



Nonpoint Source Program Annual Report

State Fiscal Year 2016-2017

July 1, 2016 - June 30, 2017



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I. Introduction

Section 319 of the Clean Water Act (CWA 319)¹ requires states to create a Nonpoint Source Program to reduce nonpoint source pollution. CWA 319 also requires U.S. EPA to maintain a grant program to help states reduce nonpoint source pollution through regulatory actions, education and training, demonstration projects, and monitoring. The *2014-2020 Nonpoint Source Program Implementation Plan* outlines the current goals for California's Nonpoint Source Program, summarized below:

- Implement the “Policy for the Implementation and Enforcement of the Nonpoint Source Control Program” (Nonpoint Source Implementation Policy) through creation and enforcement of Waste Discharge Requirements (WDRs);
- Fund projects that address Total Maximum Daily Load implementation priorities for targeted nonpoint source-impaired waters;
- Apply the watershed approach to address nonpoint source pollution problems in high priority watersheds; and
- Regulate activities related to Timber Harvest and Forestry, Irrigated/Agricultural Lands, Grazing, Dairies and Confined Animal Facilities.

This annual report describes the financial status of current CWA 319 grants from federal fiscal years 2013, 2014, 2015, 2016, and 2017 (section II), and describes progress in implementing the goals of the *2014-2020 Nonpoint Source Program Implementation Plan* during fiscal year 2016/17,² made possible in part from CWA 319 grant funds (sections III – X).

II. Financial Status of CWA 319 Grants

The State Water Resources Control Board (State Water Board) has five active CWA 319 grants spanning 2013 through 2017. Table 1 summarizes budget versus expenditures/encumbrances for each year as of 10/31/2017.

¹ Established by 1987 amendments to the CWA.

² The State Water Board's fiscal year is July 1 through June 30.

Table 1: Budget vs Expenditures/Encumbrances for Active CWA 319 Grants as of 10/31/2017

FFY 2013 (C9-97957514)	Budgeted	Expenditures (Ex) Encumbrances (Enc)	Balance
Personnel	\$4,088,529	\$4,548,655 (Ex)	-\$460,126
Subawards	\$3,835,471	\$2,746,717 (Ex + Enc)	\$1,088,754
Total	\$7,924,000	\$7,295,372	\$628,628
FFY 2014 (C9-97957515)			
Personnel	\$4,135,026	\$3,862,759 (Ex)	\$272,267
Subawards	\$3,971,974	\$3,692,566 (Ex + Enc)	\$279,408
Total	\$8,107,000	\$7,555,335	\$551,675
FFY 2015 (C9-97957516)			
Personnel	\$4,011,851	\$3,370,803 (Ex)	\$641,048
Subawards	\$4,011,149	\$4,053,897 (Ex + Enc)	-\$42,748
Total	\$8,023,000	\$7,424,701	\$598,299
FFY 2016 (C9-97957517)			
Personnel	\$4,053,639	\$3,438,110 (Ex)	\$615,529
Subawards	\$4,295,061	\$4,197,339 (Ex + Enc)	\$97,722
Total	\$8,348,700	\$7,635,449	\$713,251
FFY 2017 (C9-97957518)			
Personnel	\$4,248,078	\$2,279 (Ex)	\$4,245,799
Subawards	\$4,355,722	\$4,355,722 (Ex + Enc)	\$0
Total	\$8,603,800	\$2,279	\$8,601,521

Note: Budgeted values are from State Water Board Division of Administrative Services CALSTARS accounting system. These budgeted values may not match US EPA award values. Expenditure and encumbrance values in Table 1 are current as of 10/31/2017 (source: CALSTRS F01 report).

Table 2: Program vs. Project Spending FFYs 2013 - 2016

FFY	Total Award	PROGRAM			PROJECT			Balance**	%
		Personnel (expended)	Subawards (expended + encumbered)	%	Personnel (expended)	Subawards (expended + encumbered)	%		
FFY 2013	\$7,924,000	\$4,548,655	\$263,229	61%	\$0	\$2,483,488	31%	\$628,628	8%
FFY 2014	\$8,107,000	\$1,892,752	\$752,727	33%	\$1,970,007	\$2,939,851	61%	\$551,675	7%
FFY 2015	\$8,023,000	\$2,831,475	\$763,537	45%	\$539,329	\$3,290,060	48%	\$598,299	7%
FFY 2016	\$8,348,700	\$3,438,110	\$295,700	45%	\$0	\$3,901,639	47%	\$713,251	9%

Note: Personnel expenditures in Table 2 are current as of 10/31/2017 (source: CALSTRS F01 report). Subaward expenditures reflect internal program accounting and may differ slightly from CALSTRS F01 values above.

** Plans are in place to encumber and liquidate the balance from each FFY CWA 319 grant.

III. Timber Harvest and Forest Activities

Through efforts by the State Water Board and the Regional Water Quality Control Boards (collectively Water Boards), the California Nonpoint Source Program addressed the following timber harvest and forest goals during fiscal year 2016-2017:

- Continued stewardship of watersheds

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- Developed and adopted waste discharge requirements (WDRs), waivers of WDRs, and total maximum daily loads (TMDLs)
- Reviewed Timber Harvest Plans to reduce sediment loading into impaired waters
- Established and implemented restoration programs for endangered species
- Facilitated public outreach and education regarding timber NPS activities

Local Assistance Program

In fiscal year 2016-2017, the California Budget Act appropriated \$2 million from the Timber Regulation and Forest Restoration Fund (Timber Fund) to the State Water Board to support projects that implement forest management measures to improve water quality on forestlands.

Permitting

North Coast Regional Water Quality Control Board (North Coast Water Board)³

During fiscal year 2016-2017, staff from the North Coast Water Board reviewed 163 new timber harvest plans on non-federal lands and conducted 253 field inspections, 144% of their target goal of 175 inspections. Inspections are intended to evaluate compliance with applicable water quality requirements and permit requirements and included field review of some phase of a timber harvesting project, including pre-harvest, active, post-harvest, and complaint driven. Regional Water Board staff also engaged with industry and watershed groups, responded to complaints, and initiated enforcement actions for those activities that violated regulatory conditions and criteria and threatened to impact water quality.

On November 30, 2016, the North Coast Water Board adopted revised waste discharge requirements (WDRs) for discharges from timber harvest and related activities conducted by Humboldt Redwood Company in the Elk River watershed. The WDRs are intended to implement the Action Plan for the Upper Elk River Sediment TMDL.

Central Valley Water Quality Control Board (Central Valley Water Board)⁴

On June 9, 2017, Central Valley Water Board adopted a General Order for Discharges Related to Timberland Management Activities for Non-Federal and Federal Lands, Order No. R5-2017-0061 (Timberland General Order). The Timberland General Order allows enrollment of a wide

³ Discharges from timber harvesting and related activities in the North Coast Region are covered under one of several waste discharge requirements (WDRs) or waivers of WDRs that establish conditions or requirements to control discharges of waste to waters of the state. North Coast Water Board staff regulate timber harvest activities both as a member of the California Department of Forestry and Fire Protection (Cal Fire) Review Team as well as under its own authority pursuant the Porter-Cologne Water Quality Control Act.

⁴ The Central Valley Water Board's Forest Activities Program addresses nonpoint source (NPS) activities in forested headwaters. These activities primarily include timber harvesting and fuels management, post-fire impacts assessment and mitigation, rural roads construction and maintenance, and off-highway vehicle use areas. Approximately 51% of the state's timberlands are located in the Central Valley Region and approximately 60% of the statewide harvest of commercial timber occurs here.

variety of timber harvesting projects processed through the state's Cal Fire-led California Environmental Quality Act (CEQA)-equivalent process or through the United States Forest Service (U.S. Forest Service) National Environmental Policy Act (NEPA) process. The coverage includes and is applicable to post-fire salvage activities and watercourse crossing work conducted outside the harvest plan area. In addition, this order ensures compliance with Central Valley Water Board's Water Quality Control Plan for the Sacramento and San Joaquin River Basins and Water Quality Control Plan for the Tulare Lake Basin (Basin Plans) requirements, the state's Forest Practice Rules, and the U.S. Forest Service best management practices (BMPs).

Lahontan Regional Water Quality Control Board (Lahontan Water Board)

Lahontan Water Board staff reviewed environmental documents and commented on 20 timber and vegetation management projects. Lahontan Water Board Staff conducted 13 pre-harvest, active harvest, post-harvest, or complaint-driven inspections of timber and vegetation management and restoration project sites on federal forest lands for compliance with the Lahontan Water Board's Timber Waiver. Six new projects were enrolled under the Timber Waiver. Staff reviewed implementation, forensic, and effectiveness monitoring reports for projects enrolled under the Timber Waiver.

Joint Waste Discharge Requirements (Lahontan/Central Valley)

Recognizing the need to adhere to state water pollution control laws on federal lands, in 2016, Lahontan Water Board staff began working with staff from the Central Valley Water Board, USFS, and Bureau of Land Management (BLM) to develop WDRs for activities that result in nonpoint source discharges.⁵ The USFS and BLM collectively manage about 45% of the land within the Lahontan Region, and USFS and BLM district boundaries overlap the Lahontan and Central Valley Water Board jurisdictions. Water Board staff in both regions recognized that a collaborative permitting effort would likely lead to better success and compliance than developing individual permits for entities that cross regional boundaries. While each Water Board will adopt its own permit (to account for regional differences in pollution and water quality standards), the permitting approach—including the goals, milestones, and outcomes—will be similar. The collaborative effort will include joint public outreach and stakeholder meetings in 2017 and preparation of a joint environmental document in 2018, with anticipated permit adoption in 2019.

In collaboration with Central Valley Water Board staff, Lahontan Water Board staff coordinated a meeting in February 2017 of executive level management from the BLM State Office, the USFS Regional Office, and the Executive Officers from both Water Boards. The goals of this meeting were to brief federal agency executives on the objectives of the permit, the expected process to

⁵ The draft WDRs for nonpoint source discharges on federal lands will address activities such as range management, vegetation management, native surface road management, recreation, wildfire suppression and remediation, and ecosystem restoration activities. The draft WDRs will not cover point source discharges (such as mining and oil and gas production), activities already regulated through existing permits (e.g., NPDES), special use permit issuance, and land use planning activities.

develop and implement the permit, and to ask them for a commitment of federal staff resources to engage with Water Board staff to develop the permit.

Lahontan and Central Valley Water Board staff met with staff of the BLM Barstow field office and USFS San Bernardino National Forest to discuss the permit development and to gain an understanding of the predominant land uses, resource concerns, and activities of each respective field office. To learn more about existing data, monitoring, and assessment programs of the federal agencies, Water Board staff met with BLM State Office staff and USFS staff from multiple national forests as part of a core working group for this permit development process. As part of the regular Lahontan Water Board meeting in May 2017, Lahontan Water Board staff presented its actions to date on development of nonpoint source WDRs for federal lands. Lahontan Water Board Staff summarized for the Board its actions working with the staff from the Central Valley Water Board, USFS and Bureau of Land Management (BLM) to develop WDRs for certain NPS activities. The Lahontan Water Board concurred with staff's actions and strategy for future actions to achieve the anticipated permit adoption in 2019. Lahontan Water Board staff completed broad public notification of the permit development through distribution of a project fact sheet, creation of an email subscription service and creation of a public web page (waterboards.ca.gov/federalnpspermit).

Interagency Collaboration

Wood for Salmon Working Group (North Coast Region)

The North Coast Water Board has continued to coordinate a multi-agency and stakeholder collaboration known as the [Wood for Salmon Working Group](#)⁶ (WFSWG). In fiscal year 2016-17, the WFSWG held two public meeting and several sub-group meetings. The WFSWG is investigating various incentives to restoration through public funding assistance programs as well as possible legislative fixes.

Watershed Stewardship Approach (North Coast Region)

In February 2017, new staff was hired at the North Coast Water Board to implement the watershed stewardship approach in the Scott and Shasta Watersheds. This new staff has worked to coordinate closely with California Department of Fish and Wildlife, Shasta Valley Resource Conservation District, Siskiyou County Resource Conservation District, Scott River Watershed Council, and other stakeholder groups to develop collaborative solutions to TMDL implementation. Additionally, staff has worked closely with colleagues in the Timber and 401 Certification programs to foster stewardship and drive TMDL implementation at a cross program, watershed-scale level.

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<https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/california/salmon/woodforsalmon/Pages/default.aspx>. WFSWG formed to accelerate the pace and scale of instream restoration projects, especially large wood enhancement to improve salmonid habitat. To accomplish that mission, the WFSWG has been working to address obstacles to restoration, streamline the permitting process, and secure public funding assistance.

Staff has done significant work to complete the Shasta River Watershed Stewardship Report, a report that will serve as a pilot report for adaptive management of the Shasta Watershed. The report has been prepared primarily by the Shasta Valley Resource Conservation District, with North Coast Water Board staff adding descriptions and analysis of status and trends for temperature and dissolved oxygen conditions. The report will be completed by fall 2017.

IV. Irrigated / Agricultural Lands

Through efforts by the State Water Board and the Regional Water Quality Control Boards (collectively Water Boards), the California Nonpoint Source Program addressed the following irrigated lands and agriculture goals during fiscal year 2016-2017:

- Continued stewardship of watersheds containing irrigated lands
- Regulated water quality through waivers of Waste Discharge Requirements
- Implemented groundwater protection strategies
- Managed existing orders and engage in enforcement actions against entities for violations
- Facilitated public outreach and education regarding the Irrigated Lands Regulatory Program (ILRP) and NPS agriculture issues

North Coast Regional Water Quality Control Board (North Coast Water Board)

North Coast Water Board staff began revising the Scott and Shasta TMDL conditional waivers of Waste Discharge Requirements (waivers). Staff made each waiver structurally similar since the implementation programs are nearly identical. In addition, the conditions of the waiver were made more explicit to provide clear guidance to dischargers as well as clear pathways for enforcement if necessary. Two staff workshops were held, one in Yreka to stakeholders and the general public and one in Santa Rosa to the Regional Board. Public comments were accepted from June 1st through July 14, 2017. Staff is currently preparing responses to those comments and the waivers are on track for adoption on October 19, 2017 as Orders R1-2017-31 (Scott Waiver) and R1-2017-32 (Shasta Waiver).

Cannabis Discharge Control in the North Coast Region

Fiscal year 2016-2017 was the first full year of active implementation of the Cannabis Regulatory program in the North Coast Region. Currently, the Region has over 3,500 applicants for coverage under the waiver. This number, while quite substantial, represents only a fraction of the total cultivation sites that need coverage.

A principal focus of implementation was to continue to coordinate with all agencies involved in the regulation of cannabis cultivation. The North Coast Water Board attended every scheduled county environmental crimes taskforce meeting in Sonoma, Mendocino, and Humboldt counties. North Coast Water Board staff also initiated the development of an environmental crimes task force in Trinity County. Additionally, North Coast Water Board staff participated in a statewide interagency coordination summit with California Department of Fish and Wildlife (CDFW), and

several follow up meetings to prioritize regulatory efforts and assess the effectiveness of program implementation alongside other agency efforts.

From these coordination efforts, targeted areas were selected and compliance and enforcement efforts were carried out. North Coast Water Board staff participated in over 75 joint agency inspections, and over 150 total site inspections. On many of the inspections, water quality issues were identified and recommended corrective actions and/or appropriate enforcement actions were carried out. Additionally, three separate enrollment enforcement efforts were conducted, bringing in over 700 parcels into the regulatory program and working towards compliance with the terms of the Order. Enrollment enforcement efforts have been one of the most effective methods in obtaining widespread participation in the program to date.

Another key aspect of the cannabis regulatory program is education and outreach. North Coast Water Board staff attended and presented at more than 10 public meetings throughout the region during the fiscal year. North Coast Water Board staff also provided updates to the North Coast Water Board on the cannabis program at every board meeting, including updates on how regulatory efforts are taking form across jurisdictions, including state and country regulatory efforts. The North Coast Water Board is analyzing reporting information that has been submitted by participants, along with conducting monitoring of specific parameters to begin to evaluate the effectiveness of the implementation of the program. North Coast Water Board staff are currently compiling a report that includes aspects of this effort and will be published in the coming months.

Currently, staff are continuing to work to bring sites that are enrolling for coverage under the Order into full compliance, and identifying future priorities for Order implementation in watersheds throughout the North Coast region. Coupled with continuing outreach, education, and monitoring, the program continues to grow, and the framework has been built to ensure successful continued implementation in the coming year.

San Francisco Bay Regional Water Quality Control Board (San Francisco Bay Water Board)

In April 2016, the San Francisco Bay Water Board held an informational workshop on draft general waste discharge requirements for vineyard properties in the Napa River and Sonoma Creek watersheds (Napa/Sonoma Vineyard General Permit) and produced a detailed Staff Report to support the workshop. The Staff Report provided an overview of the comments received on the draft Napa/Sonoma Vineyard General Permit and responses.

In July 2016, the San Francisco Bay Water Board released, for public review, the Napa/Sonoma Vineyard General Permit. The Napa/Sonoma Vineyard General Permit requires vineyard owners to control pollutant discharges including sediment and storm runoff from vineyards and unpaved roads, which are located throughout vineyard properties, and pesticides and nutrients from vineyards. Vineyard owners or operators of parcels that meet the enrollment criteria will be required to do:

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1. Develop a farm plan;
2. Implement the farm plan to achieve discharge performance standards;
3. Submit an annual report regarding progress toward farm plan development and achievement of the performance standards; and
4. Participate in group or individual water quality monitoring programs.

In advance of the Napa/Sonoma Vineyard General Permit, many vineyard property owners completed farm plans to enhance water quality and habitat conditions. Many of these early implementation efforts were funded through 319(h) grants awarded to the Fish Friendly Farming and LandSmart third-party technical assistance programs.

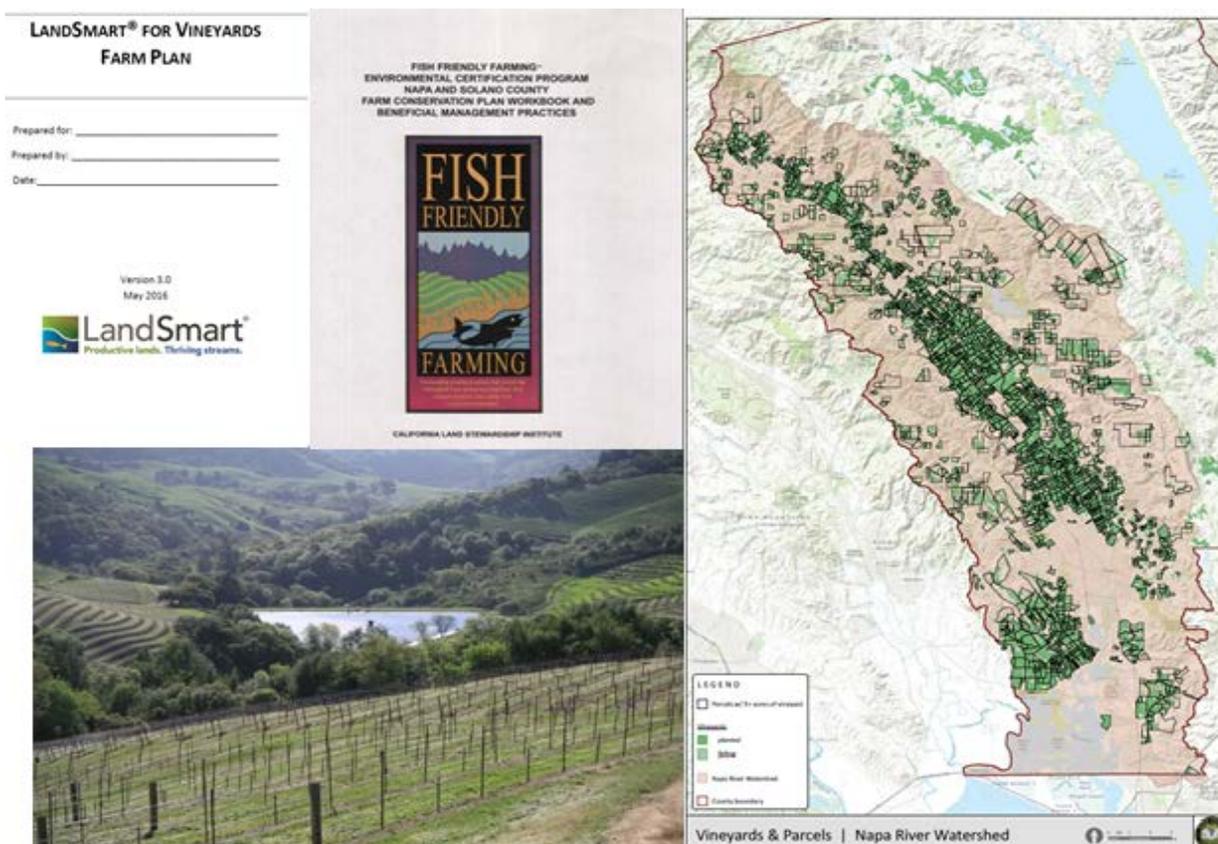


Figure 1: Vineyards in the Napa River Watershed

In July 2017, the Water Board adopted the draft Napa/Sonoma Vineyard General Permit. Moving forward, San Francisco Bay Water Board staff will focus on education and outreach, approval of third-party groups that will provide technical assistance to growers, and on program administration in anticipation of enrollment in July 2018.

Central Coast Regional Water Quality Control Board (Central Coast Water Board)

Renewal of the Central Coast Agricultural Order

The Central Coast Water Board approved a new, three-year Agricultural Order on March 8, 2017. The new Agricultural Order includes groundwater monitoring in 2017 and expands the

Total Nitrogen Applied reporting requirement.⁷ Ahead of the renewal, staff held nineteen (19) outreach events between July 2016 and February 2017. The outreach efforts included meetings with agricultural technical service providers, environmental and environmental justice advocates, California Department of Food and Agriculture, California Department of Pesticide Regulation, and the State Water Board Division of Drinking Water.

Total Nitrogen Applied Records

The new Central Coast Water Board Agricultural Order increased the number of required ranches from about 600 to 1,700.⁸ To support the additional growers required to submit TNA reporting, Central Coast Water Board staff conducted five (5) public workshops in both English and Spanish in May 2017. The workshops were well attended by growers and technical service providers. The Central Coast Water Board now has three years of nitrogen application data, with a fourth year of data to be completed by March 1, 2018.

Irrigation and Nutrient Management Plans (INMP)

Under the Central Coast Water Board Agricultural Order, twenty-one (21) growers with ranches in Tier 3 are required to prepare and implement Irrigation and Nutrient Management Plans (INMP) and submit an INMP effectiveness report.⁹ Staff reviewed and evaluated the effectiveness reports and concluded that six (6) of the 20 growers¹⁰ were able to demonstrate that the INMP and the implemented BMPs successfully reduced nitrogen loading to both surface and groundwater.¹¹

Enforcement Actions and Permitting Efforts

Central Coast Water Board staff developed a strategy to identify growers who have failed to enroll in the Central Coast Water Board Agricultural Order. A gross assessment indicates that non-enrollment may be prevalent, particularly in a few specific areas. Growers, consultants, and agency groups have voiced their concerns about creating a level playing field since many growers make considerable effort to comply with regulatory requirements while others are able to avoid them simply by not enrolling. From July 1, 2016 to June 30, 2017 Central Coast Water

⁷ In the Central Coast Water Board's Agricultural Order, Tier 2 and 3 ranches with a high risk of nitrogen loading to groundwater have been required to submit annual reports of total nitrogen applied in pounds/acre since October 1, 2014. Growers also report the nitrogen applied in irrigation water, average nitrate concentration in irrigation water, and nitrogen content in the soil.

⁸ The expansion of the Agricultural Order includes all Tier 2 and Tier 3 ranches that grow any crop with a high potential of loading nitrogen to groundwater. These "high risk" crops include: beet, broccoli, cabbage, cauliflower, celery, Chinese cabbage (Napa), collard, endive, kale, leek, lettuce (leaf and head), mustard, onion (dry and green), spinach, strawberry, pepper (fruiting), and parsley.

⁹ The INMP effectiveness reports explain the progress made in reducing nitrogen loading to surface water and groundwater based on the reduction of fertilizer applications (compost, and other materials containing nitrogen) and the implementation of management practices and controls.

¹⁰ Of the 21 required ranches, 20 complied with this requirement. These growers submitted their first INMP effectiveness report in October 2016.

¹¹ The effectiveness evaluation is focused on reduction of nitrogen loading from minimized fertilizer use and improved irrigation and nutrient management practices.

Board staff issued 66 notice of violation letters for failure to enroll in the Agricultural Order. Staff is continuing the work to identify and correspond with growers who are not enrolled in the Agricultural Order. During fiscal year 2016-2017, staff issued three administrative civil liability orders for failure to enroll, and four notices of violation for failure to submit required reports.

Aquatic Habitat Protection in the Central Coast

Central Coast Water Board staff received and reviewed nine farm Water Quality Buffer Plans (WQBPs) covering approximately 55,563 lineal feet of stream-side protection.¹² The farms are adjacent to the Salinas River, Orcutt Creek and Chualar Creek. Two of the farms submitted interim plans while further developing a long-term strategy.

Los Angeles Regional Water Quality Control Board (Los Angeles Water Board)

During fiscal year 2016-2017, Los Angeles Water Board staff reviewed and approved deliverables submitted by Discharger Groups in compliance with Conditional Waiver of Waste Discharge

Requirements for Discharges from Irrigated Lands within the Los Angeles Region (Order no. R4-2016-0143),¹³ including notices of intent, monitoring and reporting plans, and the BMP surveys that will serve as the basis for their



Figure 2: Strawberry farming in Ventura County

¹² Tier 3 farms adjacent to a stream impaired by sediment, turbidity, or temperature that discharge directly to those streams were required to develop and implement a Water Quality Buffer Plan (WQBP) due October 1, 2016.

¹³ Los Angeles Regional Water Board adopted Conditional Waiver (Order No. R4-2016-0143) in May 2016. The Order requires agriculture dischargers to (1) enroll, (2) obtain education on water quality issues, (3) conduct water quality monitoring, and (4) develop a water quality management plan (WQMP) to implement iterative management practices (MPs) to attain water quality standards. Agricultural dischargers may enroll as an individual discharger or as a member of a Discharger Group. The Nursery Growers Association Los Angeles County Irrigated Lands Group (NGA-ILG) and the Ventura County Agriculture Irrigated Lands Group (VCAILG) are the two Discharger Groups in the Los Angeles Region that have formed to comply with the Conditional Waiver. The Discharger Groups conduct the monitoring and prepare WQMPs and other reporting requirements for their members.

water quality management plans (WQMPs).

During fiscal year 2016-2017, the Los Angeles Water Board staff also issued 731 Notices of Violation (NOVs) to non-enrolled properties in Ventura County. Because of the NOVs, there was an immediate 50% increase in enrollment. Los Angeles Water Board staff is conducting inspections and following up with address corrections, ownership changes, and enforcement, where necessary, on the remaining cases.

Colorado River Basin Regional Water Quality Control Board (Colorado River Water Board)

On May 30, 2017, the Executive Officer approved the 2016 Annual Monitoring Reports sent in by the four Coalitions (Bard Valley, Coachella Valley, Imperial Valley, Palo Verde Valley coalitions) and, based on the monitoring results, revised the Coalitions' monitoring programs as recommended by Colorado River Water Board staff.

In the Colorado River Region, memberships to the agricultural coalitions have been high due in part to intensive outreach from the Colorado River Water Board and coalitions. According to both Bard and Palo Verde Coalitions, membership is at 100%. Approximately 79% of agricultural lands are enrolled under the Coachella Valley (CV) Conditional Waiver, and the CV coalition is continuously accepting membership. Colorado River Water Board staff, with CV coalition and the State Water Board Office of Public Participation, presented two informational workshops (one in English on February 8, 2017, and one in English translated to Spanish on February 9, 2017) as part of an essential outreach and education effort. Colorado River Water Board staff and CV coalition are assessing who needs to obtain coverage under the Waiver, but have not yet obtained such coverage.

Approximately 90% of agricultural lands are currently enrolled under the Imperial Valley (IV) Conditional Waiver, and the IV coalition is continuously accepting membership. Colorado River Water Board staff sent 360 registered letters to IV agricultural property owners that are out of compliance with the Waiver on December 19, 2016. Colorado River Water Board staff and IV Coalition are assessing who needs to obtain coverage under the Waiver, but have not yet obtained such coverage.

Santa Ana Regional Water Quality Control Board (Santa Ana Water Board)

During fiscal year 2016-2017, Santa Ana Water Board staff largely focused on adopting and implementing a Conditional Waiver of Waste Discharge Requirements for Agricultural Operations in the San Jacinto River Watershed (Santa Ana Water Board Order No. R8-2016-0003; also known as the CWAD or Conditional Waiver). The Santa Ana Water Board adopted the CWAD on July 28, 2016. It is the Board's first order for irrigated agriculture, resulting from several years of collaboration and meeting with likely affected parties and interested

stakeholders.¹⁴ The CWAD covers about 35,000 acres of irrigated agriculture and is the primary compliance mechanism to implement reductions in nitrogen, phosphorus and salinity (total

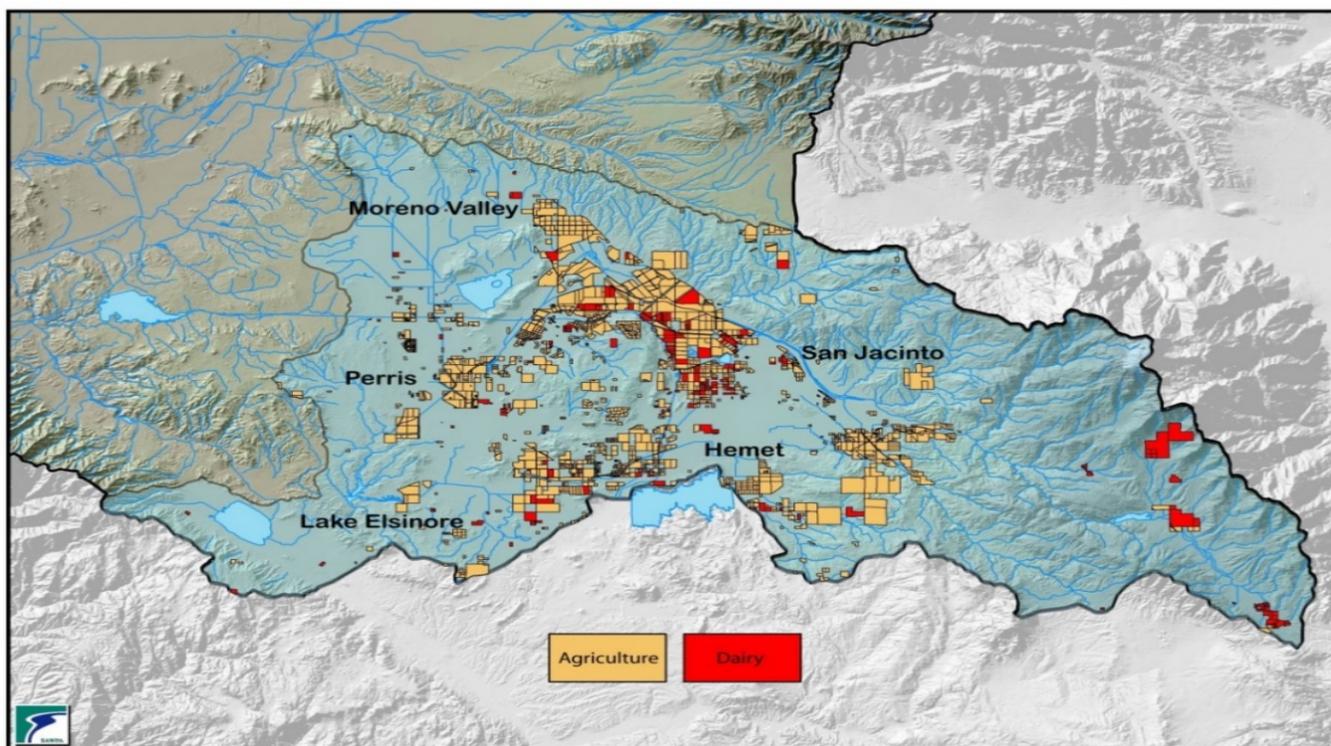


Figure 3: San Jacinto River Watershed and Agriculture (2012)

dissolved solids) loadings to surface water and groundwater.

In developing the CWAD, Santa Ana Water Board staff coordinated with San Jacinto watershed stakeholders, principally through a core group of agricultural operators that formed the Western Riverside County Agriculture Coalition (WRCAC), a voluntary not-for-profit organization. Santa Ana Water Board staff also facilitated a CWAD Advisory Committee that includes representatives from the Riverside County Farm Bureau, UC Cooperative Extension, WRCAC, the US Natural Resources Conservation Service, and others.

¹⁴ The CWAD is the primary mechanism to help manage pollutants loads to surface and ground water from agricultural operations not already regulated by the Santa Ana Water Board. Those who discharge waste from irrigated lands, and certain livestock operations are required to enroll in the CWAD. The CWAD will implement the Regional Salt Management Plan and State Nonpoint Source Implementation and Enforcement Policy. The CWAD will require agricultural owners/operators to implement conservation practices (agricultural best management practices; BMPs) to reduce salt and nutrient loading of nearby waterbodies, including the San Jacinto River, Canyon Lake, and Lake Elsinore – all of which are impaired water bodies. Agricultural dischargers will conduct monitoring of nutrients and salinity (as total dissolved solids [TDS]) in surface water and groundwater, and sediment in surface water to measure reductions of loadings from the agricultural operations. The CWAD also requires development of reporting programs to assess discharger compliance and agricultural BMP effectiveness.

During fiscal year 2016-2017, Santa Ana Water Board staff began implementation of the Conditional Waiver. This involved holding numerous stakeholder meetings, posting informational material on the Regional Board website, sending public outreach materials via US mail and subscription email lists, and preparing enrollment materials and procedures.

Technical problems with the enrollment form hindered initial CWAD implementation. Regional Board staff worked with the State Board to complete development of an electronic Notice of Intent (eNOI) form that facilitate dischargers' enrollment in the CWAD program. Successful tests of the eNOI were completed in June. The eNOI will be released for public use during the summer of 2017.

On April 28, 2017, the Santa Ana Regional Board amended the *Conditional Waiver of Waste Discharge Requirements (CWAD) for Agricultural Discharges from Agricultural Operations in the Watersheds of the San Jacinto River and Its Tributaries, and Canyon Lake and Lake Elsinore and Their Tributaries*, Order R8-2016-0003 by adopting Order No. R8-2017-0023. Order No. R8-2017-0023 amended the CWAD to revise the deadlines for enrollment, coalition group formation, and reporting tasks. The postponement of these deadlines was necessary due to the aforementioned problems with the enrollment form and ongoing stakeholder discussions related to potential coalition group formation. The revised deadline for dischargers to enroll in the CWAD program is October 28, 2017. The Santa Ana Regional Board also reaffirmed a recommendation for staff to continue stakeholder outreach efforts.

As of June 30, 2017, participation in the CWAD program remains lacking. However, Regional Board staff is receiving much more interest from potential dischargers about the CWAD and associated requirements. Many questions revolve around the possibility of establishing a coalition group to help relieve the CWAD fees and coordinate monitoring and reporting. Staff continue to reach out to dischargers to encourage CWAD enrollment, and the formation of one or more coalition groups. Board staff continue to meet with individual growers, the TMDL Agricultural Group representatives, and the volunteer stakeholder organization.

San Diego Regional Water Quality Control Board (San Diego Water Board)

The San Diego Water Board adopted Order No. R9-2016-0004, *General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Dischargers that are Members of a Third-Party Group in the San Diego Region (Third-Party General Order)* and Order No. R9-2016-0005, *General Waste Discharge Requirements for Discharges from Commercial Agricultural Operations for Dischargers Not Participating in a Third-Party Group in the San Diego Region (Individual General Order)* during its November 2016 Board Meeting. The Orders are collectively referred to as the General Agricultural Orders.¹⁵ Since adoption, San

¹⁵ The San Diego Water Board General Agricultural Orders require commercial agricultural operations to prevent or reduce discharges of pollutants associated with agricultural activity such that these discharges do not cause or contribute to pollution and nuisance conditions in surface waters or groundwater. The

Diego Water Board staff has focused its efforts on maximizing enrollment in the General Agricultural Orders including:

- Reviewing and approving applications from four Third-Party Groups.
- Sending notices of enrollment deadline to over 1,500 agricultural rate customers of the Rancho California Municipal Water District.
- Working with Third-Party Groups and local water districts to assist with notifying commercial agricultural operations of the enrollment deadline.
- Working with the State Water Board's GeoTracker staff to develop an electronic Notice of Intent. GeoTracker is being used to manage enrollment, and to direct future enforcement actions.
- Processing Notice of Intent and Water Quality Protection Plans submitted by enrollees in the General Agricultural Orders.

V. Grazing

Lahontan Regional Water Quality Control Board (Lahontan Water Board)

The Lahontan Water Board identified grazing as a priority for 2017.¹⁶ The majority of grazed acreage in the north is located on US Forest Service (USFS) allotments in the Sierra Nevada and Cascade mountain ranges, with a lesser degree on BLM land and privately-owned land in valley plains. While the predominantly BLM-managed grazing lands in the south may cover large acreages, livestock tend to gather in the limited acreage of riparian zones of desert springs, seeps, and streams, reducing beneficial uses and

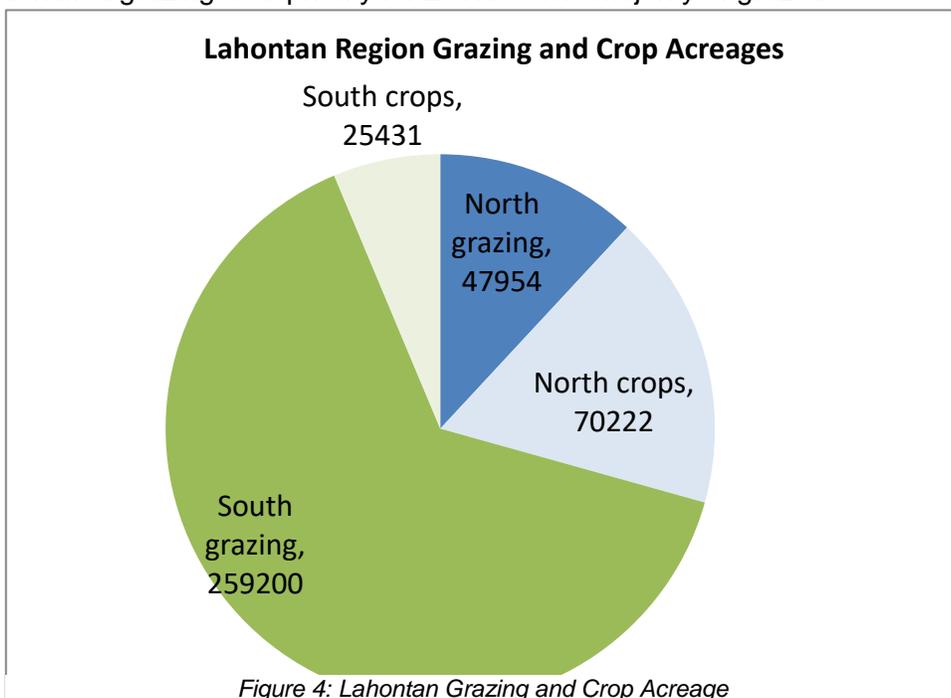


Figure 4: Lahontan Grazing and Crop Acreage

regulated agricultural operations are required to adopt management practices to reduce or eliminate polluted runoff, and to participate in a monitoring and assessment program to evaluate the impacts of agricultural activities to waters of the state.

¹⁶ Grazing lands comprise 76% of the 407,802 agricultural acres in the Lahontan Region. Because of precipitation differences, grazing lands in the north have high forage value and readily available water. Forage is sparse and water is scarce in low-rainfall grazed lands in the south, requiring much more

ecological function of these sensitive water sources. There are also privately-owned grazing lands in both the north and south. Crop acreages identified in figure 4 are on private lands.

In accordance with a directive contained in a September 2015 State Water Board Resolution, the Lahontan Regional Water Board staff have and will continue to work collaboratively with interested stakeholders to determine which actions are best suited to protect water quality and the beneficial uses of waters from livestock grazing related pollution. In the near term, staff efforts have been focused on federal lands across the region and on Los Angeles Department of Water and Power (LADWP) lands in the southern portion of the region. Lahontan Water Board staff have engaged with the Bridgeport Ranchers Organization to develop a watershed wide approach to address this issue in the Bridgeport Valley. Staff have also coordinated across units internally to determine where to focus limited resources, and take actions necessary to protect water quality and beneficial uses consistent with state and federal laws. These actions may be regulatory, or based on non-regulatory efforts for BMP implementation, or a combination of the two approaches.

Federal Grazing Issues

Lahontan Water Board staff publicly announced the Federal NPS Permit, including distribution of the project Fact Sheet and a request for the public to complete a survey by the end of June 2017 regarding interest in the permit and the types of activities covered by the permit. About 80% of survey respondents were interested in range management activities and 30% of respondents indicated that they have previously commented on USFS or BLM range management projects. Staff expects the grazing stakeholder community to be active in development of the Federal NPS Permit. A recent lawsuit highlights the fact that public lands grazing is a contentious issue. In March 2017, two environmental organizations filed a lawsuit against the USFS over stream pollution and meadow degradation caused by grazing in the Stanislaus National Forest, which is in the Central Valley Region. The suit was filed by Sierra Forest Legacy and the Central Sierra Environmental Resource Center to correct repeated violations of water quality standards in streams affected by livestock grazing and to halt longstanding violations of the forest plan that have resulted in damage to sensitive meadows and riparian areas.

Los Angeles Department of Water and Power (LADWP) Grazing Leases

Lahontan Water Board staff have requested that LADWP present its plans for working with the community, ranchers, and other stakeholders in determining which management measures will protect water quality while allowing livestock grazing to continue.¹⁷ Grazing management

acreage to support livestock. Water quality, streambanks, and riparian areas can be heavily impacted by grazing.

¹⁷ The Los Angeles Department of Water and Power (LADWP) manages grazing leases for approximately 230,000 acres of non-irrigated lands and about 20,000 acres of irrigated pasture. Bishop Creek, Horton Creek, and Lower Pine Creek are encompassed by predominantly LADWP lands. Hundreds of water quality samples and genetic microbial source tracking studies in these surface waters confirm that ruminant livestock are the predominant source of high bacteria.

practices to be considered include, at a minimum, allowable utilization rates of forage, temporal restrictions of usage, supplement (e.g., protein blocks) placement locations, fencing installation or maintenance.

Bridgeport Valley

The Bridgeport Rancher's Organization (BRO) submitted water quality data for the 2016 grazing season to the Lahontan Water Board on December 30, 2016.¹⁸ Lahontan Water Board staff continues to facilitate Bridgeport Valley Stakeholder's meeting with BRO and other interested parties to develop plans for a watershed approach to improve water quality. Staff outlined future efforts in the Bridgeport Valley to the Lahontan Water Board during the July 2017 Water Board meeting in Bishop. At its July 2017 meeting, the Lahontan Water Board renewed the Bridgeport Valley grazing waiver in essentially the same form as the 2012 grazing waiver, while also directing staff to work on developing a revised grazing permit that will protect water quality on a watershed wide basis as opposed to the current ranch-by-ranch approach.

Surface Water Ambient Monitoring Program (SWAMP) Monitoring

Lahontan Water Board staff coordinates with SWAMP and TMDL program staff to assess the most critical areas for future grazing program focus. Permanent SWAMP monitoring sites include: Susan River (three sites), West Fork Carson River (three sites), East Fork Carson River (two sites), West Walker River (one site), East Walker River (one site), Mammoth Creek (three sites), Hilton Creek (one site), Truckee River (one site) and Squaw Creek (one site). SWAMP staff monitor most sites on a quarterly basis, and monitors a subset of sites on a monthly basis as part of the TMDL three-year monitoring effort. Sampling will continue at these sites on a quarterly basis while the monthly TMDL sampling will end in October 2017. Lahontan Water Board staff continues to monitor the above locations and other sites that are suspected of having grazing-related water quality impacts. Outreach efforts to the grazing community and other interested stakeholders continues to steer the collaborative approach to address this issue within the region as staff resources are available.

¹⁸ The BRO sampled intensively during the critical grazing months of July, August, and September of 2016 with 90% of the 14 sites sampled between two to four times per month to calculate statistically valid fecal coliform concentrations. The 2016 values are for low-flow conditions following several years of drought, representing a worst-case scenario because of limited dilution. During the summer months, three sites had no exceedances greater than 200 fecal coliform/100 mL (cfu). Virginia Creek had one exceedance out of seven samples (14%); Summers Creek had one exceedance out of five samples (20%). The remaining sites, those sites with the most frequent and largest exceedances, ranging from 57% to 100%, were Swauger Creek, the East Walker River, Buckeye Creek, and Robinson Creek at or near the bottom of the Bridgeport Valley.

VI. Dairies and Confined Animal Facilities

North Coast Dairy Implementation Program

In early 2017, the North Coast Water Board began the stakeholder process for revising the dairy General Waste Discharge Requirements (2012). The revised permit may consider the addition of riparian management protection; other dairy animals such as water buffalo, goats, and sheep dairies; and new/expanding dairies. The CEQA draft is expected to be distributed for review in late 2017/early 2018, with consideration for board adoption in mid-2018.

Ongoing dairy work in the North Coast Region includes regulating 122 cow dairies under the following permits: 2012 General Waiver (renewed in 2016), 2012 General Waste Discharge Requirements, one dairy individual Waiver (2015), and one dairy individual Waste Discharge Requirements (2016). Each fall, the California Dairy Quality Assurance Program holds workshops in Humboldt and Sonoma Counties to bring the latest news to dairy producers and to help them fill out the Annual Reports due to the North Coast Water Board November 30 of each year. The Farm Bureaus, Resource Conservation Districts, UC Cooperative Extension, and the Natural Resource Conservation Service, have all helped the dairies to fund many Comprehensive Nutrient Management Plans, water quality improvement projects, and performed group surface water and groundwater sampling that helps dairies meet the order requirements.

San Francisco Bay Water Board Permitting of Confined Animal Facilities

San Francisco Water Board staff continued to oversee implementation of the Confined Animal WDRs and waiver of WDRs for existing dairies. In fiscal year 2016-2017, this included oversight of 40+ cow dairies and enrollment of several horse boarding facilities.

Central Valley Water Board

During fiscal year 2016-2017, the Central Valley Water Board's Confined Animal Facility Program¹⁹ received Board approval and adoption of two new confined animal facility general waste discharge requirements. On September 23, 2016, the Central Valley Water Board circulated tentative general waste discharge requirements for discharges from poultry operations. The deadline for comments from the public and stakeholders was October 24, 2016 for consideration in the final order. On December 6, 2016, the Central Valley Water Board

¹⁹ The Central Valley Water Board's Confined Animal Facility Program regulates dairies through the Dairy General Order and the Onsite Dairy Digester General Order (General Orders), and individual orders. Each order contains a prohibition against the discharge of any dairy waste from a production area to surface water and requires monitoring of discharges from cropland under specific conditions to protect surface water and groundwater quality. The General Orders also require monitoring of groundwater either by individual dairies or cooperatively through the Dairy Representative Groundwater Monitoring Program. Dairies compose the majority of confined animal facilities in the Central Valley Region, though the Region also contains a significant number of bovine feedlots to raise beef cattle, heifer and calf facilities to support the dairy industry, and poultry facilities.

adopted Waste Discharge Requirements General Order for Poultry Operations, Order No. R5-2016-0087 (Poultry General Order).²⁰

On February 10, 2017, the Central Valley Water Board circulated tentative waste discharge requirements for discharges from confined bovine feeding operations. Public comments were taken into consideration during the development of the final order. On June 8, 2017, the Central Valley Water Board adopted Waste Discharge Requirements General Order for Confined Bovine Feeding Operations, Order No. R5-2017-0058 (Bovine General Order).²¹

Lahontan Water Board

Lahontan Water Board staff continued work on its confined animal facility general order in fiscal year 2016/217.²² Staff held a second technical advisory committee meeting on June 22, 2016, at which a subgroup of six people volunteered to provide recommendations for nutrient balance and performance monitoring. Water Board staff are developing a draft monitoring and reporting program (MRP) and will meet with the subgroup to evaluate it before inviting the entire TAC group for another meeting to present the developed MRP. Staff expect to circulate a draft general order in 2017.

VII. Healthy Watersheds

Central Coast Salinas River 2016-2025 Stream Maintenance Program

Central Coast Water Board Staff issued the Water Quality Certification for the project on August 31, 2016 in time for project activities to begin on September 1. This project is the most comprehensive riparian management program ever conducted in the Central Coast region. The project, as conditioned in the certification, adequately achieves both the project's flood risk reduction objective and the protection and minimization of impacts to beneficial uses and water quality as required by the Central Coast Water Board. In addition, the project achieves these

²⁰ The Central Valley Water Board Poultry General Order applies to poultry operations if they have 2,000 pounds or more of poultry at any given time. The Poultry General Order does not apply to facilities that operate only seasonally, or small backyard operations raising, or keeping poultry for domestic use.

²¹ The Central Valley Water Board Bovine General Order applies to commercial bovine operations including beef feedlots, auction markets, heifer-raising operations, and calf ranches.

²² Lahontan Water Board staff began work late 2015 to develop a general order covering about ten large Confined Animal Facilities (CAF) to address source reduction and require improved site management to prevent groundwater pollution. A stakeholder listening session was held on November 19, 2015 to introduce the CAF General Order concept. The stakeholders asked for creation of a Technical Advisory Committee (TAC) to answer technical questions and guide order development. The first CAF TAC meeting was on May 6, 2016 and included participation from the U.S. Department of Agriculture, Natural Resources Conservation Service, the Western United Dairymen, the Mojave Desert Resources Conservation, University of California Davis, and U.S. Department of Agriculture Cooperative Extension Farm Advisor. No CAF operators were present.

ends through a collaborative and science-based process. Staff anticipates that the project will result in an overall improvement in riparian habitat function in the Salinas River.

The following are some key elements of the project:

- Objectives is to increase flow capacity of the Salinas River to reduce flood risk to surrounding lands through targeted vegetation and sediment management activities performed annually over a ten-year period within the Salinas River and several tributaries, between the Highway 1 bridge (river mile 2.0) and river mile 94 (south of San Ardo).
- Total vegetated area along the 92 miles of River reach is 12,400 acres. Potential area of disturbance for flood control purposes is limited to about 864 acres. This is a significant improvement over previous flood control management efforts, which removed up to 2,349 acres of vegetation (without controls or mitigation).
- The project design uses a system-wide and science-based approach that provides flood reduction benefits while ensuring environmental protection. This design approach is a significant improvement for water quality and beneficial use protection compared to previous flood control efforts. The project design optimizes impact avoidance and provides compensatory mitigation. Developed in partnership between Monterey County Water Resources Agency, The Nature Conservancy, the Resource Conservation District, regulatory agencies, growers, and other stakeholders, the design mimics the historic braided channel form of the Salinas River.
- Unlike previous flood control efforts, this project limits vegetation removal and mitigates vegetation removal by planting replacement vegetation of equal or better value or by removing *Arundo*; *Arundo* is a non-native invasive species that overwhelms riparian areas, reducing habitat function and diversity. *Arundo* also takes up of vast amounts of water.
- The project has the potential to result in a water savings of approximately 7,320 acre-feet per year, even if all *Arundo* removal areas are allowed to regrow with native riparian species.
- The project includes comprehensive monitoring and reporting to evaluate performance, protection of beneficial uses, and long-term impacts and benefits, and to help with adaptive management.
- Project development has included extensive public outreach and stakeholder input.
- The project is on schedule for approval by the Executive Officer and will be implemented in time for the coming rainy season.

Staff will reassess the project's implementation and effectiveness after five years and consider modifications to the certification. The project is the latest in a series of programs and proposals for channel maintenance in the Salinas River.

Lahontan Water Board Climate Change Mitigation and Adaptation Strategy²³

In July 2016, Lahontan Water Board staff developed a web-based survey to determine what people, agencies, and organizations are doing to plan for climate change, challenges or obstacles they face, and their level of support for actions the Water Board may consider for adapting to climate change. Staff distributed the survey to its Climate Change Adaptation Email Subscription Lists and other interested persons. Staff also posted the survey on the Climate Change page of the Lahontan Water Board's website. From August to October 2016, staff attended outreach meetings to solicit input. Staff will use the information received from the survey to inform the Lahontan Water Board's climate change adaptation strategy.

As part of its regular Board meeting in November 2016, staff discussed the online Climate Change Survey, prioritizing potential climate change-related actions, and next steps in developing a climate change adaptation strategy. As part of the regular Board meeting in May 2017, staff prepared and presented a report that included findings from the Climate Change Survey, summarized 2015-2016 Water Board workshops to solicit stakeholder input, and discussed climate change actions required by existing laws, policies, or Water Board actions underway. The staff report will guide development of the strategy and future public workshops.

Staff consolidated over 400 ideas regarding climate change to approximately 25 potential adaptation concepts/actions. Based on stakeholder input and Water Board direction, Lahontan Water Board staff will soon begin drafting the strategy, which will identify the specific actions the Lahontan Water Board will take in response to changing environmental conditions. The strategy will also identify which external partners and interested stakeholders have expressed interest in assisting the Water Board in identifying and developing proposals for adaptation. Currently, public workshops to receive more focused stakeholder input to consider in guiding the development of the strategy are scheduled for September and October 2017.

Mendocino County Permit Coordination Program

North Coast Water Board staff continues to work closely with the Mendocino County Resource Conservation District (MCRCD) through the implementation of the Mendocino County Permit Coordination Program (MCPCP). The program is a streamlined permit process for landowners who want to conduct conservation and restoration projects on their property. Such projects can easily acquire regulatory and California Environmental Quality Act (CEQA) coverage under the North Coast Water Board's Waiver of Waste Discharge Requirements and General Water Quality Certification. In fiscal year 2016-2017, North Coast Water Board worked with the MCRCD on a variety of project types, including: (1) ongoing treatment of *Arundo donax*, also

²³ The Lahontan Regional Water Board has a role to play in California's extensive and comprehensive response to climate change. Understanding that role is critical in developing the Lahontan Water Board's Climate Change Mitigation and Adaptation Strategy (Strategy). As part of its developing Strategy, the Board has expressly stated its strong desire to reach out and work collaboratively with others in recognition that there are other local, state, and federal agencies and non-government organizations that are also working on adapting to climate change.

known as Elephant Grass or Giant Reed, in the Upper Russian River watershed, (2) stream habitat restoration and barrier removal on Denmark Creek, a tributary to the Navarro River, and (3) introduction of large wood material to improve fish habitat on the Upper Rancheria Creek, also a tributary to the Navarro River.

Delta Regional Monitoring Plan

Establishing a control program for pyrethroid discharges to the Delta was prioritized in the Delta Stewardship Council's Delta Plan (2013) and the Central Valley Regional Water Quality Control Board's Delta Strategic Workplan (CRWCBCVR 2014), and included in the Bay-Delta Initiative in the California Nonpoint Source Implementation Plan.²⁴ A pyrethroids control program for the Central Valley has been in development for five years and has been the subject of several stakeholder meetings and Board workshops during the last two years. On June 8, 2017, the Central Valley Water Board adopted an amendment to the Water Quality Control Plan for the Sacramento and San Joaquin River Basins that establishes a pyrethroids control program for the Sacramento and San Joaquin River Basins, including the Delta.²⁵

The control program includes actions for the Central Valley Water Board to report on progress, and to coordinate with State and Federal agencies that regulate pesticide use such as the California Department of Pesticide Regulation and USEPA's Office of Pesticide Programs. The control program still needs State Water Board, Office of Administrative Law and finally U.S. Environmental Protection Agency approval before it becomes fully effective. For more information see:

http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.shtml

²⁴ Pyrethroids are a common pesticide in both urban and agricultural areas. Pyrethroid use has increased with the decrease in organophosphate pesticides diazinon and chlorpyrifos. Concentrations of pyrethroids toxic to aquatic organisms have been found in surface water and sediment in urban and agricultural tributaries to the Sacramento-San Joaquin Delta. Because of their presence and potential toxic effects, both directly and through food-web impacts, pyrethroids have been identified as potentially playing a significant role in the decline of important fish species in the Delta.

²⁵ The control program includes requirements for nonpoint source dischargers of pyrethroids, as well as stormwater and wastewater dischargers. The control program is based on a conditional prohibition of discharge above concentration goals. Agricultural nonpoint source dischargers of pyrethroids will be required to implement practices to reduce concentrations below concentration triggers, and to monitor and report to the Central Valley Water Board on progress. These activities will be implemented through the Board's Irrigated Lands Regulatory Program, which has already been taking action to reduce pyrethroid discharges. These efforts will address five existing agricultural pyrethroid 303(d) listings and are also expected to address and/or prevent potential future pyrethroid listings due to waste discharges.

Mitigating New River Pollution from International Boundary²⁶

During fiscal year 2016/17, Colorado River Water Board staff participated in several interagency meetings²⁷ to discuss implementation of the New River Improvement Project (NRIP). NRIP includes a trash screen component for the City of Calexico area. Colorado River Water Board staff prepared and submitted to State Water Board a revised scope of work to contract out professional services for the design and environmental documentation for the Phase 1 the NRIP for Calexico.

The Colorado River Water Board is a member of the Binational Technical Committee (BTC) for the New River/Mexicali Sanitation Program.²⁸ The BTC meets and conducts tours of the New River every three months. The Colorado River Water Board staff: a) reports on each of the BTC tours and inspections, b) reviews International Boundary Water Commission (IBWC) bimonthly monitoring data (24 sampling events per year) and use data on Water Quality Report Cards and other reports, c) monitors monthly water quality at the border including constituents not analyzed by IBWC monitoring.



Figure 5: New River International Border

²⁶ Priority water quality issues in the Colorado River region include management of organic matter, pathogen, and trash contamination of the New River. Wastewater treatment facilities in Mexicali, Baja California, Mexico constructed over the past decade and funded by the United States Environmental Protection Agency and Mexico have removed much of the raw sewage from the New River, which flows across the international border into the Imperial Valley. Water quality at the international border has significantly improved in the past few years as a result.

²⁷ Participants include Governor's Office, Cal EPA's Executive Team, Natural Resources Agency, State Transportation Agency, Assemblyman Eduardo Garcia's office (D-Coachella), Senator Ben Hueso's office (D-Chula Vista), State Board member Mr. Joaquin Esquivel, Regional Board Chair Nancy Wright, US Customs and Border Protection, International Boundary Water Commission (IBWC), Imperial Irrigation District, Imperial County, and City of Calexico.

²⁸ The BTC identifies pollution problems, oversees development and implementation of the binational sanitation projects agreed upon by Mexico and the US, and makes project and policy recommendations to address overall New River pollution from Mexico. The Colorado River Water Board uses its BTC membership to advocate that Mexico implement the New River Improvement Project Strategic Plan's recommendations. A copy of the Strategic Plan can be found at: <http://www.calepa.ca.gov/border/CMBRC/2011/StrategicPlan.pdf>.

VIII. Regional Salinity Management Plans

Central Valley Salinity Alternatives for Long-Term Sustainability²⁹

The final salt and nutrient management plan (SNMP) was formally submitted to the Central Valley Water Board on January 12, 2017. The final SNMP contains policies, strategies, and guidance recommendations for Board consideration as follows:

- Nitrate Permitting Strategy,
- Salinity Management Strategy,
- Groundwater Management Zone Policy,
- Revisions to the Exceptions Policy for Waste Discharges to Groundwater,
- Salinity Variance Program Policy,
- Offsets Policy,
- Drought and Water Conservation Policy,
- Guidance to Implement Secondary Maximum Contaminant Levels,
- Guidance for Developing Alternative Compliance Projects for Nitrate Discharges, and
- Factors to Support a Maximum Benefit Finding.

On March 9, 2017, a public hearing was held during which the Central Valley Water Board acknowledged receipt of the final SNMP and directed staff to initiate basin plan amendments as appropriate to implement the recommendations (Resolution No. R5-2017-0031). Staff is working internally with Program Managers and externally with CV-SALTS stakeholders to draft initial basin plan amendments and identify any additional environmental, economic and/or anti-degradation documentation needed for the recommended policies, strategies, and guidance. Initial drafts of the proposed amendments are anticipated to be available for release during the fall with a public workshop tentatively scheduled for December 2017.

Under the CV-SALTS initiative, Central Valley Water Board staff developed separate basin plan amendments to serve as case studies for the over-arching recommendations. On April 6, 2017, Central Valley Water Board adopted Resolution No. R5-2017-0032, Amendment to the Water Quality Control Plan for the Tulare Lake Basin to Remove the Municipal and Domestic Supply (MUN) and Agricultural Supply (AGR) Beneficial Uses from Groundwater within a Designated Horizontal and Vertical Portion of the Tulare Lake Bed. This case study to evaluate the appropriate designations and level of protection for waterbodies currently designated as having MUN and AGR beneficial uses, helps identify areas that may serve as salt management zones

²⁹ The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a strategic initiative to address salinity and nitrates in surface water and groundwater in a manner that ensures environmental and economic sustainability. CV-SALTS stakeholders include representatives from a diverse group including agriculture, cities, environmental justice and disadvantaged communities, industry, and state and federal agencies including the Water Board. The stakeholders collaboratively developed a comprehensive Salt and Nitrate Management Plan (SNMP) for the Central Valley.

to consolidate highly saline discharges and prevent degradation of sensitive areas. Findings from the study were utilized in developing the SNMP.

Central Valley Water Board staff and the Lower San Joaquin River (LSJR) Committee (a subcommittee of the CV-SALTS initiative) developed recommended salinity water quality objectives protective of beneficial uses from the mouth of the Merced River to the Airport Way Bridge near Vernalis. Recommendations were drafted into a proposed basin plan amendment to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and included adjustments to account for extended dry periods as well as performance goals to encourage achievement of better water quality during normal to wet water years. Documents were released for public review and comment earlier this year with a public hearing in April. On June 9, 2017, the proposed basin plan amendment was adopted by the Central Valley Water Board through Resolution R5-2017-0062, Amendment to the Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin to Add Electrical Conductivity Water Quality Objectives in the San Joaquin River Between the Mouth of the Merced River and the Airport Way Bridge Near Vernalis.

Collaboratively, Central Valley Water Board staff and the CV-SALTS initiative developed a region-wide process for evaluating appropriate designation and level of protection of the MUN beneficial use in agriculturally (Ag) dominated surface water bodies. Currently, the MUN beneficial use applies to all surface and groundwater bodies in the region unless a water body is specifically listed in the Water Quality Control Plan for the Sacramento and San Joaquin River Basins or the Water Quality Control Plan for the Tulare Lake Basin as a water body that does not support the MUN beneficial use. There is concern that the blanket MUN designation via the Sources of Drinking Water Policy and the associated water quality objectives may be overly restrictive in Ag dominated water bodies and impact efforts to conserve and recycle water throughout the region. A proposed draft basin plan amendment that includes a process to de-designate MUN where it is not existing nor has the potential to exist, refines MUN to a "limited MUN" use where inherent characteristics prevent unrestricted use as a municipal or domestic supply (e.g. intermittent flows and/or natural background constituent concentrations) and protects downstream water quality, was circulated from January 23, 2017 to March 24, 2017, for public comments. Additional comments were collected on February 23, 2017 at a Central Valley Water Board hearing. Comments are being taken into consideration and non-substantive revisions are being made to the proposed basin plan amendment. During the August 10 and 11, 2017 Board meeting, Central Valley Water Board will consider adopting the proposed basin plan amendment.

Lahontan's Salt Nutrient Management Plan

Lahontan's Salt Nutrient Management Plan efforts focus on ten groundwater basins determined to be priority basins by information from the State's Groundwater Ambient Monitoring and Assessment (GAMA) Program. The ten priority basins are listed below, along with a brief statement on the status of SNMP development for each basin. (Note: These are ten priority basins of the more than 345 groundwater basins and sub-basins named in the Region.)

- Honey Lake Valley - draft plan completed in December 2015; staff review underway
- Tahoe Valley – preliminary draft plan (technical memo) completed in December 2015; staff review underway
- Martis Valley – no significant SNMP actions yet initiated
- Owens Valley - no significant SNMP actions yet initiated
- Indian Wells Valley – plan development underway with draft SNMP expected by the end of 2017, A status report on the SNMP was included as part of the January 2017 regular Water Board meeting.
- Tehachapi Valley East – draft plan completed in February 2010; staff review underway
- Antelope Valley – final SNMP accepted by the Regional Board in November 2014
- Mojave (Upper Mojave River Valley, Middle Mojave River Valley, Lower Mojave River Valley) - final SNMP for these three basins accepted by the Regional Board in February 2016

Thus, SNMP efforts are underway or completed in eight of the ten priority basins, addressing 78% of the Lahontan Region's priority basin acreage. SNMP development is underway for other basins in the Lahontan Region. At its January 2017 regular meeting, the Lahontan Water Board accepted the final SNMP prepared by the Fort Irwin National Training Center, U.S. Army for the Langford Valley Basin, Irwin Subbasin of the Langford Valley Basin and the Bicycle Valley Basin.

IX. Onsite Wastewater Treatment Systems

Lahontan Water Board

Lahontan Water Board is the lead for approving five county and four city Local Agency Management Plans (LAMPS). Other Regional Water Boards are the leads for approving seven county LAMPS that are partially in the Lahontan Region. During regular Board meetings of September 2016, April 2017 and May 2017, Lahontan Water Board staff briefed the Board on draft LAMPS under review and issues such as OWTS density, water quality assessment, supplemental treatment systems and local agency funding. The first LAMP to be considered for adoption by the Board is scheduled for July 2017.

Colorado River Water Board

In the Colorado River Water Board, local agencies will continue implementing their existing OWTS permitting programs in compliance with the Basin Plan until May 13, 2018, or until approval of their LAMPS by the Regional Water Boards. Colorado River Water Board adopted a resolution approving the Imperial County LAMP on June 30, 2016. The Alamo River and the Palo Verde Lagoon are listed on Attachment 2 of the OWTS Policy for pathogen impairment. To address this concern, the Imperial County Department of Environmental Health (ICDEH) has included an Advanced Protection Management Program as special provisions within the LAMP. The LAMP requires supplemental treatment for any new or replacement OWTS within 200 feet of the Alamo River. The ICDEH is also leading an effort to provide a centralized wastewater

system within Palo Verde servicing all existing OWTS within the lagoon and outfall drain area. Colorado River Water Board staff continues to work with Riverside and San Bernardino County Health Departments to collaborate on the development of their LAMPs.

Staff from the Colorado River, Santa Ana, and San Diego Water Boards met with representatives of Riverside County Department of Environmental Health (RCDEH) to discuss implementation of the County's LAMP. The Colorado River Water Board adopted the Riverside County LAMP on November 17, 2016. The coordination group continues to provide outreach to the 27 incorporated cities in the County. The goal of the outreach is for the incorporated cities to enter into formalized contractual agreements with the RCDEH that allow the RCDEH to provide technical services to the cities for regulation, installation, and management of OWTS under the County's LAMP. The contractual agreements can identify the specific responsibilities of the cities and the RCDEH under the LAMP. RCDEH currently provides technical services to many of the cities in the county, though Banning and Desert Hot Springs are not using these services. The RCDEH will continue to provide these services to the cities without a contractual agreement until May 13, 2018.

X. Coastal

Contaminated Sediment Remediation Program in the Los Angeles Region

Several waterbodies in the Los Angeles Region are impaired due to pesticides and other toxic pollutants in sediments, including McGrath Lake, Machado Lake, and Marina Del Rey Harbor.³⁰ The contaminated sediment remediation program focuses on implementation of the TMDLs for these contaminated waterbodies. The TMDLs assign load allocations to the sediments and allow for implementation through a voluntary memorandum of agreement (MOA). The TMDLs specify that the MOA and subsequent remediation activities must comply with the NPS Implementation Policy, including specifically the five key elements.³¹ During fiscal year 2016/17, Los Angeles Water Board staff and the County of Los Angeles executed an MOA to develop a work plan for contaminated sediment remediation in Marina del Rey Harbor.

³⁰ Contaminated sediments are the result of historically deposited sediments containing toxic pollutants - often banned pesticides that are no longer in use. The concentrations of toxic pollutants in the bed sediment is often so high that the sediments themselves become a source of pollutants to the overlying water column through sediment resuspension, bioturbation, and desorption. In some cases, the TMDLs for these waterbodies have assigned load allocations to the contaminated bed sediment.

³¹ Cooperating parties identified in the TMDLs must develop workplans detailing how they will remediate the sediments using implementation measures such as dredging, capping, riparian restoration, and monitored natural attenuation. The strategy is for the Los Angeles Water Board to enter into MOAs with cooperating entities, oversee the development of workplans, and ensure that those workplans are implemented. The Machado Lake final compliance deadline is September 30, 2019 and the McGrath Lake final compliance deadline is June 30, 2025. The Marina Del Rey Harbor TMDL final compliance deadline is 2029.

Trash Program in the Los Angeles Region

The Los Angeles Water Board has developed and is implementing a Trash Waiver program to address nonpoint sources of trash pollution in the region.³² The Trash Waiver program applies to waterbodies subject to seven Trash TMDLs in the Los Angeles Region.³³ During fiscal year 2016-2017, Los



Figure 6: Revolon Slough, subject to the Revolon Slough/Beardsley Wash Trash TMDL

Angeles Water Board staff created a GIS database of land uses for the seven Trash TMDLs, reviewed the TMDLs' requirements, compared the TMDLs' requirements with the Statewide Trash Amendments, held a public workshop to discuss possible TMDL revisions, and began working on TMDL revisions and Trash Waiver renewals.

Copper TMDLs in Newport Bay (Santa Ana Water Board)³⁴

In fiscal year 2016/17, Santa Ana Water Board staff and Orange County Coastkeeper (Coastkeeper), a local environmental organization, worked cooperatively to obtain a nonpoint

³² Windblown trash, littering and other direct disposal are examples of nonpoint sources of trash pollution. Trash in waterways causes significant water quality problems and impairs aquatic life, wildlife, recreational, and aesthetic beneficial uses.

³³ The Trash Waiver program includes: (1) an assessment of trash on the surface or shoreline of the waterbody of concern, (2) collection of all visible trash that accumulates on the surface or shoreline of the waterbody, and (3) implementation of best management practices to attain a progressive reduction of the amount of trash collected at each collection event. The Los Angeles Water Board needs to renew the Trash Waiver because, under California law, waivers have a five-year term. In addition, the Los Angeles Regional Board needs to re-examine its Trash TMDLs for consistency with the Statewide Trash Amendments.

³⁴ Newport Bay, located in the Santa Ana Regional Water Quality Board (Santa Ana Water Board) area, is the homeport of more than 5,000 recreational vessels, with Newport Harbor being among the largest yacht harbors in the United States. Copper antifouling paints (AFPs)/coatings are used on the hulls of moored and docked boats in the Bay to slow the growth of boat fouling that includes biofilm, algae and aquatic organisms that attach to boat hulls and can cause serious damage. Copper AFPs are the most

source grant to promote voluntary conversion of boats from copper to nontoxic hull paints in a target marina in the Bay. The grant included an incentive program to encourage boaters to convert from copper to nontoxic AFPs, and an education program for boaters for which we partnered with the City of Newport Beach (City). The grant provided incentives to boat owners using copper AFPs that were willing to convert to nontoxic paints. The incentive program was under-utilized because the original boatyard in the study was steering boat owners away from the use of nontoxic paints; but later a second boatyard was encouraging boaters to use nontoxic paints. The education program was successful in educating boaters about Cu impairment in Newport Bay, the role of copper AFPs on boat hulls in contributing Cu to the Bay, and the benefits of the use of nontoxic and their availability. In addition, the City passed a resolution encouraging boaters to use nontoxic paints over copper AFPs.

A hearing to adopt copper TMDLs was scheduled for the October 28, 2016 Board meeting; however, due to the large volume of comments this hearing was changed to a workshop where Board staff presented their findings and stakeholders presented comments on the draft copper TMDLs and Metals Action Plans. Santa Ana Water Board staff have been working on responses to comments, including a number of legal issues that were raised in the comments and at the Board meeting. All copper loading calculations were



Figure 7: Fouling

also explained in the responses. These copper TMDLs continue to be highly controversial. Based on stakeholder comments, Santa Ana Water Board staff are revising the Implementation Plan/Schedule for the copper TMDLs, and anticipate meeting with the City and County in the fall of 2017 to discuss the proposed revised Implementation Plan/Schedule. Santa Ana Water Board staff further anticipate going back to the Santa Ana Water Board for adoption of the copper TMDLs (and Metals Action Plans) in early 2018.

commonly used AFPs although zinc and other biocides are also used. Copper TMDLs have already been promulgated by USEPA in 2002, and Cu AFPs were identified as the largest source of Cu to the Bay.

Santa Ana Water Board staff also participate in the Statewide Marina Interagency Coordinating Committee and Copper (Antifouling) Workgroup, which is comprised of the State and Regional Boards, other State and local agencies, paint manufacturers, boat owners and others provides guidance to similar issues confronting other Regional Boards.

Addressing Selenium in Freshwater in Newport Bay (Santa Ana Water Board)

Santa Ana Water Board staff completed draft TMDLs for Selenium in Freshwater for the Newport Bay watershed during fiscal year 2016-2017.³⁵ Peer review comments were received on May 1 and May 10, 2017, and the public comment period closed on May 1, 2017. Santa Ana Water Board staff prepared responses to comments and revised the staff report, Basin Plan Amendment, and Supplemental Environmental Document as appropriate. A public hearing to consider adoption of the proposed TMDLs was scheduled for June 16, 2017, but had to be postponed to allow additional time for staff to address several legal issues raised by the stakeholders. Santa Ana Water Board staff anticipate taking the TMDLs to the Santa Ana Water Board for consideration for adoption at the public hearing scheduled for August 4, 2017.

The TSO BMP Strategic Plan approved by the Santa Ana Water Board's Executive Officer during fiscal year 2015 continues to be implemented by stakeholders. The BMP Strategic Plan relies upon a phased implementation approach to demonstrate protection of beneficial uses in the Santa Ana-Delhi Channel and San Diego Creek Sub-Watersheds. Early implementation measures continue to be monitored to evaluate selenium reductions in groundwater inflows and seepage, the primary source of elevated selenium concentrations in surface waters.

Operation of the Peters Canyon Channel Water Capture and Reuse Pipeline Diversion project began on March 1, 2017 (figure 8). The project is diverting a portion of the high nonpoint source selenium surface water and groundwater flows, as well as two major point source discharges of selenium (transportation-related groundwater dewatering) to the Orange County Sanitation



Figure 8: Peters Canyon Channel Water Capture and Reuse Diversion Project

³⁵ These TMDLs are anticipated to supersede TMDLs promulgated by the US Environmental Protection Agency in 2002.

District (OCSD) sanitary sewer. Flows are treated to remove selenium and then sent to the Orange County Water District's Groundwater Replenishment System. To date, the project has removed approximately 29.26 lbs of selenium.

The proposed Santa Ana Delhi Diversion project will divert dry weather flows of up to 3 cubic feet per second from the Santa Ana Delhi Channel to the sanitary sewer. The 401/404 permits were approved and the Notice to Proceed with construction was issued on March 27, 2017. The project partners anticipate that construction will be completed by fall of 2018 and the diversion should be operational by the end of 2018. The diversion project includes a system to capture and divert trash for disposal; it is also expected to significantly reduce bacteria, selenium, and other pollutants that enter Upper Newport Bay from the Santa Ana Delhi Channel.

The City of Newport Beach has begun restoration of a 6-acre portion of the Big Canyon Nature Park. While the City's installation of a dry weather flow diversion project upstream of the nature park (at the east end of the Big Canyon Country Club golf course) has cut total selenium concentrations in the creek nearly in half, additional high selenium groundwater seeps and springs were found in the area of Big Canyon around the Jamboree Road crossing at the east end of the nature park extending east up into the west end of the golf course. The restoration project includes several water quality components: capture and diversion to the sanitary sewer of the high selenium seeps; installation of a stormwater bioretention subsurface wetland; and stabilization and restoration of 1,500 feet of coastal canyon creek and 3-acres of riparian habitat (which includes Least Bell's Vireo habitat) that have been impacted by hydromodification, and invasive plant species (<http://www.newportbeachca.gov/trending/projects-issues/other-important-issues/big-canyon-creek-restoration>). Construction of the diversion to capture and remove the high selenium seeps was completed in the spring of 2017 (figure 9). The project has been

successful and preliminary data are showing a substantial decrease in selenium downstream of the diversion.

The Newport Bay Conservancy, in partnership with the City of Newport Beach and California Department of Fish and



Figure 9: Big Canyon Nature Park Restoration Project's Selenium Diversion Project and Creek Bypass Construction

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Wildlife, has received a Proposition 1 grant through the California Coastal Conservancy to begin restoration of the remaining 60 acres of the Big Canyon Nature Park. The restoration project includes a Feasibility Study that will assess different approaches to restoring or removing the freshwater pond in the lower portion of Big Canyon. The pond is located in the Upper Newport Bay Ecological Reserve and is the largest mosquito breeding habitat area found in Orange County. The pond also contains selenium-contaminated water, sediment, aquatic vegetation, macroinvertebrates and fish. Selenium concentrations in pond sediments and fish tissue are the highest measured in the freshwater tributaries in the Newport Bay watershed.

<http://newportbay.org/projects/big-canyon-project/>.