012b, Kern IRMWP 2012c, and DWR 2014) which was funded. Kern County has identified the need for many projects across the County. This includes the need to address Caliente Creek flooding (Kern IRWMP 2012a and Bakersfield Californian 2017). Due to limited resources, projects must be prioritized so

that the highest priority projects may be funded. The Caliente Creek flooding project has yet to receive a high enough priority for the RWMG to request grant funding but remains on the list of prioritized projects and may be funded if more resources become available.

1G. Mr. Fox was concerned that, in the upper watershed, fires have burnt houses and left septic tanks and no one is addressing the water quality problems.

Mr. Fox's information is not specific enough to conduct an investigation. The Central Valley Water Board investigates water quality complaints. If Mr. Fox has more specific information, he should file a complaint with the Kern County Environmental Health Department at (661) 862-8740 or online through the CalEPA Environmental Complaint System at the following website:

<https://calepacomplaints.secure.force.com/complaints/>

1H. Mr. Fox reported that septage was discharged to Robinson Cove at Isabella.

Mr. Fox's information is not specific enough to conduct an investigation. The Central Valley Water Board is responsible for protecting the quality of the state's waters in the Region; however, the Board has no information on septage discharges into Lake Isabella. The Central Valley Water Board investigates water quality complaints. If Mr. Fox has more specific information on septage discharges, he should file a complaint online through the CalEPA Environmental Complaint System at the following website:

<https://calepacomplaints.secure.force.com/complaints/>

1I. Mr. Fox reported that waste dumping is occurring at Buttonwillow and the Kern River east of Bakersfield and waste can be seen seeping into the Kern River.

Mr. Fox's information is not specific enough to conduct an investigation. The Central Valley Water Board is responsible for protecting the quality of the state's waters in the Region; however, the Board has no information on wastes that have been inappropriately discharged into the Kern River. The Central Valley Water Board investigates water quality complaints. If Mr. Fox has more specific information on septage discharges, he should file a complaint online through the CalEPA Environmental Complaint System at the following website:

<https://calepacomplaints.secure.force.com/complaints/>

1J. Mr. Fox was concerned that arsenic is not being addressed because it is being described as naturally occurring in the environment when it is due more to its use as a cotton defoliant.

The Central Valley Water Board regulates waste discharges to surface and groundwater associated with irrigated agricultural lands. This program regulates discharge of any pollutants by agriculture that may degrade water quality. There is no need to change the Basin Plan to regulate arsenic discharges. This comment will be provided to irrigated lands program staff.

1K. Marijuana is associated with illegal chemical use and containers tossed into streams. When prosecuted, the District Attorneys do not necessarily require cleanup of the waste at the

grows. The Central Valley Water Board should coordinate with the District Attorneys to identify the locations of these sites.

Mr. Fox's information is not specific enough to conduct an investigation. The Central Valley Water Board requires cleanup and abatement of waste discharges that create or threaten to create conditions of pollution and nuisance. (Wat. Code § 13304.) The Board has developed a Cannabis Cultivation program to address water quality impacts from legal cannabis cultivation activities and target enforcement actions. If Mr. Fox has more specific information on illegal chemical use or disposal, he should file a complaint online through the CalEPA Environmental Complaint System at the following website:

<https://calepacomplaints.secure.force.com/complaints/>

1L. Mr. Fox was concerned that hard rock mining left legacy ores in the environment such as the lead left at the Black Bob silver mine at Wind Wolves Condor Park.

The U.S. Forest Service was the lead regulatory agency for cleanup and closure of the Black Bob Mine. The Forest Service hauled away the tailing piles of waste from the mine site and it no longer poses a threat to the local preserve or the environment in general. Please contact the Forest Service at (559) 297-0706 for more information.

2. Buffy McQuillen, Tribal Heritage Preservation Officer, Federated Indians of Graton Rancheria

2A. The Tribal Heritage Preservation Office staff has reviewed the project information. Based on the project details, the Tribe does not have any comments to provide at this time. The Board thanks the Tribe for participating in the Triennial Review Process.

3. Lysa Voight, Sacramento Regional County Sanitation District

3A. In general, the Sacramento Regional County Sanitation District agrees with the identified priority issues listed in the Triennial Review. For each of the listed issues on Attachments 1 and 2, they encourage the continued use of robust and collaborative stakeholder processes, the use of sound science in making policy decisions, and the use of fair funding principles and mechanisms.

The Central Valley Water Board appreciates the support of the Sacramento Regional County Sanitation District and thanks the District for participating in the stakeholder efforts associated with Basin Planning activities.

3B. The Sacramento Regional County Sanitation District supports Regional Board's participation in the items listed under Issue 5 and recommends using a holistic approach when addressing beneficial use impairments caused by a combination of contaminants and/or flow; perform a use attainability analysis when evaluating the ability to achieve water quality supportive of uses and when evaluating actions to improve water quality, and focus on addressing major sources of contaminants and allow exclusion of di minimis sources from control programs where it can be shown no environmental benefit is gained.

Issue No. 5 from the 2014 Work Plan is participation in development of State Water Board Plans and Policies. Going forward, participation in the development of State Board plans and policies will be considered core work for the Central Valley Board and

will no longer be included in the Triennial Review Work Plans as a standalone project. The Central Valley Water Board appreciates the support from the Sacramento Regional County Sanitation District.

The Central Valley Water Board appreciates the suggestions from the Sacramento Regional County Sanitation District. The Board follows all applicable federal and state laws and regulations when amending the basin plans, developing programs to address water quality impairments, and writing permits. It is the intent of the Central Valley Water Board not to require unnecessary expenditures and to provide flexibility when appropriate.

3C. The Sacramento Regional County Sanitation District recommends that the Regional Board use the State Water Board's Phase 2 report, "Working Draft Scientific Basis Report for Flow Requirements on the Sacramento River, its Tributaries, East-Side Tributaries to the Delta, Delta Outflow, and Interior Delta Flows" in making important management and policy decisions for protecting the Delta Ecosystem.

The Central Valley Water Board appreciates the recommendation. The Water Board considers all relevant information when making policy decisions and the public process such as this triennial review offers the opportunity to interested persons such as the Sacramento County Regional Sanitation Districts to bring forth any relevant information that the Board can utilize.

3D. The Sacramento Regional County Sanitation District recommends that the Thermal Plan be updated with any methodology and associated criteria resulting from the Regional Board's contracts for deriving temperature ranges appropriate for Central Valley waterways to protect anadromous salmonids. In addition, the Sacramento Regional County Sanitation District recommends that a stakeholder process be initiated for the project under development.

The goal of the on-going work is to develop specific water temperature criteria for anadromous salmonids native to the Central Valley region. The Thermal Plan is generally protective of all beneficial uses and not just salmonid use. The on-going studies would not be expected to result in the need to modify the Thermal Plan. However, if the on-going project indicates that revisions to the Thermal Plan are necessary to provide appropriate protection for salmonids, the Central Valley Water Board will provide recommendations to the State Water Board.

The Central Valley Water Board is committed to the stakeholder process. The schedule and scope of the current contracted temperature studies do not lend themselves to stakeholder involvement. However, the Board will continue to look for ways to involve the stakeholders in the future should the project move forward as a basin plan amendment (or with future projects to further develop criteria).

3E. The Sacramento Regional County Sanitation District supports the efforts of the Regional Board to complete the Delta Nutrient Research Plan and recommends identification of funding mechanisms to support related studies and the inclusion of new monitoring components in the Delta Regional Monitoring Program as appropriate.

The Regional Water Board appreciates the support and has allocated resources towards this effort. The Delta Nutrient Research Plan will be included for consideration by the Central Valley Water Board in the draft Work Plan for the Sacramento River and San

Joaquin River Basins. See Project Factsheet 16 for more information regarding the Delta Nutrient Research.

3F. The Sacramento Regional County Sanitation District encourages the Regional Board to develop variance and variance programs to provide regulatory flexibility to surface water dischargers that can demonstrate that it is infeasible to meet water quality based effluent limits.

The Central Valley Water Board adopted a variance policy in 2014 that provides regulatory flexibility to surface water dischargers that discharge non-priority pollutants and a multiple discharger variance for salinity to allow dischargers to assist in the development of a Central Valley-wide salt and nitrate control program. The recently adopted basin plan amendments to incorporate a salt and nitrate control program revises the multiple discharger variance to allow dischargers to assist in the implementation of the salt and nitrate control program. The Water Board can consider other multiple discharger variances for other constituents when appropriate information is compiled and provided for Board consideration. The Water Board considers all relevant information when making policy decisions and public processes such as this triennial review offers the opportunity to interested persons such as the Sacramento Regional County Sanitation District to bring forth any relevant information that the Board can utilize.

4. Willy Hagge, North Eastern California Water Association

4A. The North Eastern California Water Association (NECWA) urges the RWQCB consider dividing the Pit River into more reaches and to designate beneficial uses and establish water quality objectives appropriate for different reaches of the Pit River.

The Central Valley Water Board is interested in assuring that beneficial uses are appropriately designated and protected. Basin planning projects for the Pit River will be included for consideration by the Central Valley Water Board in the draft Work Plan for the Sacramento River and San Joaquin River Basins. See Project Fact Sheet 25 for more information regarding Reassessment of Beneficial Uses and Water Quality Objectives in Specific Reaches of the Pit River.

5. Noah Oppenheim / Regina Chichizola / Bill Jennings, Pacific Coast Federation of Fishermen's Association (PCFFA) & Institute for Fisheries Resources (IFR) / Save California's Salmon (SCS) / California Sportfishing Protection Alliance (CSPA)

5A. The Pacific Coast Federation of Fishermen's Association (PCFFA) & Institute for Fisheries Resources (IFR) / Save California's Salmon (SCS) / California Sportfishing Protection Alliance (CSPA) ask that Issue 7 (2014) from the last Triennial Review Process – Protection of the Central Valley Fisheries and Other Aquatic Life – be elevated to the top issue to be addressed through Basin Plan amendments, Clean Water Act section 303(d) listings, TMDLs, unimpeded flow 1 assessments and other state and federal actions within the next three years. Cold water fisheries, particularly their spawning and rearing, are the most sensitive beneficial uses in most of the tributaries within the region. Therefore, improving water quality for fisheries will also improve water quality conditions in general and, in turn, lead to improvements in drinking water quality and greater recreational water contact uses. The tributaries that are the most important to salmonids are Antelope, Battle, Big Chico, Butte, Clear, Cottonwood, Deer, Mill Creeks. These creeks have all experienced declines in habitat and water quality, particularly temperature and sediment degradation, and dissolved oxygen, pH and turbidity impairments.

To address Issue 7 from the 2014 Triennial Review Work Plan several projects are required, some of which are sequenced. The initial project to develop temperature criteria will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. Subsequent projects will be prioritized based on the results of the initial project and available resources. Issue 7 from the 2014 Triennial Review Work Plan includes deriving water quality objectives that are protective of Central Valley aquatic life including temperature and dissolved oxygen and was identified as a high priority. The Board is currently working with UC Davis and UC Santa Cruz to review existing literature to develop a methodology for deriving temperature criteria appropriate for Central Valley anadromous salmonids. Appropriate temperature criteria are needed to assess temperature data to identify temperature impairments. See Project Fact Sheet 11 for more information regarding the development of temperature criteria and objectives for the protection of Central Valley fisheries and other aquatic life. Additional projects to protect aquatic life in Central Valley streams may be identified at the conclusion of the current projects.

Issue 7 also includes dissolved oxygen projects that may benefit Central Valley aquatic life. See Project Fact Sheet 12 for more information regarding the development of dissolved oxygen objectives for the protection of Central Valley fisheries and other aquatic life.

The Central Valley Water Board recognizes the importance of these tributaries as is noted by the fact that the Board has identified each of these tributaries in the Basin Plan with their own assigned beneficial uses.

6. Debbie Webster, Central Valley Clean Water Association

6A. The Central Valley Clean Water Association (CVCWA) thanks the Regional Board for, and encourage its continued use of, stakeholder processes in developing any basin plan amendments.

Support noted. The Board is committed to the continued use of stakeholder processes.

6B. The Central Valley Clean Water Association believes that the prospective incorporation by reference of newly-adopted MCLs as water quality objectives presents significant issues of concern for publicly-owned treatment works (POTWs) because the State Board's Division of Drinking Water does not apply the factors in Water Code sections 13241 and 13240 to the adoption of MCLs. The Regional Board should undertake the appropriate analysis as required by Water Code sections 13241 and 13242 prior to incorporating newly-adopted MCLs into the Basin Plans as water quality objectives.

Or, at the very least, the Regional Board should amend the Basin Plans to clarify that the newly-adopted MCL for 1,2,3-Trichloropropane is not a water quality objective that has been incorporated into the Basin Plans.

The prospective incorporation-by-reference of the Maximum Contaminant Levels included in Title 22 of the California Code of Regulations as water quality objectives in the Basin Plans will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 15 for more

information regarding prospective incorporation-by-reference of the Maximum Contaminant Levels.

6C. While the Central Valley Clean Water Association supports the actions to address water bodies dominated by NPDES discharges through the development of the Salinity Variance Program and Salinity Exception Program, they believe those programs are limited only to salinity constituents, and do not reach the core issue, which includes designating appropriate beneficial uses, establishing objectives for those uses, and/or developing proper implementation of the objectives as effluent limits. The Central Valley Clean Water Association encourages the Central Valley Water Board to continue to work on approaches to ensure that effluent limitations are set at a reasonable level for water bodies dominated by effluent discharges, particularly through Basin Plan amendments that are similar to those recently adopted for agriculturally-dominated water bodies.

The Board recognizes that variances are an interim measure to provide flexibility while working towards appropriate water quality standards. The evaluation of effluent dominated water bodies and individual water bodies dominated by NPDES discharges will be included in the draft 2018 Triennial Review for consideration by the Central Valley Water Board. See Project Fact Sheet 10 for more information regarding the evaluation of water bodies dominated by NPDES discharges.

6D. Issue 11 of the 2014 Triennial Review Work Plan discusses the total maximum daily load (TMDL) project to address mercury impairments in rivers within the Central Valley (Rivers Plan). The Central Valley Clean Water Association remains interested in a program that ensures that site-specific mercury objectives necessary to reasonably protect applicable beneficial uses are developed for the entire Central Valley.

In May 2017 the State Board adopted statewide mercury water quality objectives, which apply to inland surface waters and enclosed bays and estuaries with beneficial uses associated with the consumption of fish by both people and wildlife. The statewide mercury water quality objectives, as appropriate, will be used in the development of mercury control programs for Central Valley waterbodies. The development a TMDL project to address mercury impairments in Central Valley Rivers will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 22 for more information regarding mercury load reductions in Central Valley Rivers. The Board will consider any submitted evidence that demonstrates the need for site-specific objectives.

7. Donald Ikemiya/Nicole Bell, Kaweah Basin Water Quality Association, Kern River Watershed Coalition Authority

7A. Recently the Central Valley Water Board adopted amendments to the Tulare Lake Basin Plan and the Sacramento River and San Joaquin River Basin Plans to provide a process to determine the appropriate level of protection of the MUN beneficial use, including the introduction of limited municipal beneficial use in agriculturally dominated water bodies. The Kaweah Basin Water Quality Association (KBWA) and the Kern River Watershed Coalition Authority (KRWCA) recognize the importance of these amendments and support staff's work to appropriately designate beneficial uses for agriculturally dominated surface water bodies.

Support noted.

7B. The Kaweah Basin Water Quality Association and the Kern River Watershed Coalition Authority believe that in many areas within the Tulare Lake Basin many water bodies are ephemeral in nature and lack adequate flow for many beneficial uses to be realized. They believe that appropriate designation is critical to the implementation of the ILRP and that appropriately defined beneficial uses enable coalitions to implement management plans and utilize resources which appropriately reflect monitored water ways and exposure risks. The Kaweah Basin Water Quality Association and the Kern River Watershed Coalition Authority emphasize the importance of ongoing work by staff to appropriately define beneficial use designations and should be considered high priority in future planning efforts.

The Central Valley Water Board is interested in assuring that beneficial uses are appropriately designated including beneficial uses for ephemeral or intermittent streams. The evaluation of beneficial use designations in water bodies within the Central Valley Region will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 9 for more information regarding beneficial use designations in agriculturally dominated water bodies.

#### 8. Ronda Lucas, Modesto Irrigation District

8A. The Modesto Irrigation District fully supports the Regional Board's pursuit of updated, relevant scientific information upon which to base its future planning and regulatory efforts. The scientific studies that are underway to address Issue 7, entitled "the protection of Central Valley fisheries and other aquatic life," are necessary steps to establish scientifically credible, defensible and effective temperature objectives for the San Joaquin River basin.

The Central Valley Water Board agrees that the most current scientific information should be used to establish water quality objectives. The Board is currently working with UC Davis and UC Santa Cruz to review existing literature to develop a methodology for deriving temperature criteria appropriate for Central Valley anadromous salmonids. See response to Comment 5A. The Board appreciates the support of Modesto Irrigation District.

8B. The Modesto Irrigation District has established ongoing scientific efforts on the Tuolumne River to identify and assess river temperatures and some of the effects of temperature on native fish physiology assessing temperature ranges within which native, Tuolumne River resident trout can accomplish their physiological activities. They have concluded, as the Regional Board, that the current U.S. Environmental Protection Agency (USEPA) tools, like the USEPA 2003 Criteria, are simply inapplicable with respect to Central Valley fisheries due to the markedly different environmental conditions of the Central Valley.

The Central Valley Water Board has made no conclusions regarding the USEPA Region 10 temperature guidance<sup>1</sup>. In the absence of water quality objectives, the Board considers the USEPA temperature guidance along with other information, as appropriate, when assessing temperature data. The current project with UC Davis and UC Santa Cruz to review existing literature to develop a methodology for deriving temperature criteria is not an indication that the Central Valley Water Board has made

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<sup>1</sup> U. S. Environmental Protection Agency (USEPA). 2003. *EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards*. EPA 910-B-03-002. Region 10 Office of Water, Seattle, WA.

any conclusions on what is or is not appropriate for Central Valley anadromous salmonids. See response to Comment 5A.

8C. The Modesto Irrigation District encourages the Regional Board to institute transparent, collaborative stakeholder processes in its Basin update planning process, including but not limited to public workshops for the ongoing studies on this complicated and sometimes-controversial topic. The Modesto Irrigation District will remain engaged and anticipates dedicating its resources, as appropriate, to participate in and assist the Regional Board in completing this work. The Modesto Irrigation District indicates that it would share its expertise and resources as part of an advisory committee to address this subject, if one were to be established. They believe these open and transparent stakeholder forums are best suited to flesh out any next steps to further the scientific inquiry.

See responses to Comment 3D and 5A.

9. Patrick Lewis O’Laughlin & Paris, LLP for the San Joaquin Tributaries Authority

9A. The San Joaquin Tributaries Authority (“SJTA”) beseeches the Central Valley Regional Water Quality Control Board to continue prioritizing the protection of Central Valley fisheries and other aquatic life (“Issue 7”) as a high priority issue in the 2018-2021 Triennial Review because of need for appropriate criteria to protect beneficial uses.

The Central Valley Water Board agrees that protection of aquatic life in the Central Valley is important. The protection of Central Valley fisheries and other aquatic life will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheets 11 and 12 for more information regarding projects to develop water quality objectives for temperature and dissolved oxygen to protect Central Valley fisheries and other aquatic life. See response to Comment 5A.

9B. The San Joaquin Tributaries Authority would like to offer its support and resources to the Regional Board and staff during its continued efforts to protect Central Valley fisheries and other aquatic life. As the first study, currently underway, concludes and the second study commences, the San Joaquin Tributaries Authority asks that the Regional Board create a transparent and public technical advisory committee for Dr. Benjamin Martin’s study. The San Joaquin Tributaries Authority would like to participate as a member of the public technical advisory committee, and believes the more stakeholder involvement in establishing a process for determining the temperature criteria the better.

See answer to Comment 3D.

9C. The San Joaquin Tributaries Authority recommends that the Regional Board select one river in from the Sacramento River Basin and one from the San Joaquin River Basin, in order to develop and test the methodology developed for water temperature criteria.

The Central Valley Water Board appreciates the interest and recommendations from the San Joaquin Tributaries Authority and will consider these recommendations in the current project.

10. Steve Boyd, Turlock Irrigation District (TID)

10A. The Turlock Irrigation District supports the efforts of the Central Valley Regional Water Quality Control Board to derive temperature ranges appropriate for Central Valley waterways to protect anadromous salmonids.

The Central Valley Water Board appreciates the support from Turlock Irrigation District and is committed to the use of stakeholder processes.

10B. The reliance on the USEPA 2003 Guidance document ignores recent advances in the study of fish physiology and adaptability to local temperature regimes.

The Central Valley Water Board strives to use current and fully reviewed science when developing regulations and requirements. See response to Comment 5A.

10C. The Turlock Irrigation District is willing to share information and scientific studies they have developed, in conjunction with the Modesto Irrigation District and the City and County of San Francisco, to support the efforts.

The Central Valley Water Board thanks Turlock Irrigation District for providing information and studies.

10D. The Turlock Irrigation District urges the formation of a Technical Advisory Committee to assist in the process and would be willing to participate.

See answer to Comment 3D.

10E. The Turlock Irrigation District may be able to provide funding and staff time to aid the RWQCB's development of appropriate temperature water quality criteria.

The Central Valley Water Board appreciates the offer of resources for the development of appropriate temperature water quality criteria. Staff is proposing continuing work on water quality criteria for temperature and staff will look into opportunities for greater opportunities for stakeholder participation. Please see Project Fact Sheet 11 for more information.

10F. The Turlock Irrigation District suggests that a test case be used to further the process. They suggest the RWQCB select one river from the Sacramento River basin and one from the San Joaquin River basin in order to test the methodology developed.

The Central Valley Water Board appreciates the interest and recommendations from the Turlock Irrigation District. See response to Comment 9C.

11. Matthew Mitchell, United States Environmental Protection Agency, Region IX (USEPA)

11A. The USEPA believes that the REC-1 and REC-2 beneficial uses for the Grasslands wetland water supply channels should be included in the 2018 Triennial Review.

Evaluation of beneficial uses for the Grasslands wetland water supply channels will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 7 for more information regarding beneficial use designations for Grasslands water supply channels.

11B. The USEPA believes that the Regional Board should provide an update on the development of an amendment to clarify its use designation process which was intended to resolve a tributary rule amendment that was previously disapproved by USEPA.

Since the USEPA's letter dated 26 May 2000, the Central Valley Water Board has addressed the tributary rule concern and has revised beneficial uses as deemed necessary through a basin plan amendment process. Therefore, the Board no longer sees a need to amend the Basin Plans to provide additional description regarding implementation of the tributary statement. Instead the Board staff will work with USEPA to retract the previous disapproval regarding the tributary statement.

11C. The USEPA supports the development of water quality criteria for temperature as a high priority issue.

Support noted.

11D. The USEPA supports research to address impairment to beneficial uses due to low dissolved oxygen in the Old and Middle River as a high priority issue.

Addressing the low dissolved oxygen in the Old and Middle Rivers was identified as a priority in the 2014 Delta Strategic Work Plan and work has been progressing on this project. Evaluation of water quality objectives and addressing impairments related to dissolved oxygen will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. Please see Project Fact Sheet 12 for more information.

11E. The USEPA encourages further study on the sensitivity of all freshwater fish species to salinity in the lower San Joaquin River and reverse salinity gradients that may contribute to a confusing migration signal to salmonids.

The Central Valley Water Board relies on fisheries studies conducted by US Fish and Wildlife Service, California Fish and Wildlife Service to provide scientific foundation for fisheries impact. When the salinity control program for the Lower San Joaquin River is reviewed (scheduled to be done by June 2027), we will also evaluate any available information on "reverse salinity gradients" and their effects on freshwater fish species.

11F. The USEPA believes that the 2018 Triennial Review must include an explanation if the State does not adopt new or revised criteria for parameters for which USEPA has published new or updated Clean Water Act section 304(a) criteria recommendations.

The Central Valley Water Board agrees that the most current information should be used to develop water quality objectives and the Central Valley Water Board must consider the six factors listed in Water Code section 13241 when adopting objectives. These factors are:

- Past, present, and probable future beneficial uses of water;
- Environmental characteristics of the hydrographic unit under consideration, including the quality of water available hereto;
- Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
- Economic considerations;

- The need for developing housing within the region; and
- The need to develop and use recycled water.

Please see Project Fact Sheet 14 for more information regarding the evaluation of current USEPA criteria as the basis for water quality objectives.

11G. The USEPA suggests that the RWQCB continue to evaluate its water bodies to ensure that waters with early life stages of salmonids are protected due to a MUN beneficial use and should proceed with a review of pentachlorophenol water quality criteria if it finds that salmonids are present in waters that do not have MUN beneficial uses.

For waterbodies that are designated COLD, MIGR, or SPWN, but do not have MUN designation, criteria for pentachlorophenol can be based on the narrative toxicity objective included in the Basin Plan.

## 12. Bailey Hunter, Tuolumne Me-Wuk Tribal Council

12A. The Tuolumne Me-Wuk Tribal Council observed that there are few streams assessed for pollutants in the geographic area that the Tuolumne Bank of Me-Wuk Indians traditionally and culturally uses. Three of the four streams that were assessed (Sullivan Creek, Woods Creek, and Curtis Creek) in Tuolumne County were high in *E. coli*. Likely many other streams in the area are high in *E. coli*, but haven't been assessed.

In accordance with the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (Listing Policy), the Water Boards evaluate all readily available data and information to develop the section 303(d) list. The Central Valley Water Board had access to the data for the indicated water bodies. Any stakeholder with data that it wishes the Water Board to evaluate should submit the data to the California Environmental Data Exchange Network (CEDEN) for future assessments. (SWRCB 2015) Guidance for data submittal to CEDEN can be found at [http://www.ceden.org/ceden\\_submitdata.shtml](http://www.ceden.org/ceden_submitdata.shtml).

12B. All of the reservoirs in Tuolumne County that were assessed were high in Mercury (Lake Don Pedro, New Melones Lake, Tulloch Lake). This indicates that the streams flowing into these reservoirs are likely high in mercury as well.

See response to comment 6D.

12C. The Tuolumne Me-Wuk Tribal Council is concerned with pollutants, such as *E. coli* and mercury, in the streams and lakes in their area that may cause sickness in tribal members who are using the water bodies to conduct important cultural activities such as gathering. The Council hopes that the Central Valley Water Board can establish cultural beneficial uses on the streams located in the area that the Tribe is traditionally and culturally associated with.

Evaluations of appropriate beneficial use designations for surface and ground waters will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 2 more information regarding the designation of tribal beneficial uses.

## 13. Maria Rea, United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS)

13A. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service supports the development of temperature criteria for the Central Valley that are protective of anadromous fishes. They believe that the water quality objectives, as currently developed, do not adequately ensure that salmonids are appropriately protected. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service supports the Board's efforts to meet this requirement through the development of specific, numeric, and consistent temperature objectives that protect existing beneficial uses for all Sacramento and San Joaquin Basin Rivers that support Endangered Species Act-listed anadromous salmonids and green sturgeon.

Support noted.

13B. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service supports using USEPA Region 10 guidance to develop numeric temperature standards to protect salmonid beneficial uses in the Central Valley.

The Central Valley Water Board is working on a project to demonstrate a conceptual method for deriving temperature ranges protective of Central Valley anadromous salmonids in individual water bodies. The use of USEPA Region 10 guidance is being evaluated as part of the project. See Response to comment 5A.

13C. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service supports the Board's efforts in the CWA section 205(j) grant agreement with the University of California (U.C. Davis) and the Board's contract with U.C. Santa Cruz to evaluate and determine appropriate temperature criteria. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service would like to coordinate and offer technical expertise with the Board in the development of appropriate water temperature criteria for the Central Valley.

The Central Valley Water Board appreciates the United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service support and thanks NMFS for providing technical expertise in the development of appropriate water temperature criteria by serving on the technical steering committee. See response to comment 5A.

13D. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service suggests that the Board conduct an analysis of the effect of target temperature objectives on listed fishes, rather than evaluate whether or not proposed conditions are an improvement over current conditions.

At this time, there are no target temperature objectives nor are there any proposed conditions. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins has water quality objectives for temperature for the Sacramento River. The current project evaluating temperature criteria may include recommendations that affect the temperature objectives. Any proposed objectives must consider natural background conditions and achievability.

13E. The United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service recommends the Board consider expanding the temperature analyses to include fall-run Chinook salmon and Essential Fish Habitat (EFH).

Support noted. Studies currently being done under executed contracts include fall-run salmonid species in the analysis.

14. Sarah Ryan, Big Valley Band of Pomo Indians

14A. The Big Valley Band of Pomo Indians recommends that a high priority be given to the inclusion of Tribal Tradition and Culture (CUL) and Tribal Subsistence Fishing (T-SUB) beneficial uses in the Water Quality Control Plan for the Sacramento River and San Joaquin River basin, and designating Clear Lake and its tributaries as where these beneficial uses occur.

See response to Comment 12C.

14B. The Big Valley Band of Pomo Indians has collected fish and shellfish for mercury analysis of the tissue and are concerned over the continued exceedances of the water quality objectives.

The Mercury Control Program for Clear Lake recognizes the extended time period necessary to reduce historical contamination and specifies that fish should be collected and analyzed every ten years to assess the effectiveness of the control program. The Central Valley Water Board appreciates the Big Valley Band of Pomo Indians providing the data for the mercury analysis of fish tissue and will use the data to assess the control program. If the Big Valley Band of Pomo Indians continues to analyze mercury in fish tissue, the Board would appreciate if the Tribe continued to share the data.

14C. The Big Valley Band of Pomo Indians requests that the following existing WQOs and their current data be reviewed as impairing existing beneficial uses for Clear Lake: pathogens, toxicity, dissolved oxygen, and temperature.

- Pathogen data collected by the Lake County Division of Environmental Health and Big Valley Band of Pomo Indians exceeded the water quality objectives for bacteria.
- Cyanotoxin levels, collected by Big Valley Band of Pomo Indians and Elem Indian Colony, exceed suggested action level recommended by the Office of Environmental Health Hazard Assessment (OEHHA) and Surface Water Ambient Monitoring Program (SWAMP) trigger levels for recreational contact. (data provided).
- Data collected by multiple agencies over the last several years on Clear Lake, including Big Valley Rancheria, California Department of Food and Agriculture (CDFA) and California Department of Water Resources (CDWR), show extended periods of time throughout the lake where dissolved oxygen (DO) is suppressed, leading to fish kills that have been investigated by California Department of Fish and Wildlife and confirmed to have dissolved oxygen as the culprit. June and July 2017 data collected by CDFA from a site where Clear Lake meets Cache Creek was provided.
- Data collected by multiple sources on Clear Lake show that ambient lake water temperatures continue to exceed the objectives delineated in the Basin Plan. Warm lake summer temperatures have risen over the years in Clear Lake, becoming a factor in

large fish kills. June and July 2017 data collected by CDFA from a site where Clear Lake meets Cache Creek was provided.

The submitted data has been forwarded to the Integrated Report staff for assessment during the next assessment cycle for the Central Valley. Future data should be submitted to the California Environmental Data Exchange Network (CEDEN) to insure inclusion as part of the assessment. Guidance for data submittal to CEDEN can be found at [http://www.ceden.org/ceden\\_submitdata.shtml](http://www.ceden.org/ceden_submitdata.shtml).

14D. The Big Valley Band of Pomo Indians asks that the Water Board provide evidence that the existing WQO for pathogens is protective of REC-1.

The existing water quality objectives in the Basin Plans were adopted in 1975. At that time, the US Environmental Protection Agency (1976) recommended use of fecal coliform bacteria as an indicator of probable occurrence of waterborne pathogens for recreational water quality, specifically as an indicator for *Salmonella*. USEPA provided updated recommendations focused on *E. coli* in 1986, 2012, and 2017. In 2000, the State Water Board began work on a project to propose statewide bacteria water quality objectives to protect recreational users from the effects of pathogens in California's water bodies using current scientific recommendations. The statewide process was anticipated to supersede updated objectives adopted by the Central Valley Water Board in 2002 (Resolution R5-2002-0150), so the associated approval process was suspended. Proposed statewide bacteria objectives were released in January 2018 and adopted on 7 August 2018 (SWRCB 2018). When the statewide objectives go into effect, they will supersede the Central Valley Water Board's bacteria objectives to the extent of any conflict.

#### 15. Karola Kennedy, Elem Indian Colony

15A. The Elem Indian Colony recommends that a high priority be given to include the two newly statewide adopted and approved Tribal Tradition and Culture (CUL) and Tribal Subsistence Fishing (T-SUB) beneficial uses in the Sacramento River and San Joaquin River Basin Plan and designating Clear Lake and its tributaries as where these beneficial uses occur. They request that these not be delayed so that human health and practice of Tribal lifeways are not impacted due to unnecessary continued exposure to toxins that are addressed within the Basin Plan.

See response to Comment 12C.

15B. The Elem Indian Colony further requests that the CVRWQCB continue outreach to Tribes who were historically and/or currently within all three basins in the 2018 Triennial Review. They therefore request Tribal support to assist in gathering available quantitative and qualitative data to advise the Basin Plan amendment processes for the two previously mentioned basins. The CVRWQCB may also coordinate with California Tribes to identify funding for Tribal engagement in updating Basin Plans.

The Central Valley Water Board appreciates the suggestion and offer to assist in gathering data. The Board recognizes that the Basin Plan amendment process works best with meaningful participation by tribes, stakeholders and other interested persons. As the Board begins projects, the Board will seek to consult with California Native American tribes that have indicated an interest in the Water Boards' projects. The Board

will also provide opportunities for tribes to provide input throughout the process of developing a basin plan amendment. As applicable, Board staff will coordinate with the Tribes to secure funds that are available to support Tribal participation in basin planning actions.

15C. The Elem Indian Colony would like guidance such as Early Tribal Consultation per CEQA added to the Basin Plan.

The Central Valley Water Board offers consultation opportunity to all California Native American Tribes that have requested notification consistent with Public Resources Code section 21080.3.1. The Central Valley Water Board appreciates the need for tribal consultation and engagement and strives to go beyond applicable statutes and regulations by offering additional opportunities for tribal engagement with staff and the Board. The State Water Board Office of Public Participation is planning to develop guidance for the Water Boards on how to interact with Tribes including guidance on implementing section 21080.3.1 of the Public Resources Code. The State Water Board Office of Public Participation intends to consult with the Tribes to develop this guidance.

15D. The Elem Indian Colony is concerned that its membership has increased vulnerability due to water quality of their potable water. They cite increasing problems faced by the 17 water treatment systems that use Clear Lake as their source waters and serve 70% of Lake County residents and visitors.

The Central Valley Water Board has identified excessive nutrients and mercury as impairments in Clear Lake. Basin plan control programs and total maximum daily load (TMDL) allocations have been adopted to address mercury and nutrients to attain the water quality standards in Clear Lake. The Board has not received information regarding other contaminants in Clear Lake. If the Tribe has water quality data for the Board to consider, they can submit the data to the California Environmental Data Exchange Network (CEDEN) (SWRCB 2015). Guidance for data submittal to CEDEN can be found at

[http://www.ceden.org/ceden\\_submitdata.shtml](http://www.ceden.org/ceden_submitdata.shtml).

15E. The Elem Indian Colony looks forward to assisting the Mercury Program and in implementing the Plan in the future.

The Central Valley Water Board appreciates the Elem Indian Colony's assistance in efforts to attain the water quality standards in Clear Lake.

#### 16. The Robinson Rancheria Environmental Center

The Robinson Rancheria Environmental Center believes that Tribal cultural and traditional resource use of Clear Lake and its tributaries should be included in the Basin Plan.

Comment noted. See response to Comment 12C.

#### 17. Gary Riley, United States Environmental Protection Agency (USEPA), Region 9

The USEPA Region 9 requests the Water Board make de-designation of groundwater at the Sulphur Bank Mercury Mine in Lake County for municipal and domestic water supply beneficial

uses a high priority revision in the basin planning process. They have developed technical data and analyses that they would be pleased to provide the Water Board.

The Central Valley Water Board appreciates the assistance of the USEPA. The evaluation of beneficial uses of groundwater beneath the Sulphur Bank Mercury Mine in Lake County will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See project Fact Sheet 8 for more information regarding the beneficial use designations of groundwater beneath Sulphur Bank Mine.

#### 18. Rock Zierman, California Independent Petroleum Association

18A. The California Independent Petroleum Association (CIPA) believes that protecting beneficial uses of groundwater is the clear overarching purpose of a Basin Plan, calibrated by subsequent amendments. Toward making collaborative progress, CIPA is pleased to provide relevant data and technical information. The California Independent Petroleum Association is also willing to explore sponsoring research to extract data from producers' responses to Central Valley Water Board's (CVWB's) Water Code section 13267 letters.

The Central Valley Water Board appreciates the assistance of the California Independent Petroleum Association.

18B. The California Independent Petroleum Association believes that the appropriate designation of aquifers through Basin Plan Amendments (BPAs) is the #1 emerging priority. With the State Water Resources Control Board's recent approval of the Tulare Lake Basin Plan Amendment and attendant completion of CV-SALT'S projects, the Central Valley Water Board now has a policy and program foundation upon which to build Basin Plan Amendments to designate beneficial-use areas and de-designate areas where the water will not be a source of drinking water or other beneficial uses. This enables us to focus limited resources on managing water resources. Therefore, California Independent Petroleum Association members believe this effort should be given a high priority when planning the uses of those limited resources.

Evaluation of ground waters in the Tulare Lake Basin with respect to oil production and discharges will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See project Fact Sheet 4 for more information regarding evaluation of ground waters in the Tulare Lake Basin with respect to oil production and discharges.

18C. The California Independent Petroleum Association is working with the Central Valley Water Board and CV-SALTS for water quality protections that advance the beneficial uses of petroleum produced water, such as appropriate recycling, groundwater recharge and agricultural applications. This incorporates an accelerated Basin Plan Amendment process, including reasonable accommodations for IND users that cannot feasibly meet objectives within a specified time.

The Central Valley Water Board has adopted a Central Valley-wide Salt and Nitrate Control Plan into both Basin Plans on 31 May 2018 (R5-2018-0034). These amendments include policies associated with recycling. The Board has convened an Oil Field Wastewater Reuse Expert Panel to provide recommendations, guidance and opinions regarding use and application of oil field

produced wastewater to irrigate crops for human consumption. Basin planning projects may be recommended in the future to address food safety issues.

18D. The California Independent Petroleum Association supports the State Water Resources Control Board and regional boards' initiative to advance and install as operational reality the emerging statewide recycled water policy – essential to conserving water as a way of life.

The Central Valley Water Board appreciates the support of the California Independent Petroleum Association as we develop basin plan amendments and implement the Central Valley-wide Salt and Nitrate Control Program.

18E. As the Central Valley Water Board and CV-SALTS complete the Salt and Nitrate Management Plan (SNMP) documents for San Joaquin Valley agriculture, California Independent Petroleum Association members ask that the Triennial Plan logically builds on this meticulous, science-based undertaking. We will work with staff to explore the extension of coalitions to petroleum producers and adding boron management, as already cited in CVSALTS mission. The California Independent Petroleum Association notes there are many concepts, such as management zones and de-designation, in the SNMP documents that are productively and directly applicable to IND users and petroleum.

Comment noted. Please see project Fact Sheet 1 for more information regarding salt and nitrate management for surface and groundwaters.

#### 19. Mickey Gemmill, Pit River Tribe

19A. The Pit River Tribe has concerns about proposed changes to the current COLD-Freshwater Habitat designation for the Pit River. They believe the COLD- Freshwater Habitat designation is appropriate. The Pit River Tribe formally requests participation and engagement in basin planning investigations undertaken by the CVRWQCB.

The Central Valley Water Board has not initiated any project to change the COLD beneficial use designation for the Pit River. A number of stakeholders have requested the change so the Triennial Review work plan includes a project to re-evaluate the beneficial uses of the Pit River as well as re-evaluate some of the water quality objectives. Please see Project Fact Sheet 25 more information regarding the evaluation of beneficial uses and water quality objectives in the Pit River.

If the Central Valley Water Board initiates a basin planning project, the Pit River Tribe will be offered the opportunity to consult consistent with Public Resources Code section 21080.3.1. In addition to the consultation process in the Public Resources Code, the Board will also provide opportunities for tribes to provide input throughout the process of developing any basin plan amendment for the Pit River.

19B. The Pit River Tribe recommends the CVRWQCB make it a high priority to designate "Tribal Cultural and Tradition (CUL), and Tribal Subsistence Fishing (T-SUB) beneficial uses for the entire Pit River Watershed and its tributaries.

Comment noted. See response to Comment No. 12C.

19C. The Pit River Tribe recommends the CVRWQCB designate *Commercial and Sportfishing* (COMM) beneficial uses for the entire Pit River Watershed and its tributaries.

Comment noted. See Project Fact Sheet 2 for more information regarding the evaluation of beneficial use designations.

19D. The Pit River Tribe formally requests participation and engagement in basin planning investigations undertaken by the CVRWQCB.

The Pit River Tribe sent a letter to be notified of projects pursuant to Public Resources Code section 21080.3.1 so the Pit River Tribe will be offered the opportunity to consult consistent with the Public Resources Code. In addition to consultation, the Pit River Tribe will also be given the opportunity to participate throughout the process of any project to amend the Basin Plan.

19E. The Pit River Tribe further request that the Central Valley Water Board work directly with the Tribe, to review historical information and engage in coordinated planning on any scientific quantitative and qualitative data collected for the Pit River and its tributaries.

The Pit River Tribe will have the opportunity to share information during consultation or during the public process of any basin plan amendment process.

19F. The Pit River Tribe requests CVRWQCB engage in basin wide studies and regional program development for the protection of the cultural beneficial uses (identified below); to develop water quality criteria for the protection of beneficial uses that are culturally important to the Tribe.

- 1) **Tribal Tradition and Culture (CUL):** Uses of water that support the cultural, spiritual, ceremonial, or traditional rights or LIFEWAYS of CALIFORNIA NATIVE AMERICAN TRIBES, including, but not limited to: navigation, ceremonies, or fishing, gathering, or consumption of natural aquatic resources, including fish, shellfish, vegetation, and materials.
- 2) **2) Tribal Subsistence Fishing (T-SUB):** Uses of water involving the non-commercial catching or gathering of natural aquatic resources, including fish and shellfish, for consumption by individuals, households, or communities of California Native American Tribes to meet needs for sustenance.

The Central Valley Water Board agrees that designating beneficial uses must be done with meaningful water quality objectives and/or implementation programs. The evaluation of appropriate beneficial use designations will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. Please see Project Fact Sheet 2 for more information regarding tribal beneficial use designations.

## 20. Agustin Garcia, Elem Indian Colony

20A. The Elem Indian Colony states that as a result of man's activities, the extent of the naturally occurring contaminants is much greater than the pre-mining conditions in the groundwater under the reservation.

If the Central Valley Water Board decides that it is a high priority to evaluate the beneficial uses of groundwater beneath the Sulphur Bank Mercury Mine, staff will evaluate all available information to make a recommendation to the Board. Staff complies with all applicable laws and regulations, including requirements and

recommendations for public participation, when conducting a basin planning project. The Elem Indian Colony will be notified if the Board undertakes a basin planning project in the vicinity of the Sulphur Bank Mercury Mine and the Colony will have the opportunity to provide relevant information for the Board to consider.

20B. The Elem Indian Colony believes that de-designating the groundwater beneath the reservation encroaches on the Tribe's reserved right to groundwater, a right they assert is granted under the Winter's doctrine. Although they presently have water piped in as an interim institutional control; however, they fully intend to use groundwater in the future. As new technologies for water treatment are developed, use of the groundwater beneath the reservation for municipal purposes is planned.

The Central Valley Water Board's designation of beneficial uses indicates the Board's goal for water quality protection and does not relate to water rights or the availability or use of the water for any particular purpose. The Board considers the factors listed in the Sources of Drinking Water Policy (State Water Board Resolution 88-63) for designation and de-designation of the municipal and domestic supply (MUN) beneficial use.

20C. The Elem Indian Colony believes the USEPA or the State cannot de-designate their "federally reserved" waters.

Water Code section 13240 et. seq. specifies that the Central Valley Water Board adopt water quality control plans that include the beneficial uses for water quality protection for surface and ground water in the Central Valley. The Board's designation of beneficial uses for water quality protection is not expected to affect any "federally reserved" designations.

20D. The Elem Indian Colony believes that USEPA has made misleading statements in its letter. Although USEPA has performed actions to mitigate the highest threats to human health and the environment, USEPA has not conducted actions to reduce contaminant loading to the lake.

The Water Board, along with other agencies, is working with USEPA to address the Sulphur Bank Mercury Mine site. If the Central Valley Water Board decides that it is a high priority to evaluate the beneficial uses of groundwater beneath the mine site, remedial actions at the mine site will be considered in so far as the actions affect water quality.

20E. The Elem Indian Colony contends that pre-mining groundwater flow systems consisted of three main types of water constrained to a small area:

- a. Upwelling geothermal (possibly represented today by deep groundwater wells and wells drilled by geothermal prospectors);
- b. Infiltrating rain water (represented by springs and shallow wells used by locals); and
- c. A mixture of both a and b.

The post-mining groundwater also includes:

- a. Acid rock drainage (ARD) issuing from mine waste rock and other materials; and
- b. A mixture of ARD waters with previous three types.

The Elem Indian Colony contends that unlike pre-mining waters, the post-mining waters have been spread over a much larger geographic area contaminating the other three water types,

including surface waters of the Herman Impoundment as well as the lake. They believe that, as a result of man's activities, the extent of naturally occurring contaminants is much greater than pre-mining conditions.

If the Central Valley Water Board decides that it is a high priority to evaluate the beneficial uses of groundwater beneath the Sulphur Bank Mercury Mine, staff will evaluate all available information to make a recommendation to the Board. When determining whether to designate or de-designate the municipal and domestic supply (MUN) beneficial use, the Board considers the factors listed in the Sources of Drinking Water Policy ([State Water Board Resolution 88-63](#)). The factors that the Board may consider include natural or human caused contamination.

20F. The Elem Indian Colony believes that the remedies that USEPA is currently supporting all rely on natural attenuation and will require geologic time to recover, if recovery occurs at all, and the site will remain a significant contributor of mercury and other contaminants for quite some time.

The Central Valley Water Board recognizes that this is a problem requiring a long term solution. Staff is working with the USEPA Superfund Program to remediate the Sulphur Bank Mercury Mine site and to implement the Basin Plan provisions. USEPA is expected to address both (1) the ongoing releases from the terrestrial mine site and (2) the load of total mercury that currently exists in the active lakebed sediment layer as a result of past releases. For its part, The Board has established a TMDL for mercury in Clear Lake. The TMDL assumes that the load reductions and fish tissue objectives will not be met until USEPA reduces the loading from the Sulphur Bank Mercury Mine. USEPA has agreed that their mine cleanup strategy will meet the TMDL load allocations.

21. Wayne Whitlock, Pillsbury Winthrop Shaw Pittman LLP on behalf of Seneca Resources Corporation

21A. Petition for beneficial use de-designation of MUN and possibly AGR and basin plan amendment for South Lost Hills Oilfield – Lower Tulare and Etchegoin Formations.

The evaluation of beneficial uses of groundwater in aquifers associated with oil and gas production will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. Please see Project Fact Sheet 4 for more information regarding beneficial use designations in oil production zones.

**COMMENTS (22-24) WERE SUBMITTED DURING THE CONSIDERATION OF THE AMENDMENTS TO INCORPORATE A CENTRAL VALLEY-WIDE SALT AND NITRATE CONTROL PROGRAM (RESOLUTION R5-2018-0034)**

22. Laura Rosenberger Haider, Fresnans Against Fracking

Commenter sent an email to the Central Valley Water Board webmaster on 31 May 2018 with the subject "comments." It is assumed that the comments were relating to the CV-SALTS Basin Plan Amendments and accompanying Staff Report for which the Board was holding a public hearing and considering adoption. It is not clear what the commenter is requesting and staff requested clarification. However, the commenter did not respond. Therefore, the following comments and responses are staff's interpretation of the original email language.

22A. Commenter supports revision of language to read "significant salt increase."

It is unclear as to what language the commenter is referring to, but it is assumed that the comment refers to similar language that is included in Appendix I (Summary Salt Control Program with Examples) of the Staff Report. It appears in the section of Appendix I that describes documentation needed to support selection of the Conservative Permitting Approach. The language that was proposed for Board adoption reads:

"The assessment should assume that water quality objectives or numeric values shall be met at the point of discharge, that is, without an allocation of assimilative capacity in groundwater or use of a mixing zone in surface water or does not cause or contribute to ~~an exceedance~~ a significant salt increase in the receiving water.",

which is consistent with the request from the Commenter. The language was adopted by the Central Valley Water Board as proposed along with the Staff Report and the Basin Plan Amendments. The amendments must be approved by the State Board, the Office of Administrative Law, and USEPA prior to going into effect. USEPA's approval is solely needed for the components relating to surface water subject to the federal Clean Water Act. The groundwater components of the proposed Amendments are not under federal jurisdiction and become effective after OAL approval.

22B. Commenter requests limits on boron, barium, strontium, arsenic, mercury, hexavalent chromium, nickel, fluoride, lithium, aluminum, radium, and uranium, if not already regulated.

The Central Valley Water Board appreciates the comment. The Regional Board works with the California Division of Oil, Gas, and Geothermal Resources (DOGGR) to ensure that these, and over 200 others, do not impact the sources of drinking water.

22C. Commenter would like the following constituents reduced to the Public Health Goals:

- Chromium hexavalent, aluminum, thallium almost to zero
- radium-226 to 0.05 mg/L
- radium-228 to .019 mg/L
- strontium-90 to 0.35 mg/L
- uranium to 0.43 (Zero is better if possible)
- fluoride to 1 mg/L
- mercury to .0012
- nickel to .012

The Central Valley Water Board appreciates the comment. The Board encourages the commenter to participate in the MCL Review process through the State Water Resource Control Board.

22D. Commenter would like to limit arsenic to close to 0 and aluminum to 0.6 mg/l.

The Central Valley Water Board appreciates the comment. The Regional Board protects drinking water through our Oil Field regulatory programs. The Board encourages the commenter to participate in the MCL Review process through the State Water Resource Control Board.

23. Elissa Callman, City of Sacramento on behalf of the Sacramento River Source Water Protection Program

The Sacramento River Source Water Protection Program requested that the term “background concentration” be defined.

The Central Valley Water Board appreciates the comment. A project focused on the development of procedures to define and determine naturally-occurring background conditions has been added to the Triennial Review for consideration.

24. Melissa Thorne, Downey Brand, LLP, on behalf of Valley Water Management Company.

Valley Water Management Company requested that boron be incorporated into the definition of salinity under the Salt Management Control Program.

Boron was not included in the definition of salinity under the Salt Management Control Program adopted by the Central Valley Water Board in May 2018. Scientific studies would be required to support the inclusion of boron into the definition of salinity. In addition, appropriate public participation, that would include agricultural stakeholders, would be required before the Board could consider its inclusion. A boron management strategy could then be developed for consideration by the Board.

**COMMENTS (25-30) RECEIVED AS PART OF THE 2014 CLEAN WATER ACT SECTION 303(D)/305(B) INTEGRATED REPORT PROCESS**

25. Shasta County Board of Supervisors – Pam Giacomini (Shasta County)

25A. Integrated Report Shasta County Comment No. 1: Commenter requested information on how data can be provided and requests can be made for re-evaluation of beneficial uses of the Pit River.

See response to comment 19A.

26. Steven Wooster page 2, paragraph 5-6; United States Forest Service page 1, paragraph 5; William and Mary Crook Family (2) page 1, paragraph 5

26A. Integrated Report General Comment 9: Water Contact Recreation is not the appropriate beneficial use to assess because these are small ephemeral creeks with limited swimming areas. Stakeholders expressed the concern that Water Contact Recreation is not the appropriate Beneficial Use to assess because the following water bodies are small ephemeral creeks with limited swimming areas:

- Bell Creek
- Bull Meadow Creek
- Elbow Creek (unnamed tributary below Sheep Meadow)
- Jawbone Creek
- Unnamed tributary to Jawbone Creek
- Niagara Creek
- Rose Creek

Evaluation of appropriate beneficial use designations for surface and ground waters will be included in the draft 2018 Triennial Review Work Plan for consideration by the Central Valley Water Board. See Project Fact Sheet 2 for more information regarding the evaluation of beneficial uses.

27. Steven Wooster page 2, paragraph 5-6; United States Forest Service page 1, paragraph 5; William and Mary Crook Family (2) page 1, paragraph 5

27A. Integrated Report General Comment 10: Appropriate standards, risk assessment and outreach are needed. Stakeholders expressed the concern that the evaluation guideline used for fecal indicator bacteria (FIB) is not the most current guideline and recommended more recent evaluation guidelines. In addition, stakeholders expressed concerns with using FIB as a measurement of water-borne pathogens and thus an indicator of safe recreational water as the correlation between FIB and waterborne pathogens has proven questionable and the need to update the Basin Plan to incorporate more current science.

The Central Valley Water Board staff is working with the State Water Board to establish statewide bacteria provisions, which include use of *E. coli* as the bacterial indicator. The proposed statewide bacteria provisions are consistent with the National Recommended Water Quality Criteria recommended by the US Environmental Protection Agency (USEPA). The State Water Board recognized that the bacterial indicators are meant to describe the probability of illnesses associated with exposure to fecal contamination as measured by the indicator bacteria and the indicators do not necessarily cause illness themselves. So, the State Water Board is proposing to include language to allow regional water boards to amend their basin plan to add scientifically defensible site-specific objectives using alternative indicators and/or methods for the protections of Water Contact Recreation (REC-1) beneficial uses. (SWRCB. 2018. Section 5.2.7.) The USEPA recommended water quality criteria identified possible alternative indicators that are being investigated. (USEPA. 2012.) USEPA reviewed the recreational criteria in 2017 and concluded that none of the alternative indicators are ready to be used in place of *E. Coli* as the indicator bacteria. (USEPA. 2018.)

28. Central Sierra Environmental Resource Center (CSERC), John Buckley

28A. Integrated Report the Central Sierra Environmental Resource Center Comment No. 2. "It is also highly important that these streams are given a higher priority for TMDL establishment. This is a precedent setting listing. It is likely that in future years with more testing being done, there will be additional listings of creeks on public lands where livestock congregates and contaminates water. The six streams on national forest land that are proposed to be listed with this revision are proposed for the listing based upon data collected in 2009 and 2010. Yet the Central Sierra Environmental Resource Center has Aqua Lab test data showing significant numbers of violations from every year from 2009 to 2016 in local Stanislaus Forest streams in areas where livestock presence occurs. With six additional years of water quality sampling revealing the association between livestock presence and persistent violations of standards for pathogenic bacteria, it is inappropriate to wait more than a decade until 2027 to establish TMDLs."

Because the Central Valley Water Board does not have enough resources to address all impairments immediately, all identified impairments are divided into priority groups and the Board addresses impairments as resources allow. When addressing impairments, if

a basin plan amendment is warranted, resource needs are included in the triennial review work plan for the Board to prioritize.

29. Central Sierra Environmental Resource Center (CSERC), John Buckley

29A. Integrated Report Central Sierra Environmental Resource Center Additional Comments. Several additional comments were provided related to ongoing grazing activities, US Forest Service Management Activities, adequacy of the Bell, Eagle, Herring (BEH) Rangelands Allotments Management Plan draft EIS, public health concerns, potential threatened and endangered species concerns, and several studies conducted throughout California related to grazing impacts in national forest lands that were published between 2011 and 2015. The complete letter is at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/impaired\\_waters\\_list/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/impaired_waters_list/index.shtml)

If the Central Valley Water Board determines that development of a control program for water bodies on forest service lands is a high priority, the Board staff will work with the federal land managers to identify and implement land management practices that provide reasonable protection of water quality standards. Basin plan control programs are considered by the Board after appropriate opportunity for public participation.

30. Fresno Metropolitan Flood Control District, Daniel Rourke

30A. Integrated Report Fresno Metropolitan Flood Control District Comment No. 2.  
*Incomplete Assessment of Site Specific Conditions*

Streams and rivers in the Central Valley are subject to low flow conditions in the summertime periods, especially in the late summer when dam releases are lower. Slower moving water tends to encourage algae growth, which in turn drives daily cycling of dissolved oxygen and pH. When dissolved oxygen decreases overnight to minimum values in the morning, it can take into the afternoon to recover dissolved oxygen and pH values. The Safe-to-Swim sample collection targets beach areas where algal growth is encouraged by hydraulic conditions. If samples are collected near the shore where stream velocities are lower and algae growth greater than mid-stream, pH swings would be more significant. Moreover, the Basin Plan pH objectives are not protective of a specific beneficial use and are intended to represent "healthy" conditions, when in fact the definition of "healthy" can be site specific. The forthcoming Statewide Biointegrity Policy is intended to address these very issues.

The Central Valley Water Board agrees that certain parameters vary by day or season due to natural and healthy environmental conditions. Water quality objectives for these parameters may not appropriately represent these conditions. The investigation of diurnal and seasonal variations in water quality and the effect on water quality objectives will be included in the draft 2018 Triennial Review for consideration by the Central Valley Water Board. Please see Project Fact Sheet 3 for more information regarding seasonal beneficial uses and water quality objectives.

## ACRONYMS USED

CEDEN -	California Environmental Data Exchange Network
COLD -	Cold Freshwater Habitat Beneficial Water Use
CUL -	Tribal Tradition and Culture Beneficial Water Use
CV-SALTS -	Central Valley Salinity Alternatives for Long-Term Sustainability
ILRP -	Irrigated Lands Regulatory Program
IND -	Industrial Service Supply Beneficial Water Use
IRMWP -	Integrated Regional Water Management Plan
LAMP -	Local Area Management Program
MCL -	Maximum Contaminant Level
MUN -	Municipal and Domestic Supply Beneficial Water Use
NPDES -	National Pollution Discharge Elimination System
OWTS -	Onsite Wastewater Treatment Systems
POTW -	Publicly-owned Treatment Works
RWMG -	Regional Water Management Group
SUB -	Subsistence Fishing Beneficial Water Use
TMDL -	Total Maximum Daily Limit
T-SUB -	Tribal Subsistence Fishing Beneficial Water Use
USEPA -	United States Environmental Protection Agency

## REFERENCES

Bakersfield Californian. 2017. Troubled Waters: Solutions sought for man-made flooding in Lamont. Bakersfield, CA. 25 February. Accessed 21 September 2017 from: [http://www.bakersfield.com/news/troubled-waters-solutions-sought-for-man-made-flooding-in-lamont/article\\_9160bd74-f7bb-507d-ab4d-7711d7c36d71.html](http://www.bakersfield.com/news/troubled-waters-solutions-sought-for-man-made-flooding-in-lamont/article_9160bd74-f7bb-507d-ab4d-7711d7c36d71.html)

Department of Water Resources (DWR). 2014. Round 2 Proposition 84 Implementation Grant Final Award List of Projects. Sacramento, CA. February. Accessed 21 September 2017 from: [http://www.water.ca.gov/irwm/grants/docs/Archives/Prop84/Awards/P84\\_R2\\_Imp/ListofProjects/P84R2IG.pdf](http://www.water.ca.gov/irwm/grants/docs/Archives/Prop84/Awards/P84_R2_Imp/ListofProjects/P84R2IG.pdf)

Kern Integrated Regional Water Management Plan (Kern IRMWP). 2012a. 2012 Project Forms for County. Available at: <http://www.kernirwmp.com/documents/Prioritization/CK.pdf>

Kern IRWMP. 2012b. 2012 Project Forms for South County. Available at: <http://www.kernirwmp.com/documents/Prioritization/SC.pdf>

Kern IRWMP. 2012c. Implementation Grant Application for Proposition 84 Round 2. Accessed 21 September 2017 from: [http://www.water.ca.gov/irwm/grants/docs/Archives/Prop84/Submitted\\_Applications/P84\\_Round\\_2\\_Implementation/Tehachapi-Cummings%20County%20Water%20District%20\(201312340032\)/](http://www.water.ca.gov/irwm/grants/docs/Archives/Prop84/Submitted_Applications/P84_Round_2_Implementation/Tehachapi-Cummings%20County%20Water%20District%20(201312340032)/)

State Water Resources Control Board (SWRCB). 2012. Water Quality Control Policy for Siting, Design, Operation and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). Sacramento, CA. 19 June. Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/owts/docs/owts\\_policy.pdf](https://www.waterboards.ca.gov/water_issues/programs/owts/docs/owts_policy.pdf)

SWRCB. 2015. Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List. Sacramento, CA. 3 February. Available at: [https://www.waterboards.ca.gov/board\\_decisions/adopted\\_orders/resolutions/2015/020315\\_8\\_a\\_mendment\\_clean\\_version.pdf](https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/020315_8_a_mendment_clean_version.pdf)

SWRCB. 2018. Proposed Final Staff Report, including Substitute Environmental Documentation, for Part 3 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Bacteria Provisions and a Water Quality Standards Variance Policy and Amendment to the Water Quality Control Plan for Ocean Waters of California – Bacteria Provisions and a Water Quality Standards Variance Policy. Sacramento, CA. 18 January. Available at: [https://www.waterboards.ca.gov/bacterialobjectives/docs/bdmtg\\_feb6\\_bacteria\\_provisions\\_staff\\_report.pdf](https://www.waterboards.ca.gov/bacterialobjectives/docs/bdmtg_feb6_bacteria_provisions_staff_report.pdf)

U.S. Department of Interior (USDOI), Interagency Land Retirement Team. 2005. Land Retirement Demonstration Project, Five -Year Report. Fresno, CA. September.

U.S. Environmental Protection Agency (USEPA). 1976. Quality Criteria for Water. Office of Water Planning and Standards. Washington, D.C. EPA-440/9-76-023. pp. 79-100.

USEPA. 1986. Ambient Water Quality Criteria for Bacteria – 1986. Office of Water. Washington, DC. EPA-440/5-84-002. January.

USEPA. 2012. Recreational Water Quality Criteria. Office of Water. Washington, DC. 820-F-12-058. November. Available at:

<https://www.epa.gov/wqc/2012-recreational-water-quality-criteria-documents>

[USEPA. 2018. 2017 Five-Year Review of the 2012 Recreational Water Quality Criteria. Office of Water. Washington, DC. EPA-823-R-18-001. May. Available at:](https://www.epa.gov/wqc/five-year-review-2012-recreational-water-quality-criteria)

<https://www.epa.gov/wqc/five-year-review-2012-recreational-water-quality-criteria>

**APPENDIX 2:**  
**2018 TRIENNIAL REVIEW PROJECT FACT SHEETS**

## **PROJECT FACT SHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	1
<b><u>Project Name:</u></b>	Basin planning and implementation activities related to the proposed Salt and Nitrate Control Program
<b><u>Triennial Review Issue No.:</u></b>	1 - Salt and Nitrate Management for Surface and Groundwaters
<b><u>Watershed:</u></b>	Sacramento River/San Joaquin River Basins Tulare Lake Basin
<b><u>2018 Comment Letters Received:</u></b>	
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	Resolution R5-2018-0034 (Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin to incorporate a Central Valley-Wide Salt and Nitrate Control Program)
<b><u>Project's Triennial Review History:</u></b>	New project
<b><u>Project Description:</u></b>	<p>Elevated levels of salinity and nitrates in surface and ground water are an increasing problem in California's Central Valley. High nitrate concentrations in groundwater impair or threaten to impair the region's drinking water quality. Salt accumulations in the soil have resulted in the removal of large portions of farmland from agricultural production. The proposed Central Valley Salt and Nitrate Control Program (SNCP) is designed to address both legacy and ongoing salt and nitrate accumulation issues in surface and groundwater throughout the basin.</p> <p>The Central Valley Water Board approved the SNCP Basin Plan Amendments and accompanying Staff Report on 31 May 2018. The next steps of the amendment process include review and approval by the State Water Resources Control Board (State Board), the Office of Administrative Law (OAL), and the United States Environmental Protection Agency (USEPA), where applicable. Once the amendments become effective, there are many activities that must be initiated by the Central Valley Water Board and impacted permittees to ensure that the SNCP is successfully implemented.</p>

This project includes support over the next three years for the following planning and implementation activities:

1. Complete the final steps of the Basin Plan Amendment approval process

As described above, the effort to incorporate a SNCP into the Basin Plans is still undergoing the amendment approval process. All the proposed amendments will need to be approved by the State Board and OAL prior to becoming effective, but only the amendments that fall under federal jurisdiction require approval by USEPA. This approval process is tentatively scheduled to be completed during the second half of 2019.

2. Prepare, issue and track notices and responses

Both the SNCP's salinity and nitrate permitting strategies contain two compliance pathways with associated implementation schedules that permittees and the Central Valley Water Board must adhere to. The nitrate portion of the SNCP is a prioritized program that applies to groundwaters, while the salinity portion is a phased program that applies to surface and groundwaters. As such, the SNCP will impact several thousand permittees across most regulatory programs at the Central Valley Water Board. Staff resources are needed to manage the issuance of Notices to Comply (NTCs) and track permittee responses, or Notices of Intent (NOIs), and other implementation deliverables for both the salt and nitrate portions of the program.

3. Manage a grant agreement to support the SNCP

A Cleanup and Abatement Account-funded grant agreement shall be used to facilitate salinity and nitrate management in partnership with the Central Valley Salinity Alternatives for Long Term Sustainability (CV-SALTS) stakeholder initiative by supporting early implementation of Central Valley salt and nitrate management strategies. This funding includes technical assistance for pilot studies that can support the creation of Management Zone document templates and data requirements for the alternative nitrate permitting strategy, as well as the development of the Prioritization and Optimization (P&O) Study Work Plan to support the alternative salinity permitting strategy. Additional grant funding will be used to support outreach activities to help permittees understand the regulatory requirements of the SNCP and provide overall program management.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	2
<b><u>Project Name:</u></b>	Tribal Beneficial Uses
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	Tuolumne Me-Wuk Tribal Council Big Valley Band of Pomo Indians Elem Indian Colony The Robinson Rancheria Environmental Center The Pit River Tribe
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project's Triennial Review History:</u></b>	New
<b><u>Project Description:</u></b>	<p>Beneficial use definitions relating to California Native American tribes were established by the State Water Board in 2017 through Resolution 2017-0027 which adopted Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions. The new beneficial use definitions are Tribal Tradition and Culture (CUL), and Tribal Subsistence Fishing (T-SUB). In addition, the State Water Board also defined a beneficial use for Subsistence Fishing (SUB). The SUB, T-SUB and Commercial and Sportfishing (COMM) beneficial uses relate to the risks to human health from the consumption of noncommercial fish or shellfish. In addition, the definition for CUL also includes consumption of aquatic resources to support cultural, spiritual, ceremonial and traditional rights. The two subsistence fishing beneficial uses normally involve higher rates of consumption of fish or shellfish than those protected under the COMM and CUL beneficial uses. The function of the CUL, T-SUB and SUB beneficial uses are not to protect or enhance fish populations or aquatic habitats. Fish populations and aquatic habitats are protected and enhanced</p>

by other beneficial uses, including but not limited to Fish Spawning, Migration of Aquatic Organisms, Aquaculture, Warm Freshwater Habitat, and Cold Freshwater Habitat, that are designed to support aquatic habitats for the reproduction or development of fish. The Central Valley has few water bodies that have been designated to be protected for COMM and none are designated to be protected for CUL, T-SUB or SUB.

Several tribes in the Central Valley have requested that the Central Valley Water Board designate tribal beneficial uses. When evaluating designation of CUL and T-SUB beneficial uses into the Sacramento and San Joaquin, and Tulare Lake Basin Plans, the Board should also evaluate designation of the COMM and SUB beneficial use.

This project involves the coordination with tribes and other affected entities to develop guidance for identifying spatial extent, designating the new beneficial use categories and for deriving appropriate criteria for the reasonable protection of tribal uses. It would be useful to develop a coordinated contract proposal with the other Water Boards for facilitation to assure consistency, as appropriate.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	3
<b><u>Project Name:</u></b>	Guidance for Seasonal Beneficial Uses and Diurnal Variations
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	Fresno Metropolitan Flood Control District
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	None
<b><u>Project's Triennial Review History:</u></b>	New
<b><u>Project Description:</u></b>	<p>Federal regulations (title 40 Code of Federal Regulations (CFR) § 131.10(f).) allow states to adopt seasonal uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. Beneficial uses, such as aquatic life, recreation, and other uses may only occur during certain seasons in certain water bodies. In those cases, it may be appropriate to recognize the seasonality of the use and refine water quality objectives to protect the uses that are present during each season.</p> <p>In addition, some surface water bodies are subject to varying water quality that occurs with daylight and nighttime conditions. Two primary causes of diurnal variations are photosynthesis and aerobic respiration from algal or aquatic plants. Parameters that are most often affected are dissolved oxygen, pH and specific conductance. A concern was expressed during the Central Valley Water Board development of the 2014 Integrated Report that the water quality objectives did not account for diurnal variability and do not provide reasonable protection of beneficial uses at some sites. However, the commenter anticipated that the Statewide Biostimulatory Substances Project would provide information on what the conditions ought to be.</p>

The concept of seasonal beneficial uses is new to the Central Valley. Before de-designating an aquatic life or recreational beneficial use, the Board could consider whether the use is appropriate seasonally. It would be helpful to develop guidance for how seasonality will be considered when evaluating appropriate beneficial uses.

For the diurnal variations, staff could identify Central Valley water bodies that have water quality fluctuations that appear to violate the water quality objectives. Staff could work with stakeholders to investigate these water bodies to determine if the water quality objectives are appropriate or need to be modified. The Statewide Biostimulatory Substances Project (currently under development) may generate relevant information.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	4
<b><u>Project Name:</u></b>	MUN in Oil Production Zones
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Tulare Lake Basin
<b><u>2018 Comment Letters Received:</u></b>	Seneca Resources Corporation California Independent Petroleum Association
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2017-0036 (Waste Discharge Requirements General Order for Oil Field Discharges to Land – General Order Number Three)
<b><u>Project's Triennial Review History:</u></b>	Referenced in 2014 Triennial Review Work Plan
<b><u>Project Description:</u></b>	Waste Discharge Requirements General Order R5-2017-0036 provides coverage for discharge of oil field produced wastewater to ponds where the first encountered groundwater is of such poor quality that it cannot support beneficial uses designated in the Basin Plan, or there is no first encountered groundwater. The order applies to discharges to pond(s) that began prior to 26 November 2014. Dischargers must demonstrate that the groundwater beneath the discharge is of poor quality as defined in the Basin Plan. The discharger must also demonstrate that its discharges will not migrate from the areas where the beneficial uses will be de-designated into areas of higher quality groundwater. Applications for over 40 facilities have been submitted for coverage under this General Order. Dischargers in close proximity to each other and with similar hydrogeological conditions are encouraged to participate in a regional or group effort to provide technical information necessary that demonstrates coverage under the General Order is appropriate and to obtain Basin Plan amendments.

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 5

**Project Name:** Grower-proposed Basin Plan Amendment Work Plans Submitted under Irrigated Lands General Waste Discharge Requirements

**Triennial Review Issue No.:** 2 - Beneficial Use Designations for Surface and Ground Waters

**Watershed:** Region-wide

**2018 Comment Letters Received:**

**Other Public Interest:**

**Past Board Commitment:**

**Project's Triennial Review History:**

**Project Description:** The General Waste Discharge Requirements recognize that some areas within the Tulare Lake Basin and San Joaquin Basin areas overlie groundwater containing naturally occurring constituents, including salts, that may exceed water quality objectives associated with certain beneficial use designations. In such cases, the use may be unattainable, even in the absence of any waste discharge, and de-designation or modification of the designated use may be appropriate. The Orders allow dischargers to temporarily operate under reduced monitoring and reporting requirements when 1) a third-party entity, board, or other group is actively pursuing a basin plan amendment to de-designate or modify the beneficial use; and 2) the third-party provides the required information indicating that it is reasonably likely that the beneficial use is not appropriate in the area of the proposed de-designation. To date, two Basin Plan Amendment Workplans have been received pursuant to the Irrigated Lands Regulatory Program General Orders, one each in the Tulare Lake Basin and the San Joaquin River Basin.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	6
<b><u>Project Name:</u></b>	Individual Beneficial Use Evaluation for West Squaw Creek
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Sacramento River
<b><u>2018 Comment Letters Received:</u></b>	
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2004-0090 (Amending the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins to Modify the Beneficial Uses for Freshwater Aquatic Habitat (WARM and COLD) and Remove Spawning (SPWN) for West Squaw Creek, Shasta County)
<b><u>Project's Triennial Review History:</u></b>	Referenced in the following Triennial Review Work Plans: 2005, 2011, and 2014
<b><u>Project Description:</u></b>	<p>Stakeholders have indicated that there is information that supports reviewing specific beneficial uses of the water bodies.</p> <p>West Squaw Creek, tributary to Lake Shasta, has been significantly impacted by copper mining in the watershed. Staff has been evaluating West Squaw Creek to determine appropriate beneficial uses for the waterbody. The project has been on hold until Mine Program staff have a chance to evaluate the measures that have been implemented to control mine discharges.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	7
<b><u>Project Name:</u></b>	Individual Beneficial Use evaluation for Grassland Watershed water supply channels
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Grassland Watershed
<b><u>2018 Comment Letters Received:</u></b>	US EPA, Region 9
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project's Triennial Review History:</u></b>	Referenced in the Triennial Review Work Plans for: 2011, 2014
<b><u>Project Description:</u></b>	<p>Stakeholders have indicated that there is information that supports reviewing specific beneficial uses of the water bodies.</p> <p>The Grassland water supply channels are not currently designated as having existing REC-1 or REC-2 beneficial uses. This project would evaluate the Grasslands wetland water supply channels to determine if the REC-1 or REC-2 beneficial uses are an appropriate designation.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	8
<b><u>Project Name:</u></b>	Individual Beneficial Use evaluation for Groundwater beneath the Sulphur Bank Mine in Lake County
<b><u>Triennial Review Issue No.:</u></b>	2 - Beneficial Use Designations for Surface and Ground Waters
<b><u>Watershed:</u></b>	Clear Lake Watershed
<b><u>2018 Comment Letters Received:</u></b>	US EPA, Region 9 Elem Indian Colony
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project's Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>Stakeholders have indicated that there is information that supports reviewing specific beneficial uses of the water bodies. De-designation would potentially allow consideration of a broader range of remediation alternatives at the closed mine site, which is regulated by USEPA pursuant to CERCLA. Tribal stakeholders oppose beneficial use de-designations in this area.</p> <p>This project would evaluate the groundwater beneficial uses beneath the Sulphur Bank Mine in Lake County to determine if the municipal and domestic water supply beneficial use designation is appropriate.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	9
<b><u>Project Name:</u></b>	Appropriate Aquatic Life Beneficial Use Designations in Agriculturally-dominated Water Bodies and Agricultural Conveyance Facilities
<b><u>Triennial Review Issue No.:</u></b>	3 - Appropriate Aquatic Life Beneficial Use Designations in Agriculturally-dominated Water Bodies and Agricultural Conveyance Facilities
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	Kaweah Basin Water Quality Association Kern River Watershed Coalition Authority
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2017-0088 (Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and Tulare Lake Basin to Establish a Region-wide Municipal and Domestic Supply (MUN) Beneficial Use Evaluation Process in Agriculturally Dominated Surface Water Bodies and to Remove the MUN Beneficial Use from 231 Constructed or Modified Ag Drains in the San Luis Canal Company District)
<b><u>Project's Triennial Review History:</u></b>	Included in 2014, 2011, 2005, 2002, 1998 Triennial Review work plans
<b><u>Project Description:</u></b>	<p>In agricultural environments, a complex network of modified, natural and constructed channels conveys irrigation supplies to farms and exports agricultural drainage water to natural streams. Many of these waterways lack habitat and physical flow characteristics to sustain the full range of aquatic life and other beneficial uses.</p> <p>In Resolution R5-2017-0088, the Central Valley Water Board adopted a process for evaluating the MUN beneficial use in these agriculturally-dominated waterbodies. This project would evaluate the existing ecologic functionality of these waterbodies and would assess aquatic life beneficial use protections and designations within these waterbodies.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	10
<b><u>Project Name:</u></b>	Evaluation of Effluent-dominated and Individual Water Bodies Dominated by NPDES Discharges
<b><u>Triennial Review Issue No.:</u></b>	4 – Regulatory Guidance to Address Water Bodies Dominated by NPDES Discharges
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	Central Valley Clean Water Association
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project’s Triennial Review History:</u></b>	Referenced in the following Triennial Review Work Plans: 1998, 2002, 2005, 2011, and 2014
<b><u>Project Description:</u></b>	<p>It is sometimes difficult and expensive for dischargers to meet water quality objectives in water bodies dominated by surface water discharges, also known as effluent dominated water bodies (EDWs). Where little or no dilution is available, effluent limits are set at the applicable water quality criterion/objective which may be more stringent than drinking water MCLs to protect aquatic life beneficial uses.</p> <p>The consistent flows provided by the wastewater discharge may enhance some aquatic life beneficial uses but be detrimental to others that depend on the ephemeral nature of the stream (i.e. cause a shift from the uses of ephemeral waters to the uses of perennial waters). There are questions of whether the discharger should be required to fully protect these shifted uses when it is the discharge itself that allows the modified uses to exist. There are also questions regarding the fate of the original uses that are lost due to the discharge.</p> <p>Stakeholders have suggested that the assigned beneficial uses of these water bodies are inappropriate and have requested that various alternatives be explored for assigning beneficial uses to EDWs.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	11
<b><u>Project Name:</u></b>	Temperature Criteria and Objectives
<b><u>Triennial Review Issue No.:</u></b>	7 – Protection of Central Valley Fisheries and other Aquatic Life
<b><u>Watershed:</u></b>	Sacramento River and San Joaquin River
<b><u>2018 Comment Letters Received:</u></b>	Sacramento Regional County Sanitation District US EPA San Joaquin Tributaries Authority The Pacific Coast Federation of Fishermen’s Association Institute for Fisheries Resources Save California’s Salmon California’s Sportfishing Protection Alliance Modesto Irrigation District US Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service Turlock Irrigation District
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	University of California, Santa Cruz Temperature Criteria Contract: Agreement #16-048-150
<b><u>Project’s Triennial Review History:</u></b>	Referenced in the following Triennial Review Work Plans: 1998, 2002, 2005, 2011, 2014
<b><u>Project Description:</u></b>	<p>The Basin Plans identify water bodies that require aquatic life protection by designating the following beneficial uses: warm freshwater habitat (WARM), cold freshwater habitat (COLD), fish migration (MIGR) and fish spawning (SPWN). The Basin Plans include water quality objectives for dissolved oxygen and temperature that provide protections for these aquatic life beneficial uses. Stakeholders have indicated that water quality objectives for dissolved oxygen and temperature may need to be re-evaluated to provide appropriate protection of the aquatic life beneficial uses.</p> <p>The Sacramento River and San Joaquin River Basin Plan has specific numeric temperature objectives for the Sacramento</p>

River, Lake Siskiyou and Deer Creek, source to Cosumnes River. Both Basin Plans also have narrative temperature objectives that specify protection of beneficial uses.

In previous Triennial Reviews, the California Department of Fish and Wildlife requested that temperature objectives be established to provide protection of spring-run Chinook salmon and steelhead in the Sacramento River Basin and fall-run Chinook salmon in the San Joaquin River Basin. USEPA Region 10, which has jurisdiction over the Northwestern United States, issued regional guidance for developing numeric temperature standards for the Pacific Northwest to protect cold water (salmonid) beneficial uses. While USEPA Region 9, which has jurisdiction over California, has not adopted similar guidance, it is supportive of the scientific approach used in the USEPA Region 10 guidance for development of numeric temperature standards to protect salmonid beneficial uses in the Central Valley. The Department of Fish and Wildlife also supports the use of the USEPA Region 10 guidance to develop numeric temperature objectives. However, there are also comments that the USEPA Region 10 guidance is inappropriate for use in the Central Valley and requests to develop temperature objectives that are specific to the various Central Valley water ways.

A Study is under way at UC Santa Cruz that should result in a description of additional studies that will be needed to develop site-specific criteria. Studies may include investigations that take into consideration the different types of salmonids and the life stages when they are present.

Commenters from previous Triennial Reviews also point out that some of the Basin Plans' named water bodies are very long and have different characteristics from one end to the other end. In many of these cases, these long water body reaches are designated both WARM and COLD, and thus protection of aquatic life is based on the COLD criteria, which is generally more stringent. However, this may not be adequately protective of either the warm or cold water ecosystems. Suggestions include subdividing these reaches to appropriate sizes and designating appropriate beneficial uses for each sub reach, or developing water quality objectives that take into consideration the species that may be present at any particular place or time and, thus, provide seasonality to the water quality objectives.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	12
<b><u>Project Name:</u></b>	Dissolved Oxygen Objectives
<b><u>Triennial Review Issue No.:</u></b>	7 – Protection of Central Valley Fisheries and other Aquatic Life
<b><u>Watershed:</u></b>	Sacramento-San Joaquin Delta and Stanislaus River Watershed
<b><u>2018 Comment Letters Received:</u></b>	San Joaquin Tributaries Authority California Sportfishing Protection Alliance Save California Salmon Pacific Coast Federation of Fisherman's Association Institute for Fisheries Resources
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	2014 Delta Strategic Work Plan
<b><u>Project's Triennial Review History:</u></b>	Referenced in the following Triennial Review Work Plans: 1998, 2002, 2005, 2011, 2014
<b><u>Project Description:</u></b>	<p>The Basin Plans identify water bodies that require aquatic life protection by designating the following beneficial uses: warm freshwater habitat (WARM), cold freshwater habitat (COLD), fish migration (MIGR) and fish spawning (SPWN). The Basin Plans include water quality objectives for dissolved oxygen and temperature that provide protections for these aquatic life beneficial uses. Stakeholders have indicated that water quality objectives for dissolved oxygen and temperature may need to be re-evaluated to provide appropriate protection of the aquatic life beneficial uses. [See Project Fact 11 for development of temperature criteria and objectives.]</p> <p>The basin plans include (1) general dissolved oxygen objectives that apply to all water bodies designated as supporting WARM, COLD and SPWN; and (2) site-specific objectives for certain water bodies that are typically higher than the general objectives. Both general and site-specific objectives are applied as minimum levels that are to be equaled or exceeded at all times. These objectives have existed in the Basin Plan since its original adoption in 1975. In</p>

1986, the USEPA developed ambient water quality criteria for dissolved oxygen. The recommended national criteria have not been evaluated for use in the Central Valley.

This project includes the development of site-specific dissolved oxygen objectives for:

- Sacramento-San Joaquin Delta

The specific dissolved oxygen objectives for the Delta contain ambiguous language regarding applicable water quality objectives for “bodies of water which are constructed for special purposes and from which fish have been excluded or where the fishery is not important as a beneficial use.” There is an unresolved disapproval from the USEPA on the editing of the language that created this ambiguity.

- Lower Stanislaus River

Commenters have requested that site specific dissolved oxygen objectives be developed for the Stanislaus River because the current dissolved oxygen water quality objectives do not provide adequate protection of the fisheries present in the River.

- Old and Middle Rivers

Low Oxygen Levels in Old and Middle Rivers: Staff is working on a white paper addressing the low dissolved oxygen levels in Old and Middle Rivers. Low dissolved oxygen levels in Old and Middle Rivers was identified as a priority project in the Delta Strategic Workplan.

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 13

**Project Name:** Ammonia Water Quality Objectives

**Triennial Review Issue No.:** 8 – Current Water Quality Criteria

**Watershed:** Region-wide

**2018 Comment Letters Received:**

**Other Public Interest:** Central Valley Clean Water Association

**Past Board Commitment:**

**Project's Triennial Review History:**

**Project Description:** The Porter-Cologne Water Quality Control Act requires the Water Boards to develop water quality objectives for the reasonable protection of beneficial uses in surface water and a program of implementation for achieving water quality objectives. Federal regulations require States to adopt narrative or numeric water quality criteria to protect designated beneficial uses. (40 CFR § 131.11(a)(1).) Federal regulations require that states consider establishing water quality criteria based on criteria that United States Environmental Protection Agency (USEPA) publishes under Clean Water Act section 304(a) (40 CFR § 131.11 and 131.20).

Ammonia is a critical pollutant that is discharged to surface water due to its potential adverse impact on aquatic life, causing lower reproduction and growth, or death to the aquatic organisms at concentrations of concern. The Central Valley Water Board has adopted numeric criteria for unionized ammonia (NH<sub>3</sub>) for the Tulare Lake Basin that generally protects beneficial uses but has not adopted numeric ammonia criteria into water quality standards for the Sacramento and San Joaquin River Basins of the Central Valley. The Central Valley Water Board has adopted narrative water quality criteria for toxicity that prohibit the discharge of substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. To interpret these narrative criteria, the

Central Valley Water Board relies on recommendations from federal and state agencies as well as peer-reviewed scientific studies. Currently, the Central Valley Water Board uses water quality criteria based on criteria that USEPA publishes under Clean Water Act section 304(a), which is the National Recommended Water Quality Criteria developed in 1999 for ammonia.

In 2013 the USEPA updated the 1999 ammonia criteria for the protection of aquatic life from the toxic effects of ammonia in freshwater. The 2013 ammonia criteria vary based on pH and temperature, and reflect the latest scientific knowledge on the toxicity of ammonia to freshwater aquatic life, including new data on sensitive freshwater mussels and gill-breathing snails. Therefore, the 2013 freshwater acute and chronic aquatic life criteria for ammonia more protective for the aquatic community than the 1999 ammonia criteria. USEPA recommended a single national acute and a single national chronic criterion be applied to all waters rather than different criteria based on the presence or absence of mussels.

However, these freshwater mussel species included in the 2013 ammonia criteria are different than the freshwater mussel species in the Central Valley Region. The water quality standards regulation at 40 CFR § 131.11(b)(1)(ii) provides states with the opportunity to adopt water quality criteria that are "...modified to reflect site-specific conditions." As with any criteria, site-specific criteria must be based on a sound scientific rationale in order to protect the designated use and are subject to review and approval or disapproval by USEPA. The 2013 ammonia criteria provide recalculation procedures for site-specific criteria derivation. In the case of ammonia, where a state can demonstrate that mussels are not present on a site-specific basis, the recalculation procedure may be used to remove the mussel species from the national criteria dataset to better represent the species present at the site.

Staff is working with the Central Valley Clean Water Association to establish numeric ammonia water quality objectives for the Central Valley to provide reasonable protection of the aquatic life in the region and to provide a consistent process for its regulatory programs.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	14
<b><u>Project Name:</u></b>	Review of Proposed US EPA Water Quality Criteria and 304(a) Criteria
<b><u>Triennial Review Issue No.:</u></b>	8 – Current Water Quality Criteria
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	US EPA
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project’s Triennial Review History:</u></b>	Reference in the following Triennial Review Work Plans: 2005, 2011, and 2014
<b><u>Project Description:</u></b>	<p>The Central Valley Water Board is implementing criteria promulgated by the United States Environmental Protection Agency (USEPA) as of 2000. These criteria are known as the California Toxics Rule (CTR) and include the toxic pollutants (priority pollutants). USEPA also publishes guidance for non-priority pollutants. These non-priority pollutants were not included in the USEPA promulgation of the CTR. USEPA publishes updates of criteria pursuant to Section 304(a) of the Clean Water Act.</p> <p>The Basin Plans include narrative objectives and a <i>Policy for Application of Water Quality Objectives</i> that indicates that the Central Valley Water Board can use available information, numerical criteria, and guidelines from other authoritative bodies to assist in determining compliance with narrative objectives. This project would involve the evaluation of the applicability of USEPA National Recommended Water Quality Criteria in the Central Valley.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 15

**Project Name:** Re-evaluation of the Prospective-incorporation-by-reference of the Maximum Contaminant Levels

**Triennial Review Issue No.:** 9 – Prospective Incorporation by Reference of the Maximum Contaminant Levels in the Basin Plan

**Watershed:** Region-wide

**2018 Comment Letters Received:** Central Valley Clean Water Association

**Other Public Interest:**

**Past Board Commitment:**

**Project's Triennial Review History:**

**Project Description:** The Basin Plan identifies Maximum Contaminant Levels (MCL), as tabulated in Title 22, as Water Quality Objectives for both surface and groundwater designated as MUN. This incorporation by reference is prospective, which means that future changes to the MCLs are automatically applicable as water quality objective once the revised regulations take effect.

MCL revisions are made in accordance with Health and Safety Code section 116365. This section requires that the State Water Resources Control Board (State Board) consider the following criteria when adopting a primary drinking water standard: 1) the public health goal for the contaminant published by the Office of Environmental Health Hazard Assessment; 2) the national primary drinking water standard for the contaminant, if any, adopted by the United States Environmental Protection Agency; and 3) the technological and economic feasibility of compliance with the proposed primary drinking water standard. When the Regional Water Board prescribes waste discharge requirements, it must consider the provisions in Water Code section 13241. However, if the Regional Water Board has considered the

factors when establishing the water quality objectives, it is not obliged to consider the factors again when implementing the objectives in waste discharge requirements.

This project would evaluate, and potentially modify, existing prospective incorporation language in the Basin Plan to address perceived inconsistencies between the legal requirements for the adoption of new drinking water standards by State Water Board and the criteria in Water Code section 13241 that the Central Valley Water Board must evaluate when issuing waste discharge requirements.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	16
<b><u>Project Name:</u></b>	Delta Nutrient Research Plan
<b><u>Triennial Review Issue No.:</u></b>	14 – Implementation of the Delta Strategic Plan
<b><u>Watershed:</u></b>	Sacramento-San Joaquin Delta
<b><u>2018 Comment Letters Received:</u></b>	Sacramento Regional County Sanitation District
<b><u>Other Public Interest:</u></b>	Delta Nutrient Research Plan Stakeholder and Technical Advisory Group (STAG)
<b><u>Past Board Commitment:</u></b>	R5-2018-0059 (Delta Nutrient Research Plan for Development of Information Prior to Consideration of Nutrient Numeric Objectives)  2014 Delta Strategic Work Plan  California Nonpoint Source Program Implementation Plan – 2014-2020
<b><u>Project's Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>Nitrogen and phosphorus contribute to water quality problems in the freshwater Sacramento-San Joaquin Delta. These problems include: harmful algal blooms (HABs) and associated toxins and nuisance compounds, excess aquatic plant growth, low abundance of phytoplankton species that support the food web, and low dissolved oxygen in some waterways.</p> <p>More information is needed about the roles of nutrients and other factors in driving these conditions and variations in the drivers across the Delta. The goal of the Delta Nutrient Research Plan is to develop and implement a study plan to determine whether numeric water quality objectives for nutrients are needed to protect water quality in the Delta. Staff worked with a stakeholder and technical advisory group (STAG) to review the state of science, identify information gaps, and identify monitoring, special studies, and modeling to fill the gaps.</p>

In addition to developing partnerships and securing funding, near-term priorities for Delta Nutrient Research Plan implementation are:

- Completing existing and contracted work supporting the 2014 Delta Strategic Plan
- Prioritizing new projects for HAB monitoring and special studies;
- Integrating efforts with the Delta Regional Monitoring Program;
- Initiating review of nutrient thresholds and policies and developing initial nutrient mass balance framework; and
- Developing a Science Action Plan to systematically fill research gaps through enhanced collaboration and funding opportunities.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	17
<b><u>Project Name:</u></b>	Fungicides and Herbicides
<b><u>Triennial Review Issue No.:</u></b>	14 – Implementation of the Delta Strategic Plan
<b><u>Watershed:</u></b>	Sacramento-San Joaquin Delta
<b><u>2018 Comment Letters Received:</u></b>	
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	2014 Delta Strategic Work Plan Resolution R5-2018-0059 Approval of Delta Nutrient Research Plan  University of California, Davis Herbicides and Fungicides: State Water Resources Control Board Contract No.16-046-150
<b><u>Project's Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>The patterns of species and total abundance of phytoplankton (free-floating algae, bacteria, and cyanobacteria) in the Delta have changed over the last several decades. Changes in algal quality and quantity or “bottom up” effects are factors believed to contribute to the decline in some native fish species. Also, since the early 2000s, there has been an increase in detections of fungicides and herbicides in Delta waters. Little is known about the potential toxicities of these compounds to multiple species of algae and whether the chemicals are contributing to shifts in the quantity and quality of the lower food web.</p> <p>A priority project in the 2014 Delta Strategic Work Plan is to conduct a toxicological assessment of some current-use fungicides and herbicides using Delta algal species. This project also supports the Delta Nutrient Research Plan by helping to identify factors affecting phytoplankton growth and species' abundances.</p>

The Board has contracted \$375,000 with UC Davis to develop toxicity reference values for current use fungicides and herbicides found in the Delta on resident algal species. This work involves phytoplankton LC50 determination following four-day growth tests with up to four herbicides and fungicides commonly detected in Delta waters. The toxicity thresholds will be compared to existing monitoring data to evaluate potential impacts of these active ingredients on Delta phytoplankton. Additionally, UC Davis will perform cyanobacteria competition testing in the presence and absence of specific herbicides and fungicides to determine whether the presence of these active ingredients has any impact on competition.

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 18

**Project Name:** Comprehensive Pesticides Control Program

**Triennial Review Issue No.:** 15 – Pesticide Control Efforts

**Watershed:** Region-wide

**2018 Comment Letters Received:**

**Other Public Interest:**

**Past Board Commitment:**

**Project's Triennial Review History:**

**Project Description:** Pesticides, when used properly, protect people and their environment from pests (animal, plant, or microbial) that threaten human health and human activities. However, pesticide residues that escape their intended use area may enter waters of the state and cause beneficial use impairments, particularly aquatic life impacts. Various pesticides have been detected at toxic levels in the Central Valley water bodies. The Basin Plan contains requirements relevant to pesticides, including narrative and numeric water quality objectives to protect beneficial uses. However, there are currently very few numeric water quality objectives for pesticides.

The Central Valley Water Board has identified many Central Valley waterways as impaired due to ambient pesticide levels on the Clean Water Act section 303(d) list. The Clean Water Act requires the development of Total Maximum Daily Load (TMDL) allocations to address impairments. The Basin Plan outlines a specific review process that the Central Valley Water Board must follow to address pesticide detections and problems that are identified and for coordination with the Department of Pesticide Regulation (DPR), which regulates pesticide registration and use in California.

The Basin Plan currently has provisions that are applicable to all pesticides, as well as provisions for the specific control programs. These provisions should be reviewed and modified as necessary to provide a comprehensive regulatory approach to pesticide discharges in the Region.

In addition, the Basin Plan requires that some existing pesticide provisions be reviewed as follows:

<b><u>Program</u></b>	<b><u>Status</u></b>	<b><u>Next Review</u></b>
Diazinon and Chlorpyrifos Runoff Control Program for the San Joaquin River and Sacramento-San Joaquin Delta Waterways	Review is required every five years. The Board last reviewed these provisions in March 2014	March 2019
Basin-wide Diazinon and Chlorpyrifos Discharge Control Program in the Sacramento River and San Joaquin River Basins	Review is required no later than 16 August 2024.	16 August 2024
Control Program for Pyrethroids	Review is required no later than 2033.  Updates to the Board are required to be included as part of triennial review process.	2022  Updates to the Board will be included as part of triennial reviews beginning after 2020.

In addition, the Basin Plan required a detailed assessment of the rice pesticides carbofuran, malathion, molinate, methyl parathion and thiobencarb on the impacts to aquatic life and consideration of water quality objectives for these pesticides.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	19
<b><u>Project Name:</u></b>	Pyrethroid Research Plan
<b><u>Triennial Review Issue No.:</u></b>	15 – Pesticide Control Efforts
<b><u>Watershed:</u></b>	Sacramento River and San Joaquin River Basin
<b><u>2018 Comment Letters Received:</u></b>	
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2017-0057 – Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Pyrethroid Pesticide Discharges
<b><u>Project’s Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>The Central Valley Water Board has adopted a control program for pyrethroids pesticides in 2017. The pyrethroid control program in the Basin Plan requires that the Board work with stakeholders and other agencies to develop a Pyrethroid Research Plan within 2 years the effective date, to address a number of topics where additional data and information could help inform potential revisions to the pyrethroid control program. These topics include pyrethroid bioavailability and partitioning, temperature effects on toxicity, chronic and sublethal effects, fate and transport, and monitoring and laboratory methods for toxicity and pyrethroids.</p> <p>Staff is working with stakeholders to develop and implement a Pyrethroid Research Program. A study of \$100,000 has been funded for through FY2020 to investigate pyrethroid partition coefficients.</p> <p>When the Pyrethroid Research Plan is completed, additional resources will be needed to conduct investigations on pyrethroid bioavailability and partitioning, temperature effects on toxicity, chronic and sublethal effects, fate and transport, and monitoring and laboratory methods for toxicity and pyrethroids.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 20

**Project Name:** Sacramento and San Joaquin Rivers Organochlorine Pesticides Re-evaluation

**Triennial Review Issue No.:** 15 – Pesticide Control Efforts

**Watershed:** Sacramento River and San Joaquin River

**2018 Comment Letters Received:**

**Other Public Interest:**

**Past Board Commitment:**

**Project's Triennial Review History:**

**Project Description:** Organochlorine (OC) pesticides have been detected in the water column, sediment and biota collected from water bodies throughout the Sacramento and San Joaquin River Basins at high enough concentrations to include these water bodies on the Clean Water Act section 303(d) list of impaired water bodies, even though nearly OC pesticides have been banned for use in the United States for decades.

Stakeholders have expressed concern regarding the water quality objectives for organochlorine pesticides which states that:

*Total identifiable persistent chlorinated hydrocarbon pesticides shall not be present in the water column at concentrations detectable within the accuracy of analytical methods approved by the Environmental Protection Agency or the Executive Officer.*

Stakeholders are concerned that the above water quality objective fluctuates with the accuracy of analytical methods and would prefer numeric water quality objectives that are protective of beneficial uses. Since the adoption of this water quality objective, the USEPA has developed water quality

criteria for water column concentrations of organochlorine pesticides that are protective of human health and aquatic life and in 2000 promulgated the criteria in the California Toxics Rule (CTR). At this time, the detection limits for analytical methods approved by the USEPA are higher than the CTR criteria for the organochlorine pesticides.

Staff started working on a control program for OC pesticides in 21 impaired reaches of water bodies within the Central Valley. However, since the listings are due to widespread legacy uses of the pesticides, there are not any identified actions that can be implemented to further reduce concentrations except for limiting erosion, which is already a requirement of existing regulatory programs. It is possible that there could be some hot spots in these watersheds that could be identified and prioritized for cleanup, but generally the concentrations of concern are widespread in soils throughout the areas of use and in sediments and biota of downstream waters. Concentrations are gradually declining through over time due to practices to reduce erosion and natural attenuation. Staff is preparing a report of its findings, which is expected to be completed in 2019.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	21
<b><u>Project Name:</u></b>	Statewide Mercury Control Program for Reservoirs
<b><u>Triennial Review Issue No.:</u></b>	16 – Mercury Load Reduction Program
<b><u>Watershed:</u></b>	Statewide
<b><u>2018 Comment Letters Received:</u></b>	Tuolumne Me-Wuk Tribal Council
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project’s Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>Elevated mercury levels in soil, water, and fish can be expected in areas where mercury was mined (Coast Range), where mercury was used to extract gold (Sierra Nevada and Cascade Range), and in downstream water bodies where the mercury is methylated (Delta, rivers and reservoirs). In addition, elevated mercury levels in some waters are due to modern point and non-point sources as well as atmospheric deposition. Mercury is a problem because it accumulates in aquatic organisms to levels that pose a threat to predator species and people that eat some types of fish.</p> <p>Statewide, there are about 130 reservoirs with fish tissue mercury concentrations that exceed water quality objectives. To address the mercury problem in these reservoirs, the State Water Resources Control Board has undertaken development of a statewide program (“Statewide Mercury Control Program for Reservoirs”) with the goal of reducing mercury levels in fish through a multifaceted approach; (1) reduce loading of mercury to the reservoirs; (2) and develop and test management practices in the reservoirs to reduce methylmercury production and subsequent bioaccumulation.</p> <p>This multiyear project has been led by technical staff from the Central Valley Water Board, the San Francisco Bay Water</p>

Board, and the State Water Board. A draft staff report and implementation provisions have been submitted to external scientific peer review and are posted on the project website. Over the past few years, staff has been meeting with many reservoir owners and operators to discuss development of coordinated reservoir water chemistry and fisheries management pilot tests. Staff is also currently evaluating alternatives to the typical TMDL approach to addressing impaired waters.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	22
<b><u>Project Name:</u></b>	Central Valley Rivers Mercury Control Program
<b><u>Triennial Review Issue No.:</u></b>	16 – Mercury Watershed Control Program for the Rivers of the Central Valley Lowlands
<b><u>Watershed:</u></b>	Region-wide
<b><u>2018 Comment Letters Received:</u></b>	Central Valley Clean Water Association Tuolumne Me-Wuk Tribal Council
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2010-0043 (Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary)
<b><u>Project's Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	Elevated mercury levels can be expected in areas where mercury was mined (Coast Range), where mercury was used to extract gold (Sierra Nevada and Cascade Range), and in downstream water bodies where the mercury is methylated (Delta, rivers and reservoirs). In addition, elevated mercury levels in some waters are due to modern point and non-point sources as well as atmospheric deposition. Mercury is a problem because it accumulates in aquatic organisms to levels that pose a threat to predator species and people that eat fish. Because of elevated mercury levels in fish tissue, numerous water bodies, including the Delta, its tributaries, and numerous reservoirs and streams have been included on the Clean Water Act Section 303(d) list of impaired water bodies. The Clean Water Act mandates that the Regional Water Board develop load reduction programs to resolve these water quality problems through a Total Maximum Daily Load (TMDL) allocation process. Health advisories have been issued for many water bodies in the Central Valley due to the mercury levels in fish. Recent studies may result in health advisories being issued for additional water bodies as well as more water

bodies being added to the Clean Water Act 303(d) list for mercury impairments.

In the past, the Central Valley Water Board adopted Basin Plan Amendments that include fish tissue objectives, implementation programs, and TMDL allocations for controlling mercury and methylmercury in Clear Lake, Cache Creek and its tributaries, and the Delta.

The Delta Mercury Control Program (Resolution No. R5-2010-0043) identified methylmercury allocations for tributary inputs to the Delta and Yolo Bypass and specifically notes control programs are needed for the American, Cosumnes Feather, Mokelumne, Sacramento, and San Joaquin Rivers, and Marsh, Morrison and Putah Creeks. Staff is beginning to develop mercury control programs for Central Valley Rivers, focusing on these tributaries to the Delta downstream of major reservoirs.

## **PROJECT FACTSHEET** **2018 Triennial Review**

**Project Number:** 23

**Project Name:** Delta Methylmercury Control Program

**Triennial Review Issue No.:** 16 – Mercury Load Reduction Program

**Watershed:** Sacramento-San Joaquin Delta

**2018 Comment Letters Received:**

**Other Public Interest:**

**Past Board Commitment:** R5-2010-0043 (Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary)

California Nonpoint Source Program Implementation Plan – 2014-2020

**Project's Triennial Review History:**

**Project Description:** Elevated mercury levels can be expected in areas where mercury was mined (Coast Range), where mercury was used to extract gold (Sierra Nevada and Cascade Range), and in downstream water bodies where the mercury is methylated (Delta, rivers and reservoirs). In addition, elevated mercury levels in some waters are due to modern point and non-point sources as well as atmospheric deposition. Mercury is a problem because it accumulates in aquatic organisms to levels that pose a threat to predator species and people that eat fish. Because of elevated mercury levels in fish tissue, numerous water bodies, including the Delta, its tributaries, and numerous reservoirs and streams have been included on the Clean Water Act Section 303(d) list of impaired water bodies. Health advisories have been issued for the Delta due to the mercury levels in fish. Recent studies may result in health advisories being issued for additional water bodies as well as more water bodies being added to the Clean Water Act 303(d) list for mercury impairments.

In the past, the Central Valley Water Board adopted Basin Plan Amendments that include fish tissue objectives, implementation programs, and TMDL allocations for controlling mercury and methylmercury in Clear Lake, Cache Creek and its tributaries, and the Delta.

For the Delta Mercury Control Program review, the Board committed to consider modification of methylmercury goals, objectives, allocations, compliance dates, implementation of management practices, schedules for methylmercury controls, and consideration of a mercury offset program for dischargers who cannot meet their load and waste load allocations. The Delta Methylmercury Control Program review is due October 2022. Note that the Basin Plan requires submittal of the final reports for Control Studies by 20 October 2018. In 2016 the Executive Officer granted a one-year due date extension for the tidal wetland and open water studies. The Control Studies will be used to modify compliance dates and allocations, as appropriate. Currently staff is compiling information for the review, outlining options for an offset program, and will be working with stakeholders to develop final recommendations for the program.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	24
<b><u>Project Name:</u></b>	Watershed-based Plan Implementation and Update for Battle Creek
<b><u>Triennial Review Issue No.:</u></b>	17 – Battle Creek (Sedimentation Impacting Endangered Species)
<b><u>Watershed:</u></b>	Battle Creek watershed (HSA# 5507.120000)
<b><u>2018 Comment Letters Received:</u></b>	
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	California Nonpoint Source Program Implementation Plan – 2014-2020
<b><u>Project’s Triennial Review History:</u></b>	
<b><u>Project Description:</u></b>	<p>Battle Creek is one of the northernmost major tributaries to the Sacramento River and is considered a high priority stream because it contains critical cold-water habitat for endangered Spring Run Chinook salmon, supports important populations of Chinook salmon and Central Valley steelhead, contains numerous fish hatcheries, and is the location of an ongoing salmonid habitat restoration project that is receiving substantial funding from local, state, and federal agencies, as well as private entities. There is concern of excessive sedimentation endangering the aquatic habitat beneficial uses. Staff from the Forest Activities Program is working with stakeholders to design a Watershed-Based Plan (WBP) which will coordinate watershed restoration efforts and disseminate information relevant to all stakeholders in the watershed. There are 4 main tasks remaining for this project and are described below:</p> <ol style="list-style-type: none"> <li>1. Watershed Assessment report is in the final review stage. This technical document provides the basis from which the WBP draws, and will be finalized in early September 2018. The findings of the Watershed Assessment required a change in the planning approach necessary for the WBP, nevertheless the available information will be sufficient to complete the project.</li> </ol>

2. The Watershed Based Plan (WBP) document that describes methods to:
  - Host the WBP via the web as an interactive system and provide a clearinghouse for information useful to stakeholders.
  - Align existing and future sediment reduction assessments with EPA's 9-elements to expedite 319h funding for implementation.
  - Develop a prioritized list of assessments and sediment reduction projects, including efforts that are currently in planning or are underway.
  - Develop a strategy to track sediment delivery assessments and sediment reduction implementation projects for all stakeholders and land owners using the Sac River Watershed Program's online data portal.
  - Enable adaptive prioritization of needed projects in response to future major climate-driven events (e.g. fires and extreme precipitation)

Forest Activities staff will use available GIS resources to support the WBP and assist developing the data portal with staff of the Sacramento River Watershed Program (via a separate discretionary contract funding) and are using the timelines below for the remaining deliverables:

- Draft Watershed Based Plan – January 30, 2019
  - TAC review/meeting on Draft WBP – February 2019
  - Final Watershed Based Plan – April 31, 2019
  - WBP and data embedded in Sac River Watershed Program portal - 2019 (date dependent upon contract processing).
3. Public outreach will take the form of the information portal, mentioned above, that is currently under development. This portal will be used to store information, maps, and data for a wide variety of physical parameters of the watershed, as well as all relevant reports, background information, and planning documents available for the basin, including the WBP documentation. Expected completion in 2019.
  4. The sediment reduction demonstration pilot project is scheduled to begin in September 2018. Project duration is expected to be 2 weeks. Effectiveness monitoring is planned this fall and winter, and the results will be documented by late spring 2019.

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	25
<b><u>Project Name:</u></b>	Reassessment of Beneficial Uses and Water Quality Objectives in Specific Reaches of the Pit River
<b><u>Triennial Review Issue No.:</u></b>	18 – Pit River (Reassess Beneficial Uses and Water Quality Objectives in Specific Reaches)
<b><u>Watershed:</u></b>	Pit River
<b><u>2018 Comment Letters Received:</u></b>	North Eastern California Water Association Pit River Tribe Shasta County Board of Supervisors
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	
<b><u>Project’s Triennial Review History:</u></b>	Referenced in the following Triennial Review Work Plans: 2011 and 2014
<b><u>Project Description:</u></b>	<p>The Basin Plan identifies beneficial uses for the South and North Forks of the Pit River, the Pit River from the confluence of the forks to the mouth of Hat Creek, and the Pit River from the mouth of Hat Creek to Shasta Lake. The Pit River is over 200 miles long and varies in elevation from about 4,300 feet above mean sea level at the confluence of the forks to about 1,000 feet above mean sea level at Lake Shasta. Commenters have requested the Central Valley Water Board re-evaluate beneficial uses in these reaches of the Pit River, as well as divide the Pit River into additional reaches to provide more appropriate protection of the beneficial uses. Commenters have also requested that the Central Valley Water Board re-evaluate water quality objectives, including pH and temperature, for the protection of aquatic life uses in the Pit River and to reflect the environmental conditions in the Pit River. A number of stakeholders have conducted assessments of the Pit River and have indicated an interest in conducting additional assessments that could lead to basin plan amendments to address beneficial uses and water quality objectives in the Pit River.</p> <p>This project would evaluate the environmental conditions in the Pit River to identify the appropriate beneficial uses and water quality objectives.</p>

## **PROJECT FACTSHEET** **2018 Triennial Review**

<b><u>Project Number:</u></b>	26
<b><u>Project Name:</u></b>	Implementation of the Clear Lake Nutrient Control Program
<b><u>Triennial Review Issue No.:</u></b>	19 – Clear Lake Nutrients
<b><u>Watershed:</u></b>	Clear Lake
<b><u>2018 Comment Letters Received:</u></b>	Elem Indian Colony
<b><u>Other Public Interest:</u></b>	
<b><u>Past Board Commitment:</u></b>	R5-2006-0060 (Amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Nutrients in Clear Lake)  California Nonpoint Source Program Implementation Plan – 2014-2020

### **Project's Triennial Review History:**

**Project Description:** In 2007, the Central Valley Water Board adopted a basin plan amendment to establish a total maximum daily load control program to reduce phosphorus contributions to Clear Lake and decrease the incidence of nuisance algal blooms in Clear Lake. The Basin Plan states that compliance with load and waste load allocations for phosphorus in Clear Lake is required by 19 June 2017. Many implementation actions have been completed and are in progress. However, more data and information is needed to assess whether responsible parties are meeting their respective allocation. As a result, staff is working with the responsible parties and stakeholders to obtain load assessments and determine next steps for the TMDL and Control Program.

This project includes the following elements to inform the Board's next steps for the TMDL and Control Program:

- Load allocation compliance assessment  
Staff is coordinating with responsible parties to obtain data and information demonstrating load allocation compliance.

- Environmental Drivers of Cyanobacteria Blooms and Cyanotoxins in Clear Lake  
Funding (\$510,000) has been allocated through the State Water Board's discretionary contract process for Phase I of a two-phase project to evaluate cyanobacteria environmental drivers in Clear Lake. Phase I will involve in-field studies and data analysis. Phase II is for a predictive model to evaluate options for additional TMDL numeric targets, allocations, and implementation actions for the Nutrient Control Program. Funding for Phase II is still needed.
- Evaluation of Shoreline Septic System Inputs to Clear Lake: evaluate the impact of shoreline septic systems to identify and rank areas where onsite wastewater treatment systems contribute nutrients and bacteria directly to Clear Lake.

## **PROJECT FACTSHEET**

**Project Number:** 27

**Project Name:** Development of Procedures to Define and Determine Naturally-occurring Background Conditions

**Triennial Review Issue No.:** 12 – Naturally-occurring Background Conditions

**Watershed:**

**2018 Comment Letters Received:** Sacramento River Source Water Protection Program

**Other Public Interest:**

**Past Board Commitment:** None

**Project's Triennial Review History:** New

**Project Description:** The Basin Plans contain a provision that “the water quality objectives do not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective.” (CVRWQCB 2018a Section 4.2.2.1.9 and CVRWQCB 2018b Section 4.2.2) However, this provision is rarely used because of lack of agreement on how to determine naturally occurring background concentrations.