Nonpoint Source Annual Report

State Fiscal Year 2013-2014

The annual report is the primary mechanism by which United States Environmental Protection Agency evaluates whether or not California has made satisfactory progress in implementing the approved milestones of its Nonpoint Source Control Program Plan.

July 1, 2013 – June 30, 2014

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About the State Water Board and Regional Water Boards

The State Water Resources Control Board (State Water Board) was created in 1967. The mission of the State Water Board is to ensure the state's water quality and to balance its beneficial uses. The State Water Board has comprehensive authority over allocation, planning, and enforcement that enable the State Water Board to protect California's water quality. The State Water Board and the nine Regional Water Quality Control Boards (Regional Water Board), collectively the Water Boards, have primary responsibility in California for the protection of water quality. This involves preventing and reducing water pollution in our rivers, streams, lakes, beaches, bays, and in our groundwater.

The State Water Board consists of five full-time salaried members, each filling a different specialty position. Each board member is appointed to a four-year term by the Governor and confirmed by the Senate.

There are nine Regional Water Boards. The mission of the Regional Water Boards is to develop and enforce water quality objectives and implement plans that protect the beneficial uses of the state's waters, recognizing local differences in climate, topography, geology, and hydrology. Each Regional Water Board has seven part-time members, also appointed by the Governor and confirmed by the Senate. Regional Water Boards develop "basin plans" for their hydrologic areas, issue waste discharge permits, take enforcement action against violators, and monitor water quality.

Introduction

The 1987 amendments to the Clean Water Act established the section 319 Nonpoint Source Management Program. Section 319 of the Clean Water Act addresses the need for greater federal leadership to help focus state and local nonpoint source efforts. Under Clean Water Act section 319, states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects. The annual reports convey accomplishments related to implementing the applicable Nonpoint Source Management Program plans. In addition, State Water Resources Control Board works with the California Coastal Commission to protect coastal waters from impacts of coastal development.

In 1990, Congress passed new sections of law to improve and expand the Coastal Zone Act. This additional legislation expanded the State and Regional Water Quality Control Boards' partnership for reducing polluted runoff to include the California Coastal Commission. This expansion strengthened the links between Federal and State coastal zone management and water quality programs. The additional legislation involved is called the Coastal Zone Act Reauthorization Amendments. The Coastal Zone Act Reauthorization Amendments requires California and other states to ensure that management practices which reduce or prevent polluted runoff are actually put into use or implemented.

The federal Clean Water Act provides states the opportunity to establish a Nonpoint source Program to help each state to reduce, to the maximum extent practicable, the level of pollution resulting from nonpoint sources. The Nonpoint Source Program is capitalized with federal and match funds. In California, the Nonpoint Source program historically provided funding for projects that will protect and promote the water quality of California’s water. Every project financed by Clean Water Act section 319(h) Nonpoint Source funds is directly related to controlling nonpoint sources and improving water quality.

The State Water Resources Control Board operates the California Nonpoint Source program on a cash flow basis. It continuously accepts, reviews, and approves Clean Water Act section 319 grant applications. The California Nonpoint Source Program funds a broad range of projects in different land uses – agriculture, urban areas, marinas and recreating boating, forestry, Hydromodification, wetlands, riparian areas and vegetated treatment systems, and grazing. The broad range of projects is due to the watershed preferences created by different Regional Water Quality Control Boards.

Water Boards work with various partners (e.g., Department of Regulation, Natural Resource Conservation Service, Department Fish and Wildlife, etc.) together towards water quality improvement goals. Interagency coordination is required to effectively implement the California Nonpoint Source Program, in part because the program goals are based upon the regulatory authorities of 28 state agencies. To this end, interagency coordination is needed to help set

statewide objectives for the most critical Nonpoint Source issues. The California's Nonpoint Source Program's efforts are focused on:

- Implementing the "Policy for the Implementation and Enforcement of the Nonpoint Source Control Program" (Nonpoint Source Implementation Policy);
- Concentrating on the nonpoint source pollution cleanup resources on Total Maximum Daily Load implementation priorities;
- Locating high priority watersheds, and problems defined by priority Total Maximum Daily Loads and other region-specific problems; and
- Acknowledging the balancing act required by programs to both clean up waters polluted by nonpoint sources, and preserve clean waters.

The State continues to focusing its annual reporting of nonpoint source pollution control efforts in several major areas that the "core agencies" (i.e., State Water Board, Regional Water Boards, and California Coastal Commission) have focused their efforts this past fiscal year. Some of these activities are specific to those aspects of the Nonpoint Source Program for which the "core agencies" are solely responsible, and others take a broader approach and utilize multi-agency collaboration to address nonpoint source pollution control.

This is the California Nonpoint Source Program's Annual Report for State Fiscal Year 2013-2014 (July 1, 2013 through June 30, 2014). This report describes how the State Water Resources Control Board, Regional Water Quality Control Boards, and California Coastal Commission met the objectives for the California Nonpoint Source program identified in the Plan for California's Nonpoint Source Pollution Control Program (1998 -2013) and the State of California Nonpoint Source Program Five-Year Implementation Plan (2008-2013). The report is organized into a format that describes the achievements during the fiscal year and what kind of challenges are ahead for the next fiscal year.

State Water Resources Control Board

California Nonpoint Source Management Program Highlights

- State Water Resources Control Board (State Water Board) approved 19 projects for the 2014 Clean Water Act section 319 grant solicitation.
- State Water Board wrote two success stories.
- State Water Board updated the Nonpoint Source Encyclopedia.
- State Water Board updated Grant Reporting and Tracking System.
- State Water Board completed the California Water Boards 2013 Accomplishment Report.
- Statewide water quality control plans are to be amended to address trash in water ways.
- State Water Board staff members are preparing amendments to the Ocean Plan to address impacts to marine life from desalination facilities and brine discharges.
- State Water Board's Nonpoint Source Program coordinated with State Water Board's Irrigated Lands Program
- Safe Drinking Water Program from the California Department of Public Health is now part of State Water Board

Summary of Nonpoint Source Program Implementation Activities

Clean Water Act section 319 project funding

Nonpoint Source staff members have completed the 2014 Implementation and Planning Assessment Grant solicitation. Thomas Howard, Executive Director of the State Water Board, approved the 19 projects and their respective ranking (Appendix B). The recommended list was developed by the Nonpoint Source Program staff members of the State Water Board, the nine Regional Water Quality Control Boards (Regional Water Boards), and the U.S. Environmental Protection Agency as part of the 2014 Clean Water Act 319(h) Request for Proposal Process. The total funding required for the recommended projects is $6,141,632. The projects are

consistent with the 2014 Clean Water Act section 319(h) Nonpoint Source Program Preferences contained in State Water Board Resolution No. 2013-0020 approved on July 23, 2013.

Success Stories

Two success stories were written for 2013-2014 state fiscal year – one for Napa River and one for Sonoma Creek (Appendix A.1 and A.2). A Nonpoint Source success story involves a delisted waterbody from the Clean Water Act section 303(d) list of impaired water bodies and Clean Water Act section 319(h) funding. As a result of best management practice implementation by various stakeholders (landowners, local watershed organizations and many federal, state and local government agencies), the non-tidal portion (36 miles) of the Napa River, and the non-tidal portion of Sonoma Creek (23 miles) were removed from the state's list of impaired waters for nutrients. California has invested at least $4,834,135 and $1,351,451 of Clean Water Act section 319(h) funds to support watershed coordination and agricultural best management practices on the Napa River and Sonoma Creek, respectively.

Nonpoint Source Encyclopedia

The Nonpoint Source Encyclopedia is a reference guide designed to facilitate a basic understanding of nonpoint source control and provide quick access to essential information from a variety of sources by providing direct hyperlinks to resources online. The last time the Nonpoint Source Encyclopedia was updated was in 2009, and some of the hyperlinks are outdated. Nonpoint Source staff member was able to update the hyperlinks for the management measures. Maintaining the Nonpoint Source Encyclopedia can help provide current information on the Nonpoint Source Program.

Grant Report and Tracking System

Nonpoint Source unit staff members continued to update the Grant Reporting and Tracking System. The Grant Reporting and Tracking System allow users at the national, regional, and state levels to enter and view information relevant to nonpoint source projects. To estimate how much pollutant load is reduced from the nonpoint source project, load reduction forms are sent out every October to the grantees. Nonpoint Source staff members sent out load reduction forms in October 2013.

2013-2014 Water Boards' accomplishment report

The State Water Board and Regional Water Boards (collectively Water Boards), released the Water Boards Accomplishments Report in March 2014. The Water Board accomplishment report discusses key accomplishments and priorities for next state fiscal year.

Amendments to the Statewide Water Quality Control Plan for Trash

Trash in and along California's inland, estuarine and marine waters are adversely affecting beneficial uses. The State Water Board directed staff members to address plastic debris and other trash as a high-priority issue in the 2011-2013 Triennial Review Work Plan for the California Ocean Plan. The proposed statewide amendment will be included in statewide water quality control plans, Ocean Plan and Inland Surface Waters and Enclosed Bays and Estuaries Plan, to address trash control in all of California's waterways. Trash will be identified as a separate pollutant, and practices to control trash pollution will be required as implementation measures. The draft plan document and staff report was released for public comment on June 10, 2014 (Figure 1).

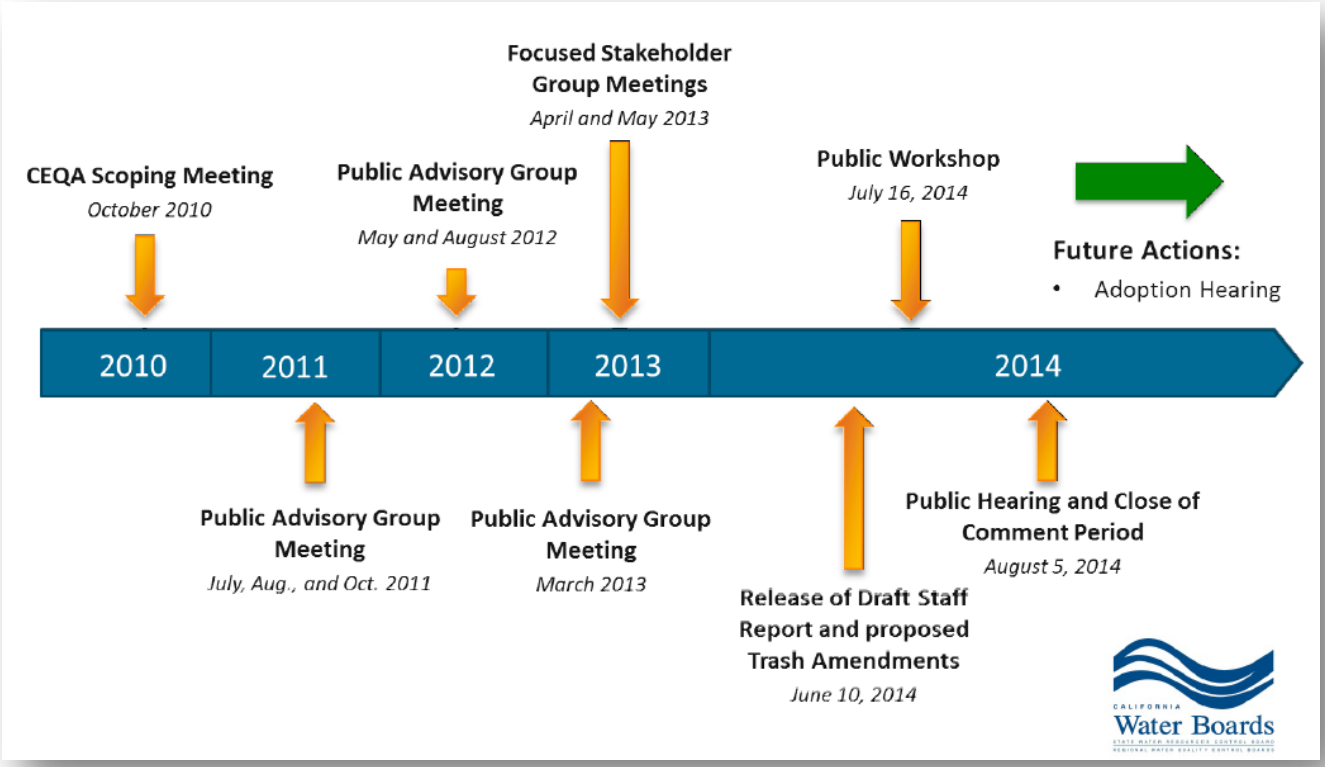

Figure 1. Proposed Trash Amendment Timeline

Amendments to Ocean Plan: Desalination and Brine Provisions

Many large desalination facilities have been proposed along the California coast in the near future to supplement increasingly scarce water supplies. Both the intakes and discharges from

these facilities could potentially cause harm to aquatic life, if not controlled. The State Water Board directed staff members to address potential impacts to aquatic life from the intakes and brine discharges associated with desalination facilities as a high-priority issue in the 2011-2013 Triennial Review Work Plan for the California Ocean Plan. State Water Board's Ocean unit staff members have initiated work on this project to provide amendments to the California Ocean Plan. State Water Boards staff members are preparing amendments to the Ocean Plan to address impacts to marine life from desalination facilities and brine discharges. State Water Board's Ocean unit staff members will release a draft staff report including the Substitute Environmental Documentation for public comment on July 3, 2014.

Irrigated Lands Regulatory Program

To prevent agricultural discharges from impairing the waters that receive these discharges, the Irrigated Lands Regulatory Program regulates discharges from irrigated agricultural lands. This is done by issuing waste discharge requirements or conditional waivers of waste discharge requirements (Orders) to growers. These Orders contain conditions requiring water quality monitoring of receiving waters and corrective actions when impairments are found. The number of acres of agricultural land enrolled in the Irrigated Lands Regulatory Program is about six million acres. The number of growers enrolled is approximately 40,000.

On May 8, 2014, Irrigated Lands Regulatory Program and Nonpoint Source Program staff members met with United States Department of Agriculture – Natural Resource Conservation Service to develop an agenda for a joint agency meeting between the State Water Board and United States Department of Agriculture – Natural Resource Conservation Service management. The meeting will be to identify each agencies role in a formal partnership to develop water quality improvement projects and to assist growers comply with Irrigated Lands Regulatory Program requirements

On June 2, 2014, Irrigated Lands Regulatory Program staff members participated in a Farm Food Safety Conservation Network steering committee meeting to discuss proposed revisions to the United Stated Department of Agriculture Food Safety Modernization Act.

Nitrate-SBX2 1 Expert Panel (Agricultural Expert Panel)

Regional Water Board staff members participated in the meetings of the State Water Board's Expert Panel the week of May 5, 2014 in San Luis Obispo, Tulare, and Sacramento. The State Water Board's report to the Legislature included a recommendation "... to convene a panel of experts to assess existing agricultural nitrate control programs and develop recommendations, as needed, to ensure that ongoing efforts are protective of groundwater supply quality." The State Water Board contracted with the Irrigation Training and Research Center at the California Polytechnic State University, San Luis Obispo, to assemble the expert panel. Information on the proceedings of the Expert Panel can be found at the Irrigation Training and Research Center website.

As identified in the public notice, "…the role of Expert Panel Members is as follows:

- Review the Water Boards' Irrigated Lands Regulatory Program.
- Evaluate ongoing agricultural control measures that address nitrate in groundwater and surface water.
- Evaluate and address other risks to water quality posed by agricultural practices.
- Address questions posed by the State Water Board in its order regarding the petitions of the Central Coast Water Board.
- Address questions developed by an Advisory Committee, other agencies and the public as approved by the State Water Board.
- Propose new agricultural control measures, if necessary.
- Hold meetings with the Advisory Committee as necessary.
- Conduct three public meetings to take public comment.
- Prepare a Final Report on the findings and a summary of project discoveries and recommendations."

The Agricultural Expert Panel is expected to prepare their final report at the September 23, 2014 State Water Board meeting. The Central Valley Water Board has indicated in the adoption of its Irrigated Lands Regulatory Program Orders that it will consider the recommendations of the Agricultural Expert Panel.

Safe Drinking Water Plan

With the transition of the Drinking Water Program from the California Department of Public Health on July 1, 2014, the State Water Board now has the primary enforcement authority (primacy) to enforce federal and state safe drinking-water acts, and is responsible for the regulatory oversight of about 8,000 public water systems throughout the state.

In 1993, the California Department of Health Services (now California Department of Public Health) submitted to the Legislature the report entitled, "Drinking Water into the 21st Century: Safe Drinking Water Plan for California" (1993 Plan). In 1996, the California Legislature enacted Senate Bill 1307 (Chapter 755, Statutes of 1996). Senate Bill 1307 amended Health and Safety (H&S) Code Section 116355 to require a periodic update of the original Plan. The issues that were to be addressed were essentially the same as those included in the 1993 Plan.

The Safe Drinking Water Plan for California includes the State Water Board's assessment of the overall quality of the state's drinking water, the identification of specific water quality problems, an analysis of the known and potential health risks that may be associated with drinking water contamination in California, and specific recommendations to improve drinking water quality.

Looking Back (Past Five Years)

The 2013-2014 reporting period coincides with the end of the timeframes addressed by the state's Management Plans; the state will include accomplishments achieved under the Plan for California's Nonpoint Source Pollution Control Program (1998-2013) and the State of California Nonpoint Source Program Five-Year Implementation Plan (2008-2013). There were many significant Nonpoint Source Program accomplishments achieved over the last five year timeframe. U.S. Environmental Protection Agency uses two types of reporting – Measure W and Clean Water Act section 319(h) success stories – to measure success. Over the last five years, from 2008 to 2013, eleven Measure W and four Clean Water Act success stories were completed. Based on the Grant Report Tracking System, U.S Environmental Protection Agency spent approximately $27,390,960.00 on Clean Water Act section 319(h) nonpoint source projects.

Looking Forward

At the time of publication of this report, with little water remaining in storage and 2014 forecasted to be one of the driest years on record, California was in grip of a severe drought. Accordingly, actions to address drought will be among the highest priorities statewide for the Water Boards in the next state fiscal year. The State Water Board priorities for the Nonpoint Source Program in state fiscal year 2014 through 2015 include:

- Soliciting for 2015 Clean Water Act section 319(h) planning and implementation proposals;
- Completing the Nonpoint Source Program Six-Year Implementation Plan;
- Approving watershed-based plans for the Nonpoint Source Program;
- Providing Measure Ws to U.S. Environmental Protection Agency; and,
- Collaborating with federal, state, and local agencies to support the implementation of management measures (i.e., agriculture, marinas, forestry, wetlands and riparian areas, hydromodification, and urban development).
- Updating the Nonpoint Source Implementation and Enforcement Policy to preclude the use of prohibitions of waste discharge for addressing nonpoint source discharges for

those land uses (e.g.; irrigated lands) already covered under other regulatory mechanisms (e.g.; waivers of waste discharge requirements) for which discharger enrollment fees are being assessed.

The new Nonpoint Source Program Six-Year Implementation Plan, which covers year 2014 through 2020, will apply to the next annual report.

North Coast Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- North Coast Water Board staff members worked on development of Total Maximum Daily Load analyses in three watersheds, and updated the North Coast Water Board on these activities.

- Total Maximum Daily Load Implementation was conducted by North Coast Water Board staff members in the Garcia River, in Mendocino County Rivers, and on the Klamath, Scott, and Shasta Rivers.

- North Coast Water Board adopted Order No. R1-2013-0059, Waiver of Waste Discharge Requirements and General Water Quality Certification for Mendocino County Resource Conservation District's Mendocino County Permit Coordination Program. North Coast Water Board staff members continue to participate in the Wood for Salmon workgroup.

- North Coast Water Board staff members worked on the development of the Agricultural Lands Discharge Program and Updated the North Coast Water Board on the Development of the Agricultural Lands Discharge Program for agriculture in the Tule Lake watershed, outdoor lily bulb cultivation in the Scott Valley, marijuana cultivation discharges and associated activities, and for vineyards and orchards.

- North Coast Water Board adopted the Temperature Implementation Policy and Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature Impairments in the Mattole, Navarro, and Eel River Watersheds

- North Coast Water Board inspected 28 dairies in 2013-2014, for a total of 100 of 126 dairies. The Dairy Program implementation continues and received the Governor's Streamlining Superstar Award.

- The North Coast Water Board adopted Order No. R1-2014-0011, Categorical Waiver of Waste Discharge Requirements for discharges related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region

- The North Coast Water Board adopted Order No. R1-2014-0036, Waste Discharge Requirements for discharges related to Timber Harvest Activities and Related Land

Management Activities Conducted by Humboldt Redwood Company, LLC in the Jordan Creek Watershed Humboldt County.

- Joint Meeting of the North Coast Regional Water Quality Control Board and the California Board and Forestry and Fire Protection.

- Update to the North Coast Water Board on Addressing Discharges from Roads in the North Coast Region – Update on Existing Regulatory and Education Programs

- Four new Clean Water Act section 319(h) nonpoint source grant projects were selected, 13 Grants are actively being implemented, 4 grants were completed, and 1 was terminated.

- North Coast Water Board staff members issued approximately 77 Clean Water Act section 401 Water Quality Certifications in the 2013-2014 state fiscal year.

- North Coast Water Board staff members continue to participate in the statewide Grazing Regulatory Action Project.

Summary of Nonpoint Source Program Implementation Activities

Total Maximum Daily Load Activities – Development

Upper Elk River Total Maximum Daily Load

During the August 22, 2013, North Coast Water Board meeting, North Coast Water Board staff members updated the Board on the Development of the Upper Elk River Technical Total Maximum Daily Load and Implementation Program. A public workshop, “Upper Elk River Total Maximum Daily Load and Waste Discharge Requirement Update”, was held at the May 7, 2014, North Coast Water Board Meeting. The Total Maximum Daily Load is tentatively scheduled to be presented to the North Coast Water Board for consideration of adoption mid-2015. Additionally, it is anticipated that an implementation Waste Discharge Requirements permit will be included within the Total Maximum Daily Load package for simultaneous adoption.

Russian River Pathogens Total Maximum Daily Load

An information item was presented to the North Coast Water Board at the March 13, 2014, meeting, and included an update on the development of the Russian River Pathogen Indicator Bacteria Total Maximum Daily Load (Figure 2). North Coast Water Board staff members has collected and analyzed various samples to establish the evidence of impairment for the Total Maximum Daily Load, and has maintained a webpage and participated in stakeholder events with the public, local community groups, and at technical and watershed conferences.

Coordination with local county agencies to consider solutions to pathogen challenges is ongoing.

Figure 2. Russian River at Monte Rio Beach (Photo Credit: Steve Butkus)

Laguna de Santa Rosa Total Maximum Daily Loads

North Coast Water Board staff members continued to conduct technical analyses for the development of phosphorus, nitrogen, dissolved oxygen, temperature, and sediment Total Maximum Daily Loads for the Laguna de Santa Rosa (Figure 3). North Coast Water Board staff members collected data on nutrient concentrations in benthic sediments in order to develop a clearer understanding of legacy nutrient sources and to identify candidate reaches for possible instream restoration. Early Total Maximum Daily Load implementation has included assisting permit North Coast Water Board staff members to develop renewed permits for two wastewater treatment facilities in the Laguna watershed, coordinating with North Coast Water Board staff members developing the agricultural program, and coordinating with North Coast Water Board staff members developing the Klamath Tracking and Accounting Program and the Klamath Basin Monitoring Program, both of which may be used as models for Total Maximum Daily Load implementation in the Laguna watershed. North Coast Water Board staff members participates on the technical advisory committee for the development of a water quality credit trading market for the Laguna watershed and supported local Resource Conservation Districts developing nutrient management plans. The North Coast Water Board staff members supported joint efforts

by the United States Environmental Protection Agency, the State Water Board, and the San Francisco Estuary Institute to conduct a basin-wide wetland resource assessment and historic ecology survey, which may be used as a means by which to prioritize and monitor future wetland and riparian restoration efforts. The water quality and administrative benefits to be gained through these early implementation efforts are substantial and worthwhile.

Figure 3. Laguna de Santa Rosa Upstream of Occidental Road. (Photo credit: Rebecca Fitzgerald)

Total Maximum Daily Load Activities - Implementation

Garcia River Sediment Total Maximum Daily Load

North Coast Water Board staff members continues to coordinate the implementation of the Garcia River Total Maximum Daily Load, which continues to progress as landowners across more than 75 percent of the watershed (55,000 acres) are now participating in the program (Figure 4). The Garcia River was designated as a “priority watershed” in the North Coast Region and received Clean Water Act section 319(h) nonpoint source grant funding to implement erosion and sediment control actions on four additional properties. The Natural Resources Conservation Service also funded projects through the National Water Quality Initiative to further assist landowners addressing controllable sediment sources on their land. During the summer of 2012, North Coast Water Board staff members continued the watershed-side water quality monitoring program being conducted through a partnership between the North Coast

Water Board and the Nature Conservancy. Approximately 65 permanent monitoring reaches were revisited to assess whether or not conditions in the watershed have been improving since the monitoring program's inception in 2007. Approximately 60 stream crossing upgrades and 9 crossing have been decommissioned from the stream network. In addition, approximately 11 miles of road are being hydrologically disconnected from the stream network.

Figure 4. Steelhead and Coho Salmon in the Garcia River (Photo Credit: Jonathan Warmerdam)

Klamath River Total Maximum Daily Loads

North Coast Water Board staff members continue to make progress implementing the Klamath River temperature, dissolved oxygen, nutrient, and microcystin Total Maximum Daily Loads and coordinating control efforts throughout the basin. North Coast Water Board staff members played a lead role in the Klamath Basin Monitoring Program, served as vice-chairperson, and helped initiate the development of watershed stewardship reports for the Shasta Valley and the Upper Klamath Basin. North Coast Water Board staff members have continued to be active in the Klamath Hydroelectric Settlement Agreement Interim Measure Committees, which have worked on the conceptual feasibility analysis of water quality improvement projects for the Upper Klamath Basin water quality improvement pilot projects, and water quality monitoring for assessment of status, trends, and public health along the Klamath from the Link River to the estuary.

Progress also was made on the implementation of the Klamath Tracking and Accounting Program with the award of two Clean Water Act section 319(h) nonpoint source grants to fund local lead entities to develop tracking and accounting infrastructure. The North Coast Water Board has also continued discussions with the U.S. Bureau of Reclamation and the United States Fish and Wildlife Service regarding the Management Agency Agreement for implementation of water quality improvement projects within the Tulelake basin. The Management Agency Agreement has taken the form of a Watershed Stewardship Agreement and additional partners are included in the framework. The Watershed Stewardship Approach, one of the initiatives in the Six-Year Nonpoint Source Implementation Plan, is being piloted within the Klamath basin efforts.

Salmon River Temperature Total Maximum Daily Load

North Coast Water Board staff members continues to implement the 2005 temperature Total Maximum Daily Load in the Salmon River watershed and works closely with the U.S. Forest Service, which manages over 98 percent of the watershed. North Coast Water Board staff members also worked with the Salmon River Restoration Council and partially supported their efforts through Total Maximum Daily Load contract funds. The focus of Total Maximum Daily Load implementation has been evaluating restoration opportunities on mine tailings sites along the river and identifying potential areas where a comprehensive floodplain restoration project could be constructed.

Scott River Sediment and Temperature Total Maximum Daily Loads

Since the adoption of the Scott River Total Maximum Daily Load Conditional Waiver of Waste Discharge Requirements in October 2012, North Coast Water Board staff members have been working with to educate and inform stakeholders about Total Maximum Daily Load implementation requirements. North Coast Water Board staff members also worked with the Siskiyou Resource Conservation District to develop a contract to develop ranch plans, and manage grants for riparian restoration and collection of information in support of groundwater studies. At the January 9, 2014, North Coast Water Board meeting, North Coast Water Board staff members provided an Update on Status of Implementing the Scott River Total Maximum Daily Load Waiver.

Shasta River Temperature and Dissolved Oxygen Total Maximum Daily Loads

North Coast Water Board staff members continued implementation efforts in the Shasta River watershed with a focus on the spring-fed Coho salmon refugia areas downstream of Lake Shastina, in Parks Creek and in the Little Shasta River. North Coast Water Board staff members worked with stakeholders and managed contracts and grants to help identify and reduce tailwater discharges, restore riparian areas, and develop ranch plans to reduce impacts. North Coast Water Board staff members are also supporting the Shasta Valley Resource Conservation District with implementation of the watershed stewardship approach, which is a

collaborative adaptive management framework initiative of the Klamath Basin Monitoring Program. The North Coast Water Board is providing assistance in all phases of the approach and is currently conducting data analysis on 15 years of water quality information previously unanalyzed. To complement the existing conditions analysis, the North Coast Water Board staff members is working with the Shasta Valley Resource Conservation District to complete a comprehensive inventory of existing and planned water quality improvement projects. In addition to the Shasta Valley Resource Conservation District and the North Coast Water Board watershed stewardship partners includes the City of Yreka stormwater program, California Fish & Wildlife, United States Fish and Wildlife, California Trout, National Oceanic Atmospheric Administration National Marine Fisheries Service, and United States Forest Service.

North Coast Water Board staff members worked to revise the Shasta River Total Maximum Daily Load Conditional Waiver, which was adopted by the North Coast Water Board in October 2012. Implementation of the new Waiver began with North Coast Water Board staff members assessing individual landowner management practices and water quality protection measures. North Coast Water Board staff members continued development of a Shasta River monitoring plan to assess compliance with the Shasta River Total Maximum Daily Load. One indication that beneficial uses are being restored is the return of approximately 30,000 Chinook salmon to the Shasta River to spawn, and the out-migration of six million smolts to the Klamath River and Pacific Ocean. Futhermore, an Update on Shasta River Total Maximum Daily Load Waiver implementation and Watershed Stewardship including development of an adaptive management Monitoring Plan, was presented during the January 30, 2014 North Coast Water Board meeting.

Mendocino County Permit Coordination Program

The North Coast Water Board adopted Order No. R1-2013-0059, Waiver of Waste Discharge Requirements, General Water Quality Certification, and Monitoring and Reporting Program for the Mendocino County Resource Conservation District's Mendocino County Permit Coordination Program, November 20, 2013, which established a one-stop-shop for landowners to obtain permits for restoration and sediment control work and receive technical and financial support. North Coast Water Board staff members have continued to coordinate these efforts with the Mendocino County Resource Conservation District and the Natural Resources Conservation Service. During the 2014 work season, numerous projects have been implemented. There were invasive species (Arundo donax) removal projects and bioengineering projects for stream bank stabilization. Additionally, two barriers to anadromous fish passage were removed in the Navarro Watershed. 26 stream crossings and 1.75 miles of road have been upgraded as part of the Reeves Canyon Road project in the upper Russian River watershed.

North Coast Water Board staff members continues to participate in the Wood For Salmon Working Group, which is a coordinated effort of resource agencies and non-governmental organizations to restore endangered salmonid populations by streamlining the permitting

process for restoration activities. Current efforts include development of a simplified permitting matrix for introduction of large wood into streams, biological monitoring of such projects, updating of the State Board General Permit for Small Habitat Restoration Projects, technical input into the development of Assembly Bill 2193 – Habitat Restoration and Enhancement Act, and other related topics.

Development of the Agricultural Lands Discharge Program

North Coast Water Board staff members provided an update to the North Coast Water Board on September 26, 2013. Rather than develop a single region-wide permit, North Coast Water Board staff members is addressing agricultural discharges by developing a series of separate permits tailored to specific commodities or geographic areas, including: the Tulelake watershed; outdoor Lily Bulb cultivation in the Scott Valley; marijuana cultivation discharges and associated activities; and, for Vineyards and Orchards. North Coast Water Board staff members met with agriculture interests in the Tule Lake Basin in January 2014, to discuss the formation of a third-party program to meet some of the permit requirements, such as development of a group water quality management plan and coordinated monitoring and reporting. In March 2014, North Coast Water Board staff members held a teleconference call with environmental and tribal interests regarding the development of this permit to get their input. North Coast Water Board staff members is also participating in a Lost River monitoring group which is evaluating existing monitoring data in the basin in part to determine monitoring requirements for the permit. North Coast Water Board staff members anticipate bringing this permit to the North Coast Water Board for consideration in early 2016.

North Coast Water Board staff members met with lily bulb growers, agricultural interests and environmental interests in April 2014 to get input on permit development and to discuss recent water quality sampling results that included toxicity testing. Further stakeholder meetings are planned and North Coast Water Board staff members anticipate bringing the lily bulb permit to the North Coast Water Board for consideration of adoption in late 2016.

North Coast Water Board staff members are planning development of the vineyards and orchards permit and are coordinating with the San Francisco Bay Regional Water Quality Control Board’s development of a discharge permit for vineyards in the Sonoma Creek and Napa River watersheds. North Coast Water Board staff members are also coordinating with existing third-party certification programs to align their program requirements with the requirements of the upcoming permit. The permit will be developed so that participation in a third-party certification program will facilitate compliance. North Coast Water Board staff members have also attended local grower meetings to reach out to the local agricultural community regarding the upcoming permit. North Coast Water Board staff members anticipate bringing the vineyards and orchards permit to the North Coast Water Board for consideration in 2018.

North Coast Water Board staff members continue development of the Cannabis Cultivation Waste Discharge Regulatory Program. The North Coast Region is inundated with marijuana cultivation in headwaters and main river systems, with active, developed sites in steep and rugged terrain. The increased cultivation since the voters' passage of the Compassionate Use Act (Prop 215) and the legislature's passage of Assembly Bill 420 has resulted in significant waste discharges and a loss of instream flows associated with improper development of rural landscapes on small, privately-owned parcels, and the diversion of springs and streams, to the detriment of water quality and the beneficial uses of water. Four new North Coast Water Board staff members are being hired to address the regulatory program development, enforcement, statewide strategy, and education and outreach projects. A General Waiver of Waste discharge requirements is proposed to be brought to the North Coast Water Board for consideration in mid-2015.

Temperature Implementation Policy

The North Coast Water Board adopted the Policy for the Implementation of the Water Quality Objectives for Temperature, and Action Plans to Address Temperature Impairments in the Mattole, Navarro, and Eel River Watersheds, at the March 13, 2014 North Coast Water Board meeting. Approximately 63 percent of the area of the North Coast Region is listed as temperature impaired, per section 303(d) of the Clean Water Act, because the water quality of those rivers and streams does not meet the temperature water quality objectives. Temperature impairments in the watersheds of the North Coast Region are predominantly associated with nonpoint sources of pollution, such as timber operations, agriculture, streambed alteration, land conversion and other construction activities. Temperature impairments are also associated with activities which do not generally involve waste discharge, such as vegetation alteration, water withdrawal, and hydromodification. Temperature Total Maximum Daily Load analyses of 13 watersheds in the north coast found the same factors to be responsible for elevated water temperatures: increased exposure to solar radiation due to loss of stream shade, physical stream channel alteration in response to elevated sediment loads, engineered stream channel alteration, and alteration of hydrology resulting from impoundments, water diversions, hydromodification, and landscape alteration. The widespread temperature impairments and common source factors within the North Coast Region point to the need for a region-wide approach for addressing temperature issues. The establishment and implementation of this Policy will provide a common approach to ensuring attainment of the water quality objectives for temperature. Similarly, the establishment and implementation of such a policy will ensure that high quality waters are also protected.

Dairy Program

North Coast Water Board staff members continue to implement North Coast Water Board Dairy Program. North Coast Water Board staff members inspected 28 dairies during 2013-2014 state fiscal year. Out of a total of 126 Dairies, 100 have been inspected, and North Coast Water Board anticipates finishing all of the inspections next fiscal year. Since 2012, all cow dairies

have been enrolled, with 123 under the General Waiver of Waste Discharge Requirements, three under the General Waste Discharge Requirements and zero under the National Pollution Discharge Elimination System permit. Workshops on Annual Report Writing are held several times per year to help dairy operators fill out their Dairy permit paperwork before the November deadline. An update to the North Coast Water Board Dairy Program is scheduled for early 2015 that will cover permit implementation and illustrate details of the dairy program. By then, two years of data on surface and groundwater sampling results will be submitted and analyzed, all the dairy inspections will be completed, and photos of the dairy operations from each county will be shown and presented.

Groundwater monitoring is ongoing; The Monitoring and Reporting Programs require a total of four representative fall and spring groundwater samples to be collected for nitrate and fecal coliform. Results are to be submitted to the North Coast Water Board with Annual Reports. Over half of this information has been collected so far to give us a snapshot of groundwater quality surrounding the dairies. Another 25 percent of the total information is expected with the November 30, 2014 Annual Reports.

Grant Projects

North Coast Water Board staff members has four new Clean Water Act section 319(h) nonpoint source grant projects to implement: 1) Collaborative Total Maximum Daily Load Planning for the Navarro Watershed (Mendocino County Resource Conservation District); 2) Redwood Creek, South Fork Eel River, Water Conservation Monitoring, Planning and Assessment, and Education Project (Salmonid Restoration Federation); 3) South Fork Eel River Conservation Project (California Trout, Inc.); and 4) Focused Implementation of Sediment/Temperature Total Maximum Daily Loads in the Navarro River Basin using the Fish Friendly Farming Program (California Land Stewardship Institute).There are 13 Clean Water Act section 319(h) nonpoint source grants that are actively being implemented, 4 Grants were successfully completed and 1 Grant was terminated.

Looking Forward

North Coast Water Board priorities for next fiscal year include continuation of work on all of the above mentioned established projects and programs, and expansion of the new programs. Development of the Watershed Stewardship Approach in other watersheds besides the Klamath is in the development process. North Coast Water Board have been able to increase staff member in several areas, including the Clean Water Act section 401 Water Quality Certification Program, and the new Cannabis Cultivation Waste Discharge Regulatory Program, however existing and expanding programs suffer competing priorities and limited staff member resources. Planning and prioritization is ongoing and helps maximize this North Coast Water Board tasks.

San Francisco Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Tomales Bay Grazing Waiver of Waste Discharge Requirements (Grazing Waiver)
    - Renewed for a second five-year term.
    - Mailed watershed-wide compliance letters to permittees, and potential permittees, to draw awareness to the Grazing Waiver renewal, inform them of new grazing lands performance metrics (measurement of residual dry matter), and permit requirement for annual compliance reporting.
    - Created a multi-table, ArcGIS-linked database to track and monitor permittee enrollment status and compliance with the Grazing Waiver.
- Grants
    - Managed up to fifteen Clean Water Act section 319(h) nonpoint source grants for priority watersheds
    - Closed two completed grants and executed two new grant agreements that were awarded in 2013.
    - Participated in Clean Water Act section 319(h) nonpoint source statewide grant reviews, participating in the scoring and selection process for 2014-2015 grant projects.
- Staff Training
    - Held a Sediment Reductions Workshop in Marin County to train staff members on design techniques to control and lessen sediment delivery from unpaved roads.
    - Held a Grant Managers training for new and experienced staff members on the rules and procedure governing grant administration.
- Vineyard Program

- Coordinated a Board member field tour of vineyard operations to inform Board members on the types of management practices used at vineyards to protect water quality.

- Retained a California Environmental Quality Act consultant to assist in preparing an environmental impact report to support the development of waste discharge requirements to regulate discharges from vineyards in the Napa and Sonoma watersheds (Vineyard Waste Discharge Requirements).

- Continued to make progress on producing the draft Environmental Impact Report and draft Vineyard Waste Discharge Requirements, while fostering third-party, watershed-based, technical assistance efforts, and continued efforts to coordinate with the North Coast and Central Coast Water Boards.

- Delistings and Success Stories

  - Delisted Muir Beach for indicator bacteria, and the non-tidal portions of the Napa River and Sonoma Creek for nutrients from the Clean Water Act section 303(d) impaired waterbodies list.

  - Completed two Clean Water Act section 319(h) nonpoint source success stories, documenting water quality improvements in the Napa River and Sonoma Creek watersheds.

- Measure W

  - Submitted a draft Watershed Improvement Measure report (Measure W) for the Napa River watershed that demonstrates water quality improvements for nutrients, utilizing a watershed, lines of evidence approach.

- Efforts to address impaired waters at a broader scale

  - Participated in the statewide Grazing Regulatory Action Program work group led the Lahontan Water Board.

  - Worked with the Irrigated Lands Regulatory Program on establishing business rules for Irrigated Regulatory Lands Program implementation tracking.

  - Participated in nonpoint source roundtables and Irrigated Regulatory Lands Program roundtables and special project (Irrigated Regulatory Lands Program database feasibility study, etc.).

- Began updating regionwide Waste Discharge Requirements and waivers of Waste Discharge Requirements for confined animal facilities located within the San Francisco Bay region.

- Assisted enforcement unit staff members with complaints and dairy closure.

Summary of Nonpoint Source Program Implementation Activities

In summary, the 2013-2014 nonpoint source implementation activities described below, although focused on the North Bay, are not intended to exclude San Francisco Bay Water Board work (e.g., early total maximum daily load implementation) outside this focus area. Nonpoint source implementation activities described below promote a balanced approach that emphasize Region-specific priorities and State Water Board nonpoint source program strategies and integrates these with on-the-ground management of individual watersheds.

During state fiscal year 2013-2014, San Francisco Bay Water Board Total Maximum Daily Load, Nonpoint Source, and Surface Water Ambient Monitoring Program staff members closely coordinated and supported Total Maximum Daily Load implementation via stakeholder outreach, grant funding, inspections, water quality data review and synthesis, and complaint follow-ups. San Francisco Bay Water Board's outreach efforts were geared towards maximizing stakeholders' ability to obtain grants for implementation of projects to control discharges (e.g., sediment, pathogens, nutrients, and mercury) in response to existing permit requirements, and anticipated, future regulations.

Success Stories and Proposed Delistings

Muir Beach for indicator bacteria delisting

At its May 14, 2014 meeting, the San Francisco Bay Water Board approved a resolution recommending removal of Muir Beach for indicator bacteria impairment from the Clean Water Act section 303(d) impaired waters list.

The key potential sources of indicator bacteria in the catchment that drains to Muir Beach are: septic systems, horse facilities and riding trails, wildlife, and stormwater runoff. Since the original 2006 listing, there have been improvements in the watershed. In recent years, the area near the mouth of Redwood Creek, the main tributary to Muir Beach, has been the focus of an extensive restoration project. These restoration efforts have coincided with a substantial decrease in indicator bacteria discharges to Redwood Creek and ultimately Muir Beach by:

- limiting human and animal (e.g., pet, wildlife, and horse) access to Redwood Creek;

- creating natural vegetated buffers along the creek that act as bacteria filters; and

- relocating the creek channel away from residential areas where potentially faulty septic systems are located.

These improvements are expected to help maintain and continue the improved water quality at Muir Beach into the future. San Francisco Bay Water Board staff members, funded through the Clean Water Act section 319(h) program, were integrally involved in the restoration design and implementation process, which is still ongoing. San Francisco Bay Water Board staff members participated heavily in in the community education process through regularly attending stakeholder meetings at a monthly frequency over the course of over one year.

Napa River and Sonoma Creek nutrients delisting and Success Stories

At its February 12, 2014 meeting, the San Francisco Bay Water Board approved a resolution recommending removal of the non-tidal portions of the Napa River and Sonoma Creek watersheds for nutrient impairment from the federal Clean Water Act section 303(d) impaired waters list. The Board's recommendation now goes to the State Water Board for approval and inclusion in the revised Clean Water Act section 303(d) list. Using available data, including significant monitoring of the river and creek by the Surface Water Ambient Monitoring Program, the Board determined that nutrient levels had declined and that the biological endpoint indicating impairment, i.e., benthic (bottom-growing) algae, both as measured by chlorophyll-a and as percent cover, was below levels of concern for eutrophication. The reduction in nuisance algae levels was probably a cumulative effect of improved implementation of agricultural management practices, National Pollutant Discharge Elimination System permit restrictions on wastewater discharges, and changes in land use in the Creek's watershed over the past 30 years.

Although several of the actions described below were developed to control discharges of sediment and pathogens to the Napa River and Sonoma Creek, many pathogen and sediment controls actions also serve to reduce nutrient loading (from nutrients attached to sediment and/or delivered via stormwater). Major activities that contributed to reduced nutrient loads to these systems include:

- Developing plans that address nutrient control, sediment controls and bank stabilization;

- Improved land management practices through use of guidance provided by the US Department of Agriculture National Resources Conservation Service and by local Resource Conservation Districts;

- Adding specific language into National Pollutant Discharge Elimination System wastewater treatment plant permits in the 1980s prohibiting dry-season wastewater discharges to the Napa River;

- Funding sediment load reduction projects in Napa River watershed using Clean Water Act section 319(h) funds since 1992;

- Development of the Fish Friendly Farming program in 1999, to provide technical assistance for landowners and managers of vineyards through a site assessment process to control sediment discharges from vineyard properties and related road networks;

- San Francisco Bay Water Board issuance of a 2003 waiver of waste discharge requirements and general waste discharge requirements to regulate confined animal facilities; and,

- Issuing the 2011 Waiver of Waste Discharge for Grazing Operations located in the watershed.

Future success in maintaining nutrient load reductions will rely on continued focus and improvement of land management practices through third-party watershed programs, such as the Fish Friendly Farming to reduce vineyard-related sediment bound nutrients from entering the streams, the expanded implementation of farm conservation plans, nutrient management plans, and waste (manure) management plans as required by San Francisco Bay Water Board Orders to improve agricultural management practices aimed at reducing sediment, nutrient, and pathogen discharges from grazing, vineyard, and confined animal facility operations.

Tomales Bay Grazing Waiver

At the December 11, 2013 meeting, the San Francisco Bay Water Board renewed the Tomales Bay Grazing Waiver for a second, five-year term. The Grazing Waiver implements the Tomales Bay pathogens, Walker Creek mercury, Lagunitas Creek sediment, and the Tomales Bay mercury Total Maximum Daily Loads, and serves as early implementation to address the Walker Creek and Tomales Bay sediment Clean Water Act section 303(d) listings.

Changes to the 2013 Grazing Waiver as compared to the 2008 Grazing Order included:

- New requirements for landowner assessment and annual reporting of residual dry matter;

- Inclusion of the Notice of Non-Applicability for sites that are that are either not actively grazed or for large properties that maintain a disproportionately small number of grazed livestock as compare to the size of the property, and

- Changes to required forms and templates, including update of the Grazing Program web-page to facilitate communication with the ranching community and providing the

necessary forms and tools to assist permittee compliance (e.g., ranch plan and annual report templates).

With the renewal of the Grazing Waiver in December 2013, San Francisco Bay Water Board staff members mailed compliance reminders to current permittees and other eligible operations to, re-establish communication, alert permittees of new permit requirements, and encourage enrollment and reporting compliance. As a result of these mailings, landowner compliance with the Grazing Waiver increased significantly. In parallel with this outreach effort, San Francisco Bay Water Board staff members created a multi-table, ArcGIS-linked database to track and monitor permittee enrollment status and compliance with the Grazing Waiver. In addition, San Francisco Bay Water Board staff members also continued their work with organizations to apply for grants to assist landowners to comply with the permit, specifically with the preparation of complete ranch plans, the assessment and reporting of residual dry matter measurements, and annual reporting.

Vineyard Properties Waste Discharge Requirements Program

San Francisco Bay Water Board staff members have been working to develop Vineyard General Waste Discharge Requirements for properties located in the Napa River and Sonoma Creek watersheds. These watersheds contain an estimated 141,400 acres of vineyard properties, with greater than 69,000 acres planted in grapes, from which there are or may be discharges of sediment and concentrated storm runoff that affect water quality.

The Vineyard General Waste Discharge Requirements will regulate discharges in order to achieve the vineyard discharge performance standards for sediment and storm runoff set forth in adopted sediment Total Maximum Daily Loads completed for the Sonoma Creek and the Napa River.

The effort this year has been on the development of an environmental impact report to support adoption of the General Waste Discharge Requirements. Development of an Environmental Impact Report is being conducted in response to public input received on a draft waiver of Waste Discharge Requirements and draft mitigated negative declaration released in 2012. Contract resources were awarded towards this expanded California Environmental Quality Act effort to assist San Francisco Bay Water Board staff members in preparation of a draft Environmental Impact Report and a consultant was retained this year.

In January 2014, a field tour of Napa Valley vineyards was held for the purpose of informing San Francisco Bay Water Board members on the types of management practices used at vineyards to protect water quality. The tour was for educational purposes only and limited to discussion of vineyard management practices.

For the remainder of the fiscal year, San Francisco Bay Water Board staff members:

- Continued to assist several third-party technical assistance groups, through a combination of general outreach and 319 (h) grant specific actions, to develop and enhance local expertise, tools, and templates to assist growers with Vineyard Waste Discharge Requirements compliance (in anticipation of permit adoption).

- Coordinated closely with the North Coast Regional Water Board staff members on a) proposed elements and requirements of the San Francisco Bay Water Board's vineyard Waste Discharge Requirements, b) expectations and roles of third-party technical assistance groups, and c) general timeline for San Francisco Bay Water Board consideration of Vineyard Program (adoption of general Waste Discharge Requirements and certification of Environmental Impact Report).

- Worked with State Water Board and North Coast Regional Water Board management on a budget change proposal to add additional staff members to assist in Vineyard Program development, roll-out, Program administration, and enforcement.

Staff Trainings

San Francisco Bay Water Board staff members took the lead on two staff members' trainings in state fiscal year 2013-2014. One of the trainings was technical in nature and focused on the evaluation of unpaved, road-related erosion (Sediment Reductions Workshop). The second training (Grant Manager's Training) was administrative and mandatory for grant managers, focusing on the grant process (roles, invoices, forms & templates, auditable files, etc.).

The Sediment Reductions Workshop took place in Marin County on previously funded grant road-related sediment reduction projects and was attended by San Francisco Bay Water Board staff members and representatives from resource agencies and local Resource Conservation Districts. Poorly maintained or constructed unpaved roads, located on both private and public lands, can contribute significantly to soil erosion and runoff that damages habitat for fish, effects channel stability, and degrades water quality (Figure 5).

Figure 5. Unpaved road in Marin watershed. (Photo Credit: Jowin Jung)

The Workshop was a significant training because requirements to reduce human-induced erosion from roads (public and private) and related water quality impacts are a common thread in all the sediment Total Maximum Daily Loads adopted by the Water Board. The Workshop provided staff members with hands-on, practical guidance on erosion and road design, how to evaluate and understand road drainage, evaluate road maintenance practices, and learn about erosion control practices (types of management practices to control erosion and concentrated runoff). The Workshop discussed examples of the types of actions that have worked, or conversely, those that have been less effective to control erosion. This knowledge will assist staff members in conducting field inspections, evaluating the effectiveness of road-related erosion for sites enrolled in San Francisco Bay Water Board Grazing Program, and help inform permitting requirements for the Vineyard Program (under development).

Working through the Department of Finance, the Water Board hosted a required Grant Manager's Training for North Coast Water Board and San Francisco Bay Water Board staff members to teach new grant managers on the various roles and responsibilities of the grantee/grant manager/Department of Finance, the grant process (i.e., scope of work negotiation and finalization), grant agreement forms and templates, invoicing, and contents of an auditable file. This training was particularly useful given the number of grants managed by Water Board staff members.

Grants

San Francisco Bay Water Board staff members manages fifteen Clean Water Act section 319(h) nonpoint source grants for San Francisco Bay Water Board priority watersheds that include eleven Total Maximum Daily Load implementation and four planning grants, respectively. During this reporting period, two grant agreements were successfully completed and closed by the

grantees. These include a mercury remediation project in the Guadalupe River watershed to implement the mercury Total Maximum Daily Load, and a Napa River sediment Total Maximum Daily Load monitoring grant. Two additional grants are anticipated to close in July 2014.

During this reporting period, two additional grant agreements were successfully executed on funds awarded in 2013. These grants focus on further sediment reductions in the Napa River watershed via the Fish Friendly Farming program and expansion of ongoing restoration efforts along the Napa River and its tributaries.

The Water Board received two, 2015 Clean Water Act section 319(h) nonpoint source grants to further assist implementation of the Tomales Bay Grazing Program and a planning grant to develop vineyard farm plans for individual vineyards as part of Sonoma County's LandSmart program.

In summary, Water Board staff members works closely with local groups to ensure that adequate technical assistance, in the form of grants and outreach, is available to implement many of the source reduction actions and habitat enhancement goals identified in completed Total Maximum Daily Loads. Significant cumulative progress has been made to restore water quality and habitat conditions through these efforts. An example of success can be seen in the Fish Friendly Farming program through which water quality focused, vineyard property assessment and planning (via development of farm plans and identified site improvements) has been completed for approximately 30 percent of existing vineyard acreage in the Napa River catchment before Water Board adoption of the Vineyard Waste Discharge Requirements. San Francisco Bay Water Board staff member are working with others, including the Napa and Sonoma Resource Conservation Districts via LandSmart, to develop similar third-party led efforts to achieve the sediment reduction and habitat restoration goals identified in the Total Maximum Daily Loads.

Looking Forward

Although the San Francisco Bay area is the fourth largest metropolitan area in the country, more than half of its land remains in agriculture and open space. Sediment, nutrients, pathogens, pesticides, legacy mercury, and temperature, impair or threaten to impair water quality for the Bay area streams and ultimately impact water quality in portions of the Estuary.

One of the high priorities of the Water Board is addressing the nonpoint sources of pollutants that impact water quality for fish spawning, rearing and migration beneficial uses. Cultivated agriculture, grazing lands, and road-related erosion from public and private dirt roads, are the predominant sources of controllable sediment discharges identified in the sediment Total Maximum Daily Loads completed to date and are nonpoint source program implementation

priorities. Development and implementation of San Francisco Bay Water Board Vineyard Program is a high priority for the San Francisco Bay Water Board.

Similarly, the primary causes of nonpoint Source-related pathogen impairments, particularly in the North Bay counties (e.g., Marin, Napa, and Sonoma) and coastal San Mateo, include confined animal facilities, and pasturelands maintained for dairy and livestock grazing. Development and implementation of a program to manage confined animal facilities is therefore a high priority for nonpoint source pollution regulation moving forward. Similarly, continued implementation of the Grazing Program is a priority which will rely on creative use of staff members' resources in partnership with third-parties in the watershed to ensure Program success.

Lastly, legacy mercury, nutrients, and pesticides, impair or threaten to impair, water quality for the Bay and coastal streams. To date, significant efforts have been put forth to control the erosion, re-suspension, and delivery of mercury-bearing sediment to Walker Creek and Tomales Bay, and to the tributary streams to the Guadalupe River watershed in the South Bay that enter the San Francisco Bay. Control of legacy mercury loading to these watersheds remains a San Francisco Bay Water Board priority.

Central Coast Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Central Coast Water Board staff members coordinated with stakeholders to develop a nitrogen reporting format for irrigated agricultural operations regulated under the Irrigated Lands Regulatory Program
- Groundwater monitoring coalitions and Central Coast Water Board staff members issued approximately 280 notification letters to well owners whose drinking water wells exceeded nitrate standards
- Central Coast Water Board approved allocation of settlement funds for safe drinking water and nitrate loading reduction projects
- Central Coast Ambient Monitoring Program staff members completed development of a Healthy Watersheds Report Card
- Central Coast Water Board approved far-reaching and innovative Post-Construction Stormwater Management Requirements for development and re-development projects, incorporating low impact development principles

Summary of Nonpoint Source Program Implementation Activities

Irrigated Agriculture

Central Coast Water Board staff members continued implementation activities associated with the Revised Conditional Waiver for Irrigated Agriculture (Ag Order) adopted by the Central Coast Water Board in 2012. The Ag Order requires electronic enrollment and reporting for all irrigated farming operations. As of December 2013, about 99 percent of estimated irrigated acreage was enrolled (approximately 430,000 acres). The Ag Order also requires installation of backflow prevention devices on all irrigation wells to protect groundwater, and requires sampling of irrigation wells. As of December 2013, about 95 percent of wells had installed backflow prevention and groundwater data had been submitted for 1289 wells. Central Coast Water Board staff members continue to coordinate closely with the Central Coast Groundwater Coalition, which is implementing cooperative groundwater monitoring requirements.

The Ag Order requires farming operations with a high nitrate loading risk to report nitrogen applications. Central Coast Water Board staff members coordinated with certified crop advisors,

technical assistance providers, agricultural industry representatives and growers to develop a reporting format, which is now posted on the Central Coast Water Board website: http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/resources4growers/tna_rru_report.pdf

In 2013 University of California Cooperative Extension completed a grant project to improve irrigation and nutrient management in strawberries. Strawberries are a high value crop currently grown on about 40,000 acres in the Central Coast. The project determined current water use and nitrogen management practices in commercial strawberry fields, estimated nitrate leaching losses and developed nitrogen uptake guidelines and a water use model. The study concluded that strawberry nitrogen uptake is relatively slow, much slower than vegetable crops. Given this low nitrogen uptake rate, strawberries can grow with relatively low soil nitrate reserves, and with careful irrigation, nitrate leaching losses from strawberry fields can be minimized (Figure 6). Better matching fertilizer release rates with crop uptake patterns can potentially reduce nitrate leaching losses during establishment and during winter months.

Figure 6. Strawberry fields in Central Coast. (Photo credit: Alison Jones)

Safe Drinking Water and the Groundwater Assessment and Protection Program

A high priority for the Central Coast Water Board is ensuring that everyone in the region has access to safe drinking water. Many domestic wells in agricultural areas likely exceed the

drinking water standard for nitrate, but either because they belong to systems that are too small to be regulated, or because they are individual domestic wells on private property, little data on water quality is available.

In 2012, the Central Coast Water Board approved funding for the Groundwater Assessment and Protection Program, to develop a regional groundwater monitoring program. The intent of the Groundwater Assessment and Protection Program is to coordinate and leverage local monitoring efforts to make groundwater data readily available to the public and other agencies. The Water Board will use the data to determine groundwater health and trends throughout the basins of the Central Coast region, assess nitrate impacts to domestic wells and small water systems, and facilitate solutions for those who are impacted. Additional information on the Groundwater Assessment and Protection Program is available at:

http://www.waterboards.ca.gov/centralcoast/water_issues/programs/gap/index.shtml

During state fiscal year 2013-14, Central Coast Water Board staff members and the Central Coast Groundwater Coalition sent out letters to approximately 280 well owners whose drinking water wells exceeded nitrate standards. Well owners are required to notify well users and provide the Water Board with information on treatment implemented or alternative source supplied, such as reverse osmosis, ion exchange, or bottled water.

In a further effort to address nitrate impacts to drinking water, in May 2014 the Central Coast Water Board allocated settlement funds to provide interim safe drinking water to affected individuals and small communities, implement projects to reduce nitrate loading to groundwater, and conduct outreach to affected communities to ensure they are aware of risks of nitrate contamination. The funds will be used to provide safe drinking water for disadvantaged communities and limited resource growers in the great Salinas Valley.

Central Coast Ambient Monitoring Program

The Central Coast Water Board established a region-wide ambient monitoring program in 1998 with an endowment from settlement funds. Central Coast Ambient Monitoring Program staff members has been assessing the conditions of Central Coast watersheds and developing new web-based tools that allow users to quickly understand if, where and why streams are healthy, and if they are not healthy, why not. Central Coastal Water Board staff is synthesizing data from multiple sources to express measures of health. This project has been presented in several different forums and is garnering attention at state and national levels because it provides a unique new way to view complex data in a user-friendly environment. A key component of the approach is a scoring method that enables report card style (A through F) categories to be assigned to each parameter scored. Scores for parameters are combined into indices of health and allow development of watershed-scale health assessment. Additional information is available

at:http://www.waterboards.ca.gov/centralcoast/board_info/agendas/2014/Sepember/item20/item20_stfrpt.pdf

Low Impact Development and Post-Construction Stormwater Requirements

Recognizing the impacts that current and future urban development will have on surface waters and groundwater throughout the Central Coast region, the Central Coast Water Board established the Central Coast Low Impact Development Initiative in 2008 to support implementation of low impact development. Low impact development is an on-site approach to managing stormwater which uses a variety of techniques to minimize stormwater runoff and increase infiltration of water on a site. By implementing low impact development, projects can protect streams from impacts caused by unnaturally high flows, such as bank erosion, scouring and channel widening, excessive sediment and nutrient inputs, and pollution from pesticides and metals carried in runoff. Low impact development also increases recharge to groundwater basins and stores water that would otherwise be lost from the basin.

The low impact development Initiative provides assistance through support for changes to local regulations (e.g., codes and ordinances), low impact development project design, and outreach and education. In 2013, the low impact development Initiative supported two municipalities in pursuing and receiving grant funding for low impact development projects; commenced low impact development code updates for four municipalities; conducted multiple trainings on low impact development project design and implementation; coordinated the revision of design specifications for key low impact development facilities; and completed cost analysis of recently constructed low impact development projects.

More information on the Central Coast Low Impact Development Initiative can be found at:

http://www.centralcoastlidi.org/Central_Coast_LIDI/Home.html

In July 2013 the Central Coast Water Board adopted post-construction stormwater management requirements to implement the newly revised statewide Phase II Municipal Stormwater permit. The intent of the requirements is to protect and, where degraded, restore key watershed processes to create and sustain linkages between hydrology, channel geomorphology and biological health necessary for healthy watersheds. The requirements, which incorporate low impact development principles, were developed through a collaborative stakeholder process led by Central Coast Water Board staff members beginning in 2009.

While aimed at municipalities regulated under the statewide stormwater program, the new requirements are applicable throughout the Central Coast region and will be implemented in many areas outside permitted municipalities, both when development projects require Central Coast Water Board permits, such as Clean Water Act section 401 Water Quality Certifications, and as low impact development approaches become the accepted way of doing business. Through a combination of regulation, technical support, education and outreach, the Central

Coast Low Impact Development Initiative aims to change the way development is implemented throughout the Central Coast region.

Looking Forward

As in the past, competing priorities and finite Central Coast staff members' resources will remain a challenge; however, the Central Coast Water Board continues to work toward implementation of Central Coast Water Board's vision of healthy watersheds. The initiatives highlighted above address broad issues that encompass both point source and nonpoint source pollution, and are directly related to Central Coast Water Board's three measureable goals of healthy aquatic habitat, clean groundwater and proper land management.

In the next state fiscal year 2014-15, Central Coast Water Board will continue implementing the Ag Order, the Groundwater Assessment and Protection Program, and the Phase II Post-Construction Requirements. The Healthy Watersheds Report Card is scheduled for internal testing by staff members in the fall of 2014 and public release by the end of 2014. The first release will include surface water data only, scored for Human Health and Aquatic Life goals. Future releases will include assessment of groundwater data from the State Water Board's GeoTracker data management system, as well as land management and water condition data from various sources.

Los Angeles Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Los Angeles Water Board staff members worked with partners to increase enrollment in the Conditional Waiver for Irrigated Lands.
- Los Angeles Water Board staff members updated the geographic information system database to include best management practices implemented with parcel information and monitoring site locations under the Conditional Waiver for Irrigated Lands to better target best management practices implementation and enforcement activities.
- Los Angeles Water Board staff members had four meetings with horse and intensive livestock facility representatives to develop of a draft waiver to regulate discharges from horse and intensive livestock facilities in the Ventura River watershed.
- Los Angeles Water Board staff members created a mailing list of horse/intensive livestock facilities in the Ventura River watershed that may be subject to the waiver.
- Los Angeles Water Board staff members participated in development of a statewide grazing regulatory project by providing input and comments on the grazing regulatory project stakeholder plan, issue paper, and fact sheet.
- Los Angeles Water Board staff members worked with responsible parties on development of a draft memorandum of agreement to identify funding and create a plan to remediate sediments in McGrath Lake to implement the Pesticides and Polychlorinated Biphenyls Total Maximum Daily Load.
- Los Angeles Water Board staff members managed a Clean Water Act section 319(h) nonpoint source grant to identify and reduce metals loading from nurseries in the San Gabriel River watershed.

Summary of Nonpoint Source Program Implementation Activities

Irrigated Agriculture

This fiscal year, the Los Angeles Los Angeles Water Board staff members continued cooperative efforts with discharger groups in Los Angeles and Ventura Counties to increase enrollment and assist growers with implementation of the Conditional Waiver of Waste

Discharge Requirements for Discharges from Irrigated Lands (Irrigated Lands Waiver). In addition, the Los Angeles Water Board staff members updated the geographic information system database of monitoring and best management practices data. Finally, the Los Angeles Water Board staff members participated in and approved education classes to ensure that growers complete all of their education credit requirements

Currently, approximately 86 percent of the irrigated acreage in the Los Angeles Water Board region is enrolled in the Irrigated Lands Waiver. Increasing the percentage of enrollees remains a priority for the Los Angeles Water Board. Enrollment increased in Ventura County this reporting period, from 1,160 members and 75,800 acres enrolled to 1,196 members and 77,019 acres enrolled, due to the Los Angeles Water Board outreach to growers who had let their membership lapse (Figure 7). Enrollment increased in Los Angeles County as well, from 140 members to 202 members, due to Los Angeles Water Board staff members working for months with Southern California Edison to enroll growers who lease Southern California Edison land. Los Angeles Water Board staff members are also coordinating with the Los Angeles Department of Water and Power on a similar effort to enroll growers who lease Department of Water and Power land.

Figure 7. Farm in Ventura County. Photo Credit: Jowin Jung

The annual monitoring reports submitted by the discharger groups reveal water quality impairments. To address these impairments, growers must implement best management practices in accordance with the Irrigated Lands Waiver. To assist in these efforts, the Los Angeles Water Board is overseeing a grant and assisting in implementation of federal funding

for growers. The grant is a Clean Water Act section 319(h) grant to identify and reduce the contribution of metal loadings from nurseries in the San Gabriel River Watershed.

In addition, in past fiscal years, the Los Angeles Water Board coordinated with the Natural Resource Conservation Service and State Water Board to campaign for National Water Quality Initiative funds for growers in the Calleguas Creek Watershed. To make the National Water Quality Initiative successful, during this fiscal year, the Los Angeles Water Board staff members worked with Natural Resource Conservation Service staff members and the Ventura County Agriculture Irrigated Lands Group to inform growers about the funding opportunities. Staff is also provided input on a monitoring program to track National Water Quality Initiative progress that would supplement baseline data already collected from the area by Ventura County Agriculture Irrigated Lands Group through the Irrigated Lands Waiver.

To track best management practices implemented under the Irrigated Lands Waiver, the Los Angeles Water Board staff members have developed a geographic information system database. To date, the database has been updated to include best management practices implemented with Clean Water Act section 319(h) grant funding, parcel information, and monitoring site locations. The Los Angeles Water Board staff members intend to use this tool to correlate water quality data with grower enrollment and best management practices implementation to better target future best management practices implementation and enforcement activities.

The Irrigated Lands Waiver requires growers to complete 8 hours of educational courses, and since the 2010 Waiver was adopted, over 60 classes have been offered by Coalition Groups and approximately 77 percent of enrollees have fulfilled this requirement. Outreach to growers, which has always been a priority for Los Angeles Water Board staff members, continued in this fiscal year in the form of pamphlets, handouts, and presentations. Ventura County Agriculture Irrigated Lands Group Education Class: Tour of detention basin in Oxnard Plain (Figure 8).

Figure 8. Ventura County Agriculture Irrigated Lands Group Education Class. (Photo Credit: Los Angeles Water Board)

Trash

In order to address nonpoint source trash pollution, the Los Angeles Water Board developed and is implementing a Minimum Frequency of Assessment and Collection program in conjunction with best management practices. The Minimum Frequency of Assessment and Collection/Best Management Practices program is implemented for waterbodies that have adopted Trash Total Maximum Daily Loads. The Minimum Frequency of Assessment and Collection/Best Management Practices program includes an assessment of trash on the surface or shoreline of the waterbody of concern, collection of all visible trash that accumulates on the surface or shoreline of the waterbody, and implementation of best management practices to attain a progressive reduction of the amount of trash collected at each collection event. A Trash Monitoring and Reporting Plan, which is developed as part of the Minimum Frequency of Assessment and Collection/Best Management Practices program, is used to determine baseline trash amounts and determine the progressive reduction required to attain zero trash. The goal of the Minimum Frequency of Assessment and Collection/Best Management Practices program is to attain zero trash from nonpoint sources. Zero trash is determined by the fact that trash does not accumulate in deleterious or nuisance amounts on the surface and the shorelines of waterbodies to adversely affect beneficial uses.

This fiscal year, the Los Angeles Water Board continued to oversee implementation of Minimum Frequency of Assessment and Collection/Best Management Practices programs for previously

adopted trash Total Maximum Daily Loads with nonpoint source load allocations. The Los Angeles Water Board staff members also began developing waiver renewals to continue implementation of the Minimum Frequency of Assessment and Collection/Best Management Practices program. Los Angeles Water Board staff members approved revisions to Trash Monitoring and Reporting Plans for four Total Maximum Daily Loads in the Santa Monica Bay, Ventura River Estuary, Revlon Slough, and Legg Lake watersheds.

Atmospheric Deposition

The work on this initiative was completed in 2011. Los Angeles Water Board nonpoint source staff members completed an analysis of the water quality impacts of air emissions from local industrial facilities in 2010 and coordinated with the Total Maximum Daily Load program to incorporate the findings into the Los Angeles and Long Beach Harbors Total Maximum Daily Load in 2011. Los Angeles Water Board staff will continue to participate in internal and local working groups to develop approaches to reduce nonpoint source pollutant loading due to atmospheric deposition as required in several recently adopted Total Maximum Daily Loads.

Total Maximum Daily Load Implementation

For the McGrath Lake Pesticides and Polychlorinated Biphenyls Total Maximum Daily Load, the Los Angeles Water Board staff members worked with responsible parties on development of a draft memorandum of agreement to identify funding and create a plan to remediate sediments in McGrath Lake. The Los Angeles Water Board assisted responsible parties with a Clean Water Act section 319(h) proposal to develop a remediation plan, but funding was not awarded.

For the Ventura River Algae Total Maximum Daily Load, Los Angeles Water Board staff members had four meetings with horse and intensive livestock facility representatives to develop a draft waiver to regulate discharges from horse and intensive livestock facilities in the Ventura River watershed. The Los Angeles Water Board has created a mailing list of horse/intensive livestock facilities in the Ventura River watershed that may be subject to the waiver. The Los Angeles Water Board staff members also participated in development of a statewide grazing regulatory project by providing input and comments on the grazing regulatory project stakeholder plan, issue paper, and fact sheet.

Looking Forward

Next fiscal year, the Los Angeles Water Board staff members will continue to implement the existing Irrigated Lands and Trash programs. Under the Irrigated Lands program, the Los Angeles Water Board will increase discharger enrollment and best management practices implementation, and improve our tracking and monitoring system. The Los Angeles Water Board will also adopt a new Conditional Waiver or waste discharge requirements for irrigated

lands. Under the Trash program, the Los Angeles Water Board will renew the waivers to continue implementation of the Minimum Frequency of Assessment and Collection/Best Management Practices program for eight Total Maximum Daily Loads.

The Los Angeles Water Board will also shift focus to additional nonpoint sources that have been assigned load allocations in recently adopted Total Maximum Daily Loads, such as horse/intensive livestock facilities, grazing activities, and contaminated sediment (Figure 9). The Total Maximum Daily Load implementation priorities are ambitious, and the Los Angeles Water Board will leverage resources from other funding sources and programs in order to accomplish goals.

Figure 9. Machado Lake Sediment Remediation. (Photo Credit: Los Angeles Water Board)

Central Valley Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Regional Board adopted Waste Discharge Requirements for all Irrigated Lands Regulatory Program geographic areas previously under Waivers of Waste Discharge Requirements
- Regional Board adopted the 2014 Delta Strategic Plan
- Regional Board continues work on Central Valley Salinity Alternatives for Long-Term Sustainability
- Regional Board address nonpoint source pollution from off highway vehicles and shooting ranges

Summary of Nonpoint Source Program Implementation Activities

Irrigated Lands Regulatory Program

The Central Valley's Irrigated Lands Regulatory Program was initiated in 2003 to prevent agricultural runoff from impairing surface waters. Originally, irrigated agriculture lands in the Central Valley Region were regulated by a conditional waiver of Waste Discharge Requirement, primarily administered through "coalition groups". A "coalition group" is defined as a group of dischargers and/or organizations that form to comply with the Central Valley Water Board's irrigated lands requirements. Coalition groups can be organized on a geographic basis or on a commodity basis. The Central Valley Agricultural Waiver of Waste Discharge Requirements expired on June 22, 2011, and the Central Valley Water Board was required to either renew the existing waiver or adopt a different regulatory mechanism such as a Waste Discharge Requirements.

The Central Valley Water Board adopted a series of Waste Discharge Requirements for discharges from irrigated lands to protect both surface water and groundwater throughout the Central Valley. The Central Valley Water Board adopted the first of these Waste Discharge Requirements in December 2012 and the final one in March 2014. Six geographically-based general Waste Discharge Requirement and one commodity-based (i.e., rice) Waste Discharge Requirement allow growers to continue to get regulatory coverage by joining a coalition group. A general Waste Discharge Requirement for growers that are not part of a coalition group was

also adopted. The Waste Discharge Requirements are the product of four years of dialogue among a variety of interested parties, as well as the public input received at numerous Board meetings. Among other requirements, the new Waste Discharge Requirement require growers to report the practices they are implementing to protect water quality; develop nitrogen management plans to minimize the discharge of nitrate to groundwater; and sediment discharge and erosion control plans to prevent impacts of sediment on streams.

Delta

Like the 2008 Strategic Work Plan, the revised 2014 Strategic Work Plan covers a five year time period and identifies high priority projects, timelines and deliverables, and resources needed. The 2014 Strategic Work Plan includes nine projects for the Central Valley Water Board. Four of these are carryovers from the previous work plan, three new projects were recommended by the Delta Stewardship Council, and two are the result of multiple new Clean Water Act section 303(d) listings and/or Central Valley Water Board staff recommendations.

The four remaining projects from the 2008 Strategic Work plan are:

1. Implementing the Mercury Control Program in the Bay-Delta;
2. Reviewing the control program for low oxygen levels in the Stockton Ship Channel;
3. Developing and implementing a sustainable Regional Monitoring Program; and
4. Evaluating control actions to address chronic low oxygen concentrations in Old and Middle Rivers.

The three new projects being recommended by the Delta Stewardship Council in their recently adopted Delta Plan are:

1. Developing and implementing a Nutrient Study Plan for the Delta;
2. Adopting a Basin Plan amendment for pyrethroid insecticides in sediment and water in the Delta; and
3. Maintaining a current list of all new projects to increase beneficial reuse of wastewater in the Central Valley and identifying impediments to additional reclamation.

The two projects recommended by Central Valley Regional Water Quality Control Board staff are:

1. Adopting a diuron herbicide Basin Plan amendment for the Delta; and

2. Conducting a toxicological assessment of current use fungicides and herbicides on pelagic primary production in the Delta.

Central Valley Salinity Alternatives for Long-Term Sustainability

Salts, including nitrates, are slowly and steadily contaminating the Central Valley's water and soil. If nothing is done to reverse this trend, salt in the Central Valley will eventually reach levels such that the land and water will not support people or farms. Nitrates are a particularly important part of the salt challenge because at relatively low concentrations they impair the safety of drinking water. Because water from the Central Valley is also delivered to people and businesses from the San Francisco Bay Area to San Diego, increasing salinity affects business productivity, human health, and the environment across the state.

The Central Valley Water Board and the State Water Board, as part of a stakeholder effort, are developing a comprehensive salt and nitrate management plan for the Central Valley. The Central Valley Salinity Alternatives for Long-Term Sustainability (Central Valley Salinity Alternatives for Long-Term Sustainability) is a strategic initiative to address problems with salinity and nitrates in the surface waters and groundwater in a comprehensive and sustainable manner. The initiative began in 2006, produced initial background information on the issue including an economic impact analysis in 2009, and developed a detailed strategy and workplan that was updated in 2012. Since 2012, several technical efforts have been underway to provide the foundation for the overall salt and nitrate management plan.

Technical work completed during this fiscal year included: a technical report on salinity criteria protective of aquatic life; a report proposing potential crop tolerance zones throughout the Central Valley and a method to interpret the narrative salinity water quality objective; a final report on salt and nitrate source/fate/transport, groundwater assimilative capacity and general water quality trends for 23-analysis zones within the Central Valley floor; a more detailed analyses on source, fate and load on two areas (Modesto and Lower Kings River); the first of three phases of the Strategic Salt Accumulation Land and Transport Study, which is evaluating viable salt containment and disposal alternatives ; and a technical report characterizing geohydrology and ground water quality within a portion of the Tulare Lake Bed floor as part of the evaluation of appropriate application of municipal and domestic water supply to area ground water. A brief summary of all Central Valley Salinity Alternatives for Long-Term Sustainability technical projects can be found under subcategory links on the Central Valley Salinity Alternatives for Long-Term Sustainability website: http://www.cvsalinity.org/index.php/technical-projects-index.html

The Central Valley Salinity Alternatives for Long-Term Sustainability initiative is using a variety of case studies to ground-truth policy and technical recommendations. These ongoing studies include evaluating the receiving waters of four publicly owned treatment works in the cities of Willows, Colusa, Biggs and Live Oak to develop a framework to determine the appropriate

designation and level of protection of the municipal and domestic water supply beneficial use in agriculturally-dominated water bodies. Another case study in the Alta Irrigation District is evaluating alternative compliance strategies that lead to safe drinking water supplies while protecting the economic base of the area and promoting long-term restoration of the groundwater basin. These and other studies will provide the basis for the salt and nitrate management plan that will be proposed to the Central Valley Water Board in 2016.

Off Highway Vehicles and Shooting Ranges

In addition to a wide range of watershed program support that includes impaired waters, staff has made significant progress addressing two additional nonpoint Source pollutant sources: off highway vehicles and shooting ranges. These sites can be controversial, but staff has made significant progress addressing nonpoint source pollution in an uncontroversial manner. Los Angeles Water Board staff members has worked with land managers to improve management measures that reduce sediment and metals discharges at 4 major Off Highway Vehicle areas and has provided technical input, permitting, and planning review for these facilities. Additionally, 20 shooting ranges have been assessed for potential discharge of lead and other toxic materials to surface waters. Six facilities were identified as threats to water quality and were directed to develop and implement plans to control discharges. As a result of staff involvement, four Off Highway Vehicle areas are reducing discharges of sediment and improving aquatic habitat at these recreational facilities. Additional shooting ranges and Off Highway Vehicle areas will be addressed in the coming year.

Looking Forward

The next few years will be critical to the direction of the Central Valley Irrigated Lands Regulatory Program. The Central Valley Water Board needs to maintain a robust irrigated lands program while transitioning from a program that only addresses discharges to surface water to one that also addresses discharges to groundwater.

In addition, the program is confronted by uncertainty that could impact both the program direction and program resources. Each of the Waste Discharge Requirements adopted by the Central Valley Regional Water Board, except for Western Tulare Lake and Rice, has been petitioned to the State Water Board. The State Water Board has asked for the administrative record and responses to the Eastern San Joaquin River Watershed petitioners' contentions. A similar request from the State Water Board may come for the other five Orders petitioned. The State Water Board could issue Waste Discharge Requirements that would provide a different direction for the program. There is also a high likelihood that, whether the State Water Board makes changes or not, that the Waste Discharge Requirements will be litigated.

Delta Activities will continue with the revised 2014 Delta Strategic Plan. Continuing the Nutrient Strategy, Central Valley Water Board staff will write a white paper on determining the effect of nutrient concentrations, forms and ratios on algal abundance and species composition. Also, staff continues to work with writing and implementing methylmercury control study work plans for source types.

The Delta Regional Monitoring Program separate subgroups (current use pesticides, pathogens, nutrients, and mercury) continue to refine assessment questions and the design approach for a coordinated monitoring program.

Technical projects are continuing on schedule for Central Valley Salinity Alternatives for Long-Term Sustainability. The project committee will agree on a table of contents for the Salt and Nitrate Management Plan, a kickoff meeting for stakeholders in the Management Zone Archetype area, and refinement and update of data for the groundwater data in the conceptual model. These and ongoing projects will verify early findings through case studies so that the initial draft Salt and Nitrate Management Plan can be prepared.

Lahontan Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Lahontan Water Board staff members conducted four Timber Waiver outreach workshops throughout the region for both private industry and United States Forest Service staff members.

- Lahontan Water Board adopted the 2014 Timber Waiver.

- Lahontan Water Board staff members reviewed, permitted, and/or inspected over 110 projects and plans for work on forested lands (fuels, timber harvest, roads, habitat restoration) encompassing work on over 339,000 acres.

- Lahontan Water Board staff members coordinated with ranchers to enroll seven ranches in the Grazing Waiver, covering the vast majority of the grazed lands in the Bridgeport Valley.

- Lahontan Water Board staff members continued to lead the efforts on development of a statewide grazing regulatory project including two updates on grazing regulatory project to the State Water Board and Lahontan Water Board's Management Coordinating Committee developed a grazing regulatory project stakeholder plan, an issue paper and a fact sheet.

- Lahontan Water Board staff members completed extensive outreach and secured three ranch partners for implementation of management practices as part of its Rivers and Ranches grant.

- Lahontan Water Board staff members participated in six outreach and education activities reaching over 1,200 people.

- Lahontan Water Board staff members managed four Clean Water Act section 319(h) nonpoint source grants, completing three of the projects, and started work on five new Clean Water Act section 319(h) nonpoint source projects.

Summary of Nonpoint Source Program Implementation Activities

Timber/Fuels Management

Public and private forested lands are found throughout the Lahontan Water Board region and are managed by timber harvests, fuels reduction, fire suppression, prescribed burns, pesticide/herbicides, reforestation and other activities. These activities can result in soil erosion and discharge to surface waters, damage to stream courses, compaction or removal of riparian soil and vegetation, and soil and plant loss in wetlands.

To protect water quality during timber operations, the Lahontan Water Board adopted its first Conditional Waiver of Waste Discharge Requirements for Timber (Timber Waiver) in 2003 with subsequent renewals in 2007 and 2009. The Timber Waiver applies to activities on both private and public lands. In preparation for a five year renewal of the Lahontan Water Board's Timber Waiver, Lahontan Water Board staff members conducted four Timber Waiver outreach workshops throughout the region, for both private industry and United States Forest Service personnel during the fiscal year. The 2014 Timber Waiver was adopted by the Lahontan Water Board in April 2014.

Implementing the Timber Waiver and conducting other field work, during the fiscal year, Lahontan Water Board staff members reviewed 27 fuels management projects (146,000 acres) and conducted six inspections. Lahontan Water Board staff reviewed 44 timber harvest plans covering 34,580 acres and inspected 8 of the sites. National Forest Service in the Lahontan Water Board region submitted nine vegetation management plans that were reviewed by Lahontan Water Board staff members. In addition, Lahontan Water Board staff members also reviewed, inspected and permitted 13 federal vegetation management projects (12 United States Forest Service and one Bureau of Land Management) totaling over 9,200 acres. Other projects reviewed and inspected by staff members were eight United States Forest Service habitat and watershed restoration projects, six road restoration projects or campground retrofit projects. Lahontan Water Board staff members also sent out "Delinquent Implementation Monitoring Report" Notices on 43 projects to 22 federal agencies and private organizations. To summarize for this fiscal year, Lahontan Water board staff members reviewed, permitted, and/or inspected over 110 projects and plans for work on forested lands (fuels, timber harvest, roads, habitat restoration) encompassing work on over 339,000 acres.

Agriculture/Grazing

The surface and ground water resources of the Lahontan Water Board region are, or may be, affected by discharges of waste from agricultural lands including nutrients, salts, pesticides, pathogens, sediment and oxygen-depleting organic matter. Livestock grazing can destabilize stream banks causing soil erosion resulting in sediment and nutrient loading into the stream, can reduce shade (affecting water temperature) and the buffering capacity of the stream, and

can impact stream hydrology by decreasing the depth and increasing width of the stream. Livestock feces can contribute pathogens, nutrients and organic matter to the water. Irrigated lands including tail water, storm water, infiltration to ground water, subsurface drainage water, tile drain water and frost protection water can impact ground and surface waters from nutrients, salts, sediments and pesticides.

To protect water quality from adverse impacts from grazing, the Lahontan Water Board adopted its first conditional waiver of waste discharge requirements for Grazing Operations in the East Walker River Watershed (Bridgeport Valley and Tributaries) of the Lahontan Water Board region (Bridgeport Grazing Waiver) in 2007 with a subsequent renewal in 2012. To more efficiently address other water quality impairments associated with grazing operations, the Water Boards have formed a team to work on the Statewide Grazing Regulatory Action Project. The work team is under the lead of Lahontan Water Board staff members with participation from staff members at the other Lahontan Water Boards and from the State Water Board. The work team is developing grazing regulatory tools that may include statewide permitting templates, multi-region permits, statewide policies or permits. To encourage improved management of grazing operations, staff members have pursued funding opportunities for ranchers. Water Board staff members secured a Proposition 84 Agricultural Water Quality Grant (aka “Rivers and Ranches Grant”) to implement grazing management practices and assess, through water quality monitoring, the effectiveness of these practices.

To protect water quality from adverse impacts from irrigated agriculture, during the fiscal year, the Lahontan Water Board region started the development of an irrigated lands program with an initial focus on nitrate impacts to groundwater.

In March 2014, Lahontan Water Board staff members met with members of the Bridgeport Rancher’s Organization to discuss plans relating to compliance with the grazing waiver monitoring and reporting requirements for water quality and grazing management practice implementation in the Bridgeport Valley for the 2013 season. Because the coliform monitoring results had not shown improvements from prior seasons, Lahontan Water Board staff members emphasized the importance of continued grazing management practice implementation. Seven ranches, covering the vast majority of the grazed lands in the Bridgeport Valley were enrolled in the Grazing Waiver. Six of the seven ranches submitted the required annual management plan to document the measures implemented the previous year and the measures planned for the next year. continued to work with the seventh ranch to submit a management plan and report on the measures implemented that will reduce the fecal coliform bacteria in the creeks. During the 2013 season, the ranches implemented a variety of water quality improvement measures. Every ranch implemented a slightly different suite of measures, which collectively included, rotating grazing on different fields, installing stream crossing structures for the livestock, installing fencing, constructing off-stream watering areas, placing salt away from water courses, installing vegetative filter strips, increasing the livestock herding, and managing the irrigation tailwater recovery.

Lahontan Water Board staff members gave two updates on grazing regulatory project to the State Water Board and Lahontan Water Board's Management Coordinating Committee and began to plan for stakeholder outreach events to take place in fall 2014. For grazing regulatory project, Lahontan Water Board staff members also developed a draft stakeholder plan, an issue paper, a fact sheet and schedule.

As part of the Rivers and Ranches grant, Lahontan Water Board staff members completed extensive outreach to the ranching communities throughout the Lahontan Water Board region and were successful in securing three ranch partners and are providing technical and financial assistance to support design, implementation and monitoring of grazing management practices.

Implementation of Lake Tahoe and Truckee River Total Maximum Daily Loads

In the Lahontan Water Board region, Total Maximum Daily Loads have been developed and are being implemented for key impaired water bodies such as Lake Tahoe (listed for sediment and nutrients) and the Truckee River (listed for sediment.).

Lake Tahoe is a designated "Outstanding National Resource Water" under federal antidegradation regulations and is one of only two lakes with such a designation in California. Lake Tahoe is the tenth deepest lake in the world, rivaled only by Crater Lake and Lake Baikal in Russia, for its combination of size, scenic beauty, and unique ecological qualities. Much of the beauty of the Lake comes from its extraordinary transparency and related deep blue color. Control of nonpoint source pollution is a critical component of the Lake Tahoe Total Maximum Daily Load implementation plan.

The Truckee River watershed has a long history of intensive land use. Westward expansion in the 1840's lead to construction of roads and trails, timber harvesting, building of the intercontinental railroad, gravel mining, ice harvesting and livestock grazing. The population continued to grow, drawn by the beauty of the region and outdoor activities. Historic land use combined with present day urban and recreation development affected the Truckee River watershed streams, impaired water quality, and reduced habitat for fish and wildlife populations. The Truckee River Total Maximum Daily Load is a watershed-wide plan to address the problems. Implementation of the Total Maximum Daily Load includes continuation and improvement of existing erosion control and monitoring programs.

To implement the Lake Tahoe Total Maximum Daily Load, staff members participated in several outreach and education activities. These activities include Tahoe Forest Roads Workshop and Field Tour; 17th Annual Lake Tahoe Summit (over 1,000 in attendance included Senators Reid and Feinstein, California's Governor Jerry Brown, Nevada's Governor Brian Sandoval and former Vice President Al Gore); South Tahoe Boys & Girls Club Stream Team; South Tahoe Environmental Education Coalition activities; Lake Tahoe Unified School District's Wonders of Water program delivering lessons to ten kindergarten classes (approximately 200 students) on water pollution prevention and Office of Legislative Affairs Staff Lake Tahoe Field Tour. Also,

Lahontan Water Board staff members helped to write and produce the Lake Tahoe Clarity Challenge report.

Lahontan Water Board staff members managed four Clean Water Act section 319(h) nonpoint source grants, two implementing the Lake Tahoe and Truckee River Total Maximum Daily Loads (Figure 10). These were managed on schedule and milestones met –three of the projects were completed with two in the Lake Tahoe and Truckee River Watersheds. Five new grant agreements were under development for new projects implementing the Lake Tahoe and Truckee River Total Maximum Daily Loads. Two of the grant agreements were executed and the other three will be executed by December 2014.

Figure 10. Upper Truckee River Restoration. (Photo Credit: Fred Blatt)

The two projects in the Lake Tahoe and Truckee River Watersheds completed this fiscal year were: Reducing Sediment Load Reduction Loads through Residential Best Management Practices; and, Squaw Creek Restoration Preliminary Design. The six Clean Water Act section 319(h) nonpoint source projects currently underway that Lahontan Water Board staff members worked on this fiscal year and implement the Lake Tahoe and Truckee River Total Maximum Daily Loads are: Coldstream Canyon Floodplain Restoration; Tahoe Residential Best Management Practices; Lake Forest Water Quality Improvement Project; Upper Truckee River and Marsh Restoration Water Quality Assessment; Truckee River Targeted Assessment; and Accelerated Residential Best Management Practices in Lake Tahoe. This suite of restoration, assessment and management practice implementation projects all focus on sediment reduction as specified in the Lake Tahoe and Truckee River Total Maximum Daily Loads.

Looking Forward

In February 2014, the Lahontan Lahontan Water Board determined the following as its current and future priorities for the Lahontan Water Board region:

Protect Human Health The Lahontan Lahontan Water Board it is committed to water quality planning and actions that promote safe, clean, and accessible water adequate for MUN and REC uses.

Protect/Improve Aquatic Life and Surface Water Quality – Considered a priority to the Lahontan Lahontan Water Board is healthy aquatic habitats that support all designated beneficial uses and meet water quality objectives, the prevention and correction of degradation to aquatic habitats, and the protection of unimpaired waterbodies.

Support Environmental Justice/Disadvantaged Communities - The Lahontan Water Board supports the achievement of environmental justice for all Californians so that everyone enjoys the same degree of protection from environmental and health hazards, and has equal access to the decision-making processes related to water quality.

Respond to Climate Change – The Lahontan Water Board considers climate change impacts to California's water resources a priority and is committed to adaptation of its water quality policies, programs and regulatory responses to the environmental conditions resulting from climate change.

The primary causes of nonpoint source pollution impairment in the Lahontan Water Board region are from activities associated with timber harvesting/fuels management, grazing, hydromodification, erosion and related sediments from runoff, and legacy mining. Of these, timber harvesting/fuels management, grazing, and control of erosion are high priorities for nonpoint source pollution regulation, while urban runoff pollution, legacy mining and hydromodification are primarily addressed through other Lahontan Water Board regulatory actions. To support both the Lahontan Water Board's priorities for the Lahontan Water Board region and its nonpoint source pollution priorities, activities related to timber/fuels management; agriculture/grazing, lake, stream, riparian, wetland restoration and stabilization; and watershed management will be the nonpoint source focus for the next fiscal year.

Colorado River Basin Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Colorado River Basin Water Board adopted an agricultural waiver for Coachella Valley, Riverside County, in June 2014 that will cover 60,000 acres of irrigated agriculture.

- Colorado River Basin Water Board staff members participated in nine outreach and education seminars with Imperial County Farm Bureau and Imperial Irrigation District that were held in May and June 2014.

- Colorado River Basin Water Board staff members worked on the development of an agricultural waiver for Imperial Valley, Imperial County, which will cover 500,000 acres of irrigated agriculture.

- Colorado River Basin Water Board staff members worked on the implementation of agricultural waivers for Palo Verde and Bard Valleys.

- Colorado River Basin Water Board certified the Imperial County Farm Bureau Total Maximum Daily Load Implementation Program updated with pesticides management practices as adequate for addressing current-use pesticides chlorpyrifos and diazinon impairments in the Alamo and New rivers in September 2013.

- Colorado River Basin Water Board staff members worked on the development of a certification of the Imperial County Farm Bureau Total Maximum Daily Load Implementation Program as adequate for addressing legacy organochlorine compounds impairments in the Alamo and New rivers, and Imperial Valley Drains.

- Colorado River Basin Water Board adopted a new Clean Water Act section 303(d) List with seven delistings: Alamo River for endosulfan and mercury, Imperial Valley Drains for endosulfan, New River for copper and zinc, and Salton Sea and Colorado River Basin for selenium.

Summary of Nonpoint Source Program Implementation Activities

The Imperial Valley portion of the Salton Sea Transboundary Watershed has been targeted for the purposes of watershed management, including the development and implementation of Total Maximum Daily Loads, certified third party implementation programs, agricultural waivers,

and implementation of the State's Nonpoint Source Program Plan. Priority water quality issues in the Colorado River Basin Water Board region include management of sedimentation and pesticides in the New and Alamo Rivers and the approximately 1,300 miles of Imperial Valley agricultural drains, and 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.

Technical Assistance to Irrigated Agriculture

Irrigated agriculture is the major land use in the Imperial Valley and is identified as a major source of impairment to the Alamo River, New River, and Salton Sea. Water quality constituents of concern associated with irrigated agricultural activities include nutrients, pesticides and sediment. Colorado River Basin staff members regularly meets with Imperial County Farm Bureau staff members and Imperial Irrigation District staff members to coordinate Sediment Total Maximum Daily Load implementation. Over 98 percent of farmers are enrolled in the Imperial County Farm Bureau's Voluntary Total Maximum Daily Load Compliance Program. The short-term goal of this program is a continued reduction of silt and sedimentation in the New and Alamo Rivers and agriculture drains. The long-term goal of this program is a 50 percent reduction of silt and sedimentation in both the New and Alamo Rivers by 2016. Past funding through the CWA section 319(h) Grant Program has been used to educate Imperial Valley farmers/growers on, and promote the use of MPs through a Total Maximum Daily Load compliance program. Some key performance indicators include: Approximately 25,000 Best Management Practices implemented on over 5,000 Imperial Valley farm fields (478,000 acres of farmland in the Imperial Valley covered by program). Over 5,000 farm plans submitted to the program during this fiscal year. Nine outreach and education seminars were held in May and June 2014.

The Colorado River Basin Water Board's nonpoint source Program focuses on Total Maximum Daily Load implementation in the Salton Sea watershed, our Priority Watershed. Colorado River Basin Water Board staff members is currently implementing the following United States Environmental Protection Agency approved Total Maximum Daily Loads*:* Alamo River Silt Total Maximum Daily Load, New River Silt Total Maximum Daily Load, Imperial Valley Silt Total Maximum Daily Load, New River Pathogen Total Maximum Daily Load, New River Trash Total Maximum Daily Load, Coachella Valley Stormwater Channel Bacteria Indicators Total Maximum Daily Load, and the New River Dissolved Oxygen Total Maximum Daily Load .

Agricultural Waivers

A high priority for this fiscal year was the development and adoption of Conditional Waivers of Waste Discharge Requirements for Agricultural Wastewater Discharges (agricultural waiver) in the main agricultural areas within the Colorado River Basin Water Board region. Up to date, the Colorado River Basin Water Board adopted agricultural waivers for Palo Verde Valley, Imperial and Riverside counties, in September 2012 (covering 131,000 acres), Bard Valley, Imperial County, in January 2013 (covering 7,000 acres), Coachella Valley, Riverside County, in June 2014 (covering 60,000 acres). Colorado River Basin Water Board staff members plan to take an agricultural waiver for the Imperial Valley, Imperial County, covering 500,000 acres to the Colorado River Basin Water Board for consideration of adoption at the first semester of 2015.

In October 2013, Palo Verde Irrigation District submitted its Coalition Group's membership farming over 6 acres in the compliance program. The enrollment of irrigated lands covered 93,000 acres and over 99 percent of the farms (Figure 11). The Palo Verde Outfall Coalition Group's water quality monitoring program began in November 2013, and they submitted their first Annual Monitoring Report dated March 7, 2014 to the Colorado River Basin Water Board. Implementation of Bard Valley Agricultural Waiver began in February 2014 with the Bard Water District forming a nonprofit coalition group to represent landowners and farmers regulated by the Conditional Waiver. The Bard Valley coalition group is developing a monitoring plan and a Quality Assurance Project Plan.

Figure 11. Agricultural areas in Colorado Basin Water Board region. (Photo Credit: Colorado River Basin Water Board)

Grants

Imperial Irrigation District Precision Drain Cleaning Best Management Practice Plan. Activities commenced in June 2010 on a $900,000 Proposition 50/84 grant funded project titled Precision Drain Cleaning Best Management Practice Plan and it ended in March 2014. The purpose of the project was to reduce the impacts of Imperial Irrigation District's dredging and maintenance operations throughout the drainage system by implementing a drain improvement program. The project funded a Geographic Positioning System guided drain cleaning program and implementation of a program to utilize vegetation as drain erosion inhibitor. In the past fiscal year, Imperial Irrigation District has employed Geographic Positioning System guided drain cleaning as an integral component of a system-wide drain maintenance program, implemented a program to utilize vegetation (i.e., salt grass) as a drain erosion inhibitor and use of herbicides that protect beneficial plant species, and implemented the Drain Water Quality Improvement Plan which monitored water quality monthly in seven major drains and quarterly in eighteen minor drains (Figure 12).

Figure 12. Imperial Irrigation District drain maintenance. (Photo Credit: Colorado River Basin Water Board)

Alamo River Treatment Wetlands at Shank Road. A Clean Water Act section 319(h) grant program project was awarded in April 2012 to Desert Wildlife Unlimited for the Alamo River Treatment Wetlands at Shank Road. The wetlands are a component of the Citizens Congressional Task Force on the New River. The project has been engineered and 75 percent built and funded. The project benefits disadvantaged communities in Imperial County and will be

open to the public , allowing bird watching, fishing, jogging, and school educational tours. The wetland project would serve to address several water quality pollutants that continue to discharge to Alamo River like sediments and pathogens. The other two similar treatment wetlands in the same area have been reducing the sediment (total suspended solids) and pathogen (Fecal coliform) load by over 94 percent and 99 percent respectively. The Clean Water Act section 319(h) nonpoint source grant agreement was signed on April 2013. In the past fiscal year, Desert Wildlife Unlimited has planted wetland plants (cattails, bulrush and phragmites) around the separate ponds, Colorado River Basin Water Board approved the Quality Assurance Project Plan, monitoring plan, and California Environmental Quality Act and National Environmental Policy Act document (Figure 13).

Figure 13. Desert Wildlife Unlimited planted wetland plants. (Photo Credit: Colorado River Basin Water Board)

Looking Forward

Colorado River Basin Water Board milestones for the next fiscal year 2014-2015 include: an agricultural waiver for the Imperial Valley, Imperial County (consideration of adoption at the first semester of 2015); 90 percent of agricultural waste dischargers in Colorado River Basin Water Board region participating in drainshed coalitions that implement the agricultural waivers by 2018; monthly monitoring results and an annual report by Coalitions and individual dischargers submitted to Colorado River Basin; certification of the Imperial County Farm Bureau Total Maximum Daily Load Implementation Program, which will be updated with pesticides

management practices as adequate for addressing legacy organochlorine compounds impairments in the Alamo and New rivers, and Imperial Valley Drains; coordination with Imperial and Riverside County on the submission of their Local Agency Management Plans for the implementation of the Onsite Wastewater Treatment System Policy (Septic Tank Systems Policy); and participation in the Binational Technical Committee for the New River/Mexicali Sanitation Program to ensure continued load reductions in the New River at the border with Mexico to attain compliance with the New River Pathogen, Trash, and Dissolved Oxygen Total Maximum Daily Loads.

Santa Ana Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Total Maximum Daily Load staff members participated in technical advisory committees and stakeholder groups, met with Total Maximum Daily Load implementation project proponents, and reviewed project concepts and designs, and made site visits to review implementation projects.

- Santa Ana Water Board staff members assisted the New Irvine Ranch Conservancy in applying for a Clean Water Act section 319(h) nonpoint source grant to restore eroding hillsides located within the Agua Chinon area of the Newport Bay Watershed. The grant application was successful and was awarded $523,000 in funding in April 2014.

- Santa Ana Water Board staff members elected to San Jacinto River Watershed Council board; continuing participation on San Jacinto River Watershed Committee.

Summary of Nonpoint Source Program Implementation Activities

- Nonpoint source Policy Implementation for Agricultural Operations (Conditional Waiver of Agricultural Discharges) program: Conditional Waiver of Agricultural Discharges program development has been making progress. Santa Ana Water Board staff members participated in monthly meetings of a stakeholder group that includes potential Conditional Waiver of Agricultural Discharges program participants. Santa Ana Water Board staff members planned and conducted quarterly Conditional Waiver of Agricultural Discharges Program Advisory Group meetings in January 2014 and April 2014. Draft agricultural waiver order, staff report, and California Environmental Quality Act Initial Study checklist / Negative Declaration have gone through an internal review and are currently being updated.

- Santa Ana Water Board staff members continued to support implementation of a resolution adopted by City of Newport Beach to encourage elimination of the use of toxic boat bottom paint in Newport Bay, and to further advance the understanding that use of non-toxic bottom coatings can improve marina's water quality.

- The Newport Bay Watershed Selenium Total Maximum Daily Loads are being developed for consideration by the Santa Ana Water Board in December 2014. These Total

Maximum Daily Loads will include an implementation plan to address nonpoint source-based groundwater discharges high in selenium.

Santa Ana Water Board Staff continues to work on ongoing efforts to curtail or prohibit use of copper anti-fouling paints, and to encourage use of non-toxic alternative coatings, in coordination with the nonpoint source Program Inter-Agency Coordinating Committee's Marina and Recreational Boating Workgroup and California Department of Pesticide Regulation. Santa Ana Water Board staff members' involvement in this issue includes participation in efforts to prohibit the use of toxic bottom paints.

In January and April 2014, Santa Ana Water Board held public hearings to consider proposed Basin Plan amendments to the Salt Management Plan. The Salt Management Plan was amended to: recognize the hydrogeological boundary for Yucaipa/Beaumont Plains Management Zones that differs from the legal boundary between Colorado River Basin region and Santa Ana Water region; to update the Basin Plan language related to the groundwater management zone ambient total dissolved solids and nitrate-nitrogen determination; to incorporate a nitrogen loss coefficient for the San Jacinto area groundwater management zones; to update the descriptive language relating to wastewater reclamation; and, to revise the Yucaipa, Beaumont and San Timoteo Management Zones "Maximum Benefit" Programs.

Looking Forward

Santa Ana Water Board's priorities for next fiscal year 2014-2015 include:

- Manage the Agua Chinon restoration grant to ensure that a grant agreement is executed in time to allow work to being in spring 2015.
- Implement the Conditional Waiver of Agricultural Discharges program.
- Conduct more outreach to potential Clean Water Act section 319(h) nonpoint grant applicants.

San Diego Regional Water Quality Control Board

San Diego Water Board Nonpoint Source Management Program Highlights

- The members of the San Diego Water Board endorsed a "Practical Vision" that includes a chapter on recovery of stream, wetland, and riparian systems.
- The San Diego Water Board developed a template to help it to better implement a program that is critical for protecting and restoring wetlands and riparian areas.
- The Southern California Wetlands Recovery Project, in which the San Diego Water Board actively participates, updated the list of wetlands acquisition, preservation, and restoration projects that it is working to implement.

Summary of Nonpoint Source Program Implementation Activities

For the past several years, the San Diego Water Board has used its Clean Water Act section 319(h) nonpoint source program resources primarily for protection and restoration of wetlands and riparian areas. In November 2013, the San Diego Water Board adopted a resolution supporting a "Practical Vision" that includes a chapter on recovery of stream, wetland, and riparian systems.
(See http://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2013/R9-2013-0153.pdf

and

http://www.waterboards.ca.gov/sandiego/water_issues/Practical_Vision/docs/PV_3_Recovery_of_Stream,_Wetlands,_and_Riparian_Systems_Dec2013.pdf.)

Much of the work of protecting and restoring wetlands and riparian areas involves implementation of the Clean Water Act section 401 water quality certification program. During the past fiscal year, San Diego Water Board staff developed a template for internal use in implementing the Clean Water Act section 401 certification program. The template is intended to (a) improve internal consistency in evaluating applications for Clean Water Act section 401 water quality certification and (b) ensure that appropriate requirements from various programs are included as conditions of Clean Water Act section 401 water quality certification.

Information about implementation of the Clean Water Act section 401 water quality certification program by the San Diego Water Board is provided to the public and board members in

"quarterly dredge and fill project action reports." These reports on actions in the past fiscal year are part of the Executive Officer Reports for November 11, 2013 and February 12, May 14, and August 13, 2014
(See http://www.waterboards.ca.gov/sandiego/publications_forms/publications/eoreports.shtml.)

As part of its efforts to protect and restore wetlands and riparian areas, the San Diego Water Board, along with a number of other state and federal agencies, continued to actively participate in and support the Southern California Wetlands Recovery Project. (See http://scwrp.org/.) In November 2013, the Wetlands Recovery Project Board of Governors adopted an update of the Wetlands Recovery Project Work Plan, a list of wetlands acquisition, preservation, and restoration projects that Wetlands Recovery Project is working to implement.
(See http://scwrp.org/grants/work-plan/.) Wetlands Recovery Project has also started work to update its Regional Strategy (see http://scwrp.org/strategy/) and to develop an in-lieu fee program. (See http://scwrp.org/blog/attention-consultants-familiar-with-in-lieu-fee-programs/.)

The San Diego Water Board also continued to regulate confined animal facilities, agriculture and nursery activities, and other nonpoint sources using Waste Discharge Requirements or conditional waivers of Waste Discharge Requirements. In June 2014, the San Diego Water Board adopted conditional waivers of Waste Discharge Requirements for various discharge categories.
(See http://www.waterboards.ca.gov/sandiego/board_decisions/adopted_orders/2014/R9-2014-0041.pdf.)

Looking Forward

As of July 2014, the San Diego Water Board has shifted from using its Clean Water Act section 319(h) nonpoint source program resources primarily for protection of wetlands and riparian areas to using those resources primarily for addressing agriculture and nursery activities, including development of region-wide general Waste Discharge Requirements for such activities. The San Diego Water Board will continue its ongoing work to protect and restore wetlands and riparian areas using resources from other programs.

The San Diego Water Board continues to be concerned that the resources available to address nonpoint source issues are woefully inadequate. The disparity between resource needs and resource availability is exacerbated by State Water Board and/or United State Environmental Protection Agency requirements for regional water boards to participate in numerous meetings and submit a number of reports (such as this one); meeting these obligations consumes a substantial portion of the very scarce resources available.

Appendices

A.1 Success Story #1 – Napa River delisted for sediment

Implementing Best Management Practices Reduce Nutrients in the Non-Tidal Portion of Napa River

Waterbody Improved

The Napa River was deemed to be impaired by nutrients (excess nitrogen and phosphorous) in the 1975 San Francisco Bay Regional Water Quality Control Board Basin Plan and was added to the State's Clean Water Act (CWA) section 303(d) list of impaired waters in 1976. Landowners, local watershed organizations and many federal, State and local government agencies collaborated to implement non-point and point-source control measures to reduce nutrient loading to the River. Non-point source control efforts included education and outreach regarding NPS issues in the watershed and focused on the implementation of best management practices (BMPs) which improved water quality. Point-source reductions in nutrients are attributable to National Pollutant Discharge Elimination System (NPDES) permit restrictions on wastewater discharges and improvements in wastewater treatment technologies. Staff began working on developing nutrient total maximum daily loads (TMDLs) for the Napa River in 2003. Since then data have been collected that demonstrate improved water quality conditions and support removing this water body from the 303(d) list for impairment by nutrients. Staff's assessment included multiple nutrient water quality indicators using a weight-of-evidence approach. As a result of this assessment, 36 miles of the non-tidal portion of the River was recommended by the RWQCB-2 for removal from the 303(d) in 2014 because the River is attaining all applicable numeric water quality objectives related to nutrients.

Problem

The Napa River watershed is located in the California Coast Ranges north of San Pablo Bay and covers an area of approximately 426 square miles. The River main stem is 57 miles long and starts as a small creek at its northern headwaters, and becomes tidally influenced river in the lower southern portions. The Napa River watershed and its 27 tributaries are spawning ground for the endangered Chinook Salmon and Steelhead Trout, and habitat for threatened and endangered birds, mammals, reptiles, fish and plants.

The main non-point sources of nutrients are onsite waste water treatment systems, grazing lands, confined animal facilities, agriculture/ vineyards, wildlife, direct wet and dry atmospheric

deposition, and ground water discharges. Point sources of nutrients include municipal wastewater treatment facilities, failing sanitary sewer collection systems, and municipal runoff.

In 1976, the River was identified on California's CWA Section 303(d) list as impaired by excessive levels of nutrients resulting in eutrophication. Eutrophic waters can alter dissolved oxygen levels and pH, which are critical to aquatic wildlife, and impact beneficial uses including cold freshwater habitat, warm freshwater habitat, agricultural supply, municipal and domestic supply, water contact recreation, and non-contact water recreation.

Why Water Quality Conditions Improved

Historical conditions (dating back to the 1970s and before) could generally be described as having higher levels of cattle grazing (direct access to streams and tributaries), more dairies and confined animal feeding operations (i.e., milking cows) with limited BMPs, and less treatment of wastewater in the region.

The major activities focused on holistically assessing water quality, reducing cumulative effects of runoff, and addressing threats to the Napa River watershed. Although several of the actions described below were developed to control discharges of sediment and pathogens to the River, many pathogen and sediment controls actions serve dual purpose towards reducing nutrient loading from nutrients attached to sediment and/or delivered via stormwater. Major activities that contributed to reduced nutrient loads to the River include:

- Developing plans that teach nutrient control, sediment controls and bank stabilization;
- A reduction in grazed rangeland and confined animal facilities and conversion to other less nutrient intense land uses was followed by improved management at remaining properties; using guidance provided by the US Department of Agriculture National Resources Conservation Service (NRCS) and by local Resource Conservation Districts (RCDs);
- General reductions in active grazing and confined animal facilities within the watershed;
- Adding specific language in NPDES wastewater treatment plant permits in the 1980s prohibiting dry-season wastewater discharges to the River;
- Funding sediment load reduction projects in Napa River watershed using CWA 319 funds since 1992;
- Development of the Fish Friendly Farming (FFF) program in 1999, which was sponsored for its first five years by the Sotoyome Resource Conservation District in Santa Rosa, to provide technical assistance for landowners and managers of vineyards through a site assessment process to control sediment discharges from vineyard properties and related road networks;
- Issuing the 2003 general WDRs and conditional waivers of WDRs for Confined Animal Facilities (currently under revision and update); and,

- Issuing the 2011 Waiver of Waste Discharge for Grazing Operations located in the watershed.

Continued success in reducing nutrients in the River, will rely on active third-party watershed programs, such as the FFF to reduce vineyard-related sediment bound nutrients from entering the streams, the implementation of Farm Conservation Plans, Nutrient Management Plans, Waste Management System Plans, and Ranch Water Quality Control Plans as required by RWQCB-2 WDRs and waivers to improve agricultural BMPs aimed at reducing discharges from grazing lands and confined animal facilities.

Results

Current water quality conditions in the River (2002-2012) show that nutrient-related numeric and narrative Water Quality Objectives are being met and potentially impacted beneficial uses are supported in this water body. The eight lines of evidence did not show exceedances beyond what is specified in the Listing Policy (Table 4.1).

Napa River Summary of Line of Evidence and exceedances of Evaulation Guidelines

Line of Evidence	*Analyte*	*Numeric Evaluation Guideline*	*Number of Exceedances*	*Evaluation Metric*	*Listing Factor*
1	Benthic biomass chlorophyll a	< 150 mg/m^2	2 of 16	Evaluation Guideline	4.11 weight of evidence
2	Percent macroalgae cover	30%	2 of 17	Evaluation Guideline	4.11 weight of evidence
3	Water column chlorophyll a	15 µg/L	1 of 40	Evaluation Guideline	4.11 weight of evidence
4	Nitrite	1 mg/L	0 of 120	Water Quality Objective	4.1 toxicant
5	Nitrate+ Nitrite	10 mg/L	0 of 120	Water Quality Objective	4.1 toxicant

6	Ammonia, un-ionized	0.025 mg/L	0 of 6	Water Quality Objective	4.1 toxicant
7	Ammonia, total	0.1-2.8 mg/L	0 of 120	U.S. EPA Criterion	4.1 toxicant
7	pH	6.5-8.5 units	0 of 24	Water Quality Objective	4.1 toxicant

On the basis of these data, it is anticipated that the State Board will recommend removal of the non-tidal portion (36 miles) of the River from the state's list of impaired waters for nutrients. The RWQCB-2 Board adopted a resolution recommending delisting the Napa River for nutrients from the impaired water bodies list in February 2014. Moving forward, RWQCB-2 is updating both the 2003 waiver of WDRs and general WDRs for confined animal facilities and is developing a program to regulate discharges of sediment and nutrients from vineyards located in the watershed.

Partners and Funding

Guidance provided by the United States Department of Agriculture National Resources Conservation Service (USDA NRCS), UC Cooperative Extension, and by local Resource Conservation Districts (RCDs) has led to the use of improved agricultural BMPs for grazing animals and confined animal facilities.

Examples include extensive education and outreach to ranchers and farmers in the area, and the development of Farm Conservation Plans (which may include nutrient management and waste management elements), and Ranch Water Quality Plans as required by the RWQCB-2 Grazing Program. In totality, the work of these groups, increased water quality regulation, as well as changes in land use and improved agricultural practices, have contributed to reductions in nutrient inputs and improved water quality.

The major partners in the effort include USEPA, SWRCB, RWQCB-2, United States Department of Agriculture National Resources Conservation Service, Napa County RCD, Napa County Agricultural Commissioner, Napa Valley Vintners Association, Napa County Grapegrowers Association, Napa County Farm Bureau, Napa County, Rutherford Dust Society, California Land Stewardship Institute (managers of the FFF program), University of California Cooperation Extension, Napa Vintners, California Coastal Conservancy, Watershed Information Center and Conservancy of Napa, San Francisco Estuary Partnership, vineyard owners, and contractors.

To date, California has invested at least $4,834,135 of CWA Section 319(h) funds to support watershed coordination and agricultural BMPs on the River which contributed to watershed

improvements. RWQCB-2 staff members responsible for program implementation were also supported with CWA Section 319 grant funding.

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A.2 Success Story #2 – Sonoma Creek delisted for nutrients

Implementing Best Management Practices Reduce Nutrients in the Non-Tidal Portion of Sonoma Creek

Waterbody Improved

The main stem of Sonoma Creek was added to the State's 1986 Clean Water Act (CWA) section 303(d) list due to excess nitrates and phosphorus (nutrients) that can cause excessive algae growth, known as eutrophication. Since that time, landowners, local watershed organizations, and many federal, State, and local government agencies have collaborated to implement non-point and point source control measures to reduce nutrient loading to the Creek. Non-point source control efforts included education and outreach regarding NPS issues in the watershed and focused on the implementation of best management practices (BMPs) which improved water quality in the Creek. Point-source reductions in nutrients are attributable to National Pollutant Discharge Elimination System (NPDES) permit restrictions on wastewater discharges and improvements in wastewater treatment technologies. Staff began working on developing nutrient total maximum daily loads (TMDLs) for Sonoma Creek in 2003. Since then, data have been collected that demonstrate improved water quality conditions and support removing this water body from the 303(d) list for impairment by nutrients. Staff's assessment included multiple nutrient water quality indicators using a weight-of-evidence approach. As a result of this assessment, the non-tidal portion (23 miles) of Sonoma Creek was recommended by the RWQCB-2 for removal from the 303(d) list in 2014 because the Creek is attaining all applicable numeric water quality objectives related to nutrients.

Problem

The Sonoma Creek watershed is located in the California Coast Ranges north of San Pablo Bay, and covers an area of approximately 165 square miles. The Creek flows approximately 33 miles in a southeasterly direction though the Sonoma Valley before discharging to San Pablo Bay. The watershed provides habitat for several native threatened or endanger species of concern, including steelhead trout, Chinook salmon, and California freshwater shrimp.

Historical conditions, dating back to the 1970s, in the watershed could generally be described as having included higher levels of cattle grazing (probably with direct access to streams and tributaries), more dairies and confined animal feeding operations, and less treatment of wastewater in the region. Excessive levels of nutrients can alter dissolved oxygen levels and pH, which are critical to aquatic wildlife, and impact beneficial uses including cold freshwater habitat, warm freshwater habitat, agricultural supply, municipal and domestic supply, water contact recreation, and non-contact water recreation.

In addition to nutrients, Sonoma Creek was listed as impaired by pathogens and sediment in 1998. Although the mechanisms by which these pollutants (nutrients, pathogens, and sediment) in Sonoma Creek differ, these pollutants do share some common sources. The main non-point sources of nutrients are onsite waste water treatment systems, grazing lands, confined animal facilities, grazing lands, agriculture (vineyards), wildlife, direct wet and dry atmospheric deposition, and ground water discharges. Point sources of nutrients include municipal wastewater treatment facilities, failing sanitary sewer collection systems, and municipal stormwater runoff.

Why Water Quality Conditions Improved

Major actions that contributed to reductions in nutrient loading to the Creek include:

- Prohibitions on the discharge from municipal wastewater treatment during the “dry season,” when the minimum 10:1 creek water to discharge dilution ratio could not be achieved as dictated by the 1982 Basin Plan.
- Implementation of RWQCB-2 pathogen and sediment TMDLs for the Sonoma Creek watershed. Many of the implementation actions prescribed in the pathogens and sediment TMDLs serve dual purpose and act to control nutrient loading.
- Issuance of the 2003 general WDRs and conditional waivers of WDRs for Confined Animal Facilities (currently under revision and update);
- Issuance of the 2011 Waiver of Waste Discharge for Grazing Operations located in the watershed, and,
- Shifts in agricultural practices including a reduction in the amount of land available for grazing and numbers of confined animal facilities.

In summary, the reduction in nuisance algae levels was a cumulative effect of NPDES permit restrictions on wastewater discharges, changes in land use in the watershed over the past 30 years, and implementation of improved dairy, cattle grazing, and agricultural BMPs.

Results

Current water quality conditions in the Creek (2002-2012) show that nutrient-related numeric and narrative Water Quality Objectives are being met and potentially impacted beneficial uses are supported in this water body. The eight lines of evidence did not show exceedances beyond what is specified in the Listing Policy (Table 4.1).

Table 1. Sonoma Creek Summary of Line of Evidence and exceedances of Evaulation Guidelines

Line of Evidence	*Analyte*	*Numeric Evaluation Guideline*	*Number of Exceedances*	*Evaluation Metric*	*Listing Factor*
1	Benthic biomass chlorophyll a	< 150 mg/m^2	1 of 18	Evaluation Guideline	4.11 weight of evidence
2	Percent macroalgae cover	30%	0 of 18	Evaluation Guideline	4.11 weight of evidence
4	Water column chlorophyll a	15 µg/L	0 of 25	Evaluation Guideline	4.11 weight of evidence
5	Nitrate+ Nitrite	10 mg/L	0 of 86	Water Quality Objective	4.1 toxicant
6	Ammonia, un-ionized	0.025 mg/L	0 of 6	Water Quality Objective	4.1 toxicant
7	Ammonia, total	0.1-2.8 mg/L	0 of 86	U.S. EPA Criterion	4.1 toxicant
8	pH	6.5-8.5 units	0 of 27	Water Quality Objective	4.1 toxicant

On the basis of these data, it is anticipated that the State Board will recommend removal of the non-tidal portion (23 miles) of the Creek from the state's list of impaired waters for nutrients. The RWQCB-2 Board adopted a resolution recommending delisting the Napa River for nutrients from the impaired water bodies list in February 2014. In addition, RWQCB-2 now regulates grazing operations in the watershed and is developing permits to expand regulation of confined animal facilities located in the watershed, and is developing regulations to control sediment

discharges to the Creek from vineyards and ensure nutrients (attached to sediment and contained in stormwater) used for viticulture do not cause future impairments.

Partners and Funding

Guidance provided by the United States Department of Agriculture National Resources Conservation Service (USDA NRCS) and by local Resource Conservation Districts (RCDs) has led to the use of improved agricultural BMPs for grazing animals, and confined animal facilities.

Examples include extensive education and outreach to ranchers and farmers in the area, and the development of Farm Conservation Plans (which may include nutrient management and waste management elements), and Ranch Water Quality Plans as required by the RWQCB-2 Grazing Program. The Sonoma RCD, via a substantial homeowner education program, assisted in the implementation of stormwater control projects that reduced nutrient pollution and erosion from urban and rural residential landscapes.

In totality, the work of these groups, increased water quality regulation, as well as changes in land use and improved agricultural practices, have contributed to reductions in nutrient inputs and improved water quality, e.g., dissolved oxygen and less problematic algal blooms.

To date, California has invested at least $1,351,451 of CWA Section 319(h) funds to support watershed coordination and agricultural BMPs on the Creek which contributed to watershed improvements. RWQCB-2 staff members responsible for program implementation were also supported with CWA Section 319 grant funding.

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B. 2014 Clean Water Act section 319 Nonpoint Source Project Approval

Rank	FAAST Pin No.	Regional Water Board	Project Type	Project Title	Applicant	Project Description	CWA 319 Funds Requested ($)	Applicant Match ($)	Total Project Cost ($)	Cumulative CWA 319 Award ($)
1	25813	1	Plan	Collaborative TMDL Planning for the Navarro Watershed	Mendocino County Resource Conservation District	This Project will address data gaps and identify sub watersheds and ownerships for prioritizing of TMDL project implementation in the Navarro River watershed, a 315 square mile coastal watershed that appears on the CWA 303(d) list as an impaired water body for both temperature and sediment. The Mendocino County Resource Conservation District's (MCRCD) collaborative partnership will: 1) conduct Level 1 (aerial photo) analysis of priority watersheds/ sub watersheds to identify road densities, potential sediment savings, and develop cost estimates; 2) perform Level 2 review for sediment and temperature TMDLs to identify highest priority, impaired water body segments; 3) develop a "BasinTemp" analysis to identify areas where canopy/riparian buffers are most needed; and 4) target outreach to areas where the results of the Level 1 analysis and TMDL goals overlap. Working in cooperation with The Nature Conservancy and Natural Resource Conservation Service (NRCS), MCRCD will identify project locations and	$169,284.29	$69,236.12	$238,520	$169,284

						landowners engaged in conservation planning, and other ownerships where implementation efforts should be focused, and prepare shovel-ready assessments for future TMDL implementation. Approximately 30-35 miles of unimproved roads will be inventoried by professional geologists, based on a prioritization from the Level 1 analysis and five to seven working landscapes will be identified for developing/increasing riparian buffers through NRCS or RCD technical assistance.				
2	25836	1	Plan	Redwood Creek, South Fork Eel River, Water Conservation, Monitoring, Planning and Assessment, and Education Project	Salmonid Restoration Federation	This project explores the feasibility of conducting a technology transfer of the Mattole River headwaters successful water conservation and forbearance program to Redwood Creek, a 26-square mile watershed that flows into the South Fork Eel River and historically supported salmonids. The project addresses water quality, flows, and temperature issues associated with diminishing instream flows in the South Fork Eel River watershed. The Salmonid Restoration Federation (SRF) will monitor summer flows and temperatures in Redwood Creek to identify impairments and solutions, and to build capacity for a water conservation program. SRF will engage the local community in monitoring efforts and work with county, state and federal agencies to identify critical reaches for water conservation projects that could increase cold-water instream flows. The education component	$77,212.00	$28,079.00	$105,291	$246,496

						of this project addresses recommendations in the Temperature Action Plan including educating users on water conservation practices, and developing flow improvement projects for beneficial uses.				
3	25851	1	Plan	South Fork Eel River Water Conservation Project	California Trout, Inc.	This project - from CalTrout in partnership with Trout Unlimited, Center for Ecosystem Management and Restoration, Humboldt State University Institute for River Systems, and McBain and Trush Associates – will conduct water resource investigations in Sproul Creek, tributary to the South Fork Eel River, as the initial phase of a program to refine water conservation methodologies in the South Fork Eel and North Coast Region. This planning phase will establish a technical committee of agency scientists and managers to formally review a study plan for an instream flow study in Sproul Creek (water supply, human water demand, and instream flow needs) to be conducted in this project. Subsequent phases will implement streamflow improvement activities based on integrated water diversion management strategies. The outcomes of these studies match the Action Plan for the South Fork Eel: 1)	$175,000.00	$33,873.00	$208,873	$421,496

						quantifying flows necessary to support beneficial uses, 2) informing public outreach and education efforts, and 3) identifying water conservation opportunities to increase summer low flows.				
4	25858	1	Imp	Focused Implementation of Sediment-Temperature TMDLs in the Navarro River Basin using the Fish Friendly Farming Program	California Land Stewardship Institute	This project implements the sediment and temperature TMDLs through preparation of a farm water quality plans and implementation of management measures and projects. California Land Stewardship Institute (CLSI) will enroll 5,000 acres of vineyard/orchard parcels in the Navarro Watershed in the Fish Friendly Farming (FFF) program, assess for sediment sources, water sources, conservation, and effective shade riparian conditions, and have the needed management measures applied, certified and monitored. CLSI chose seven (7) tributary basins with vineyards on steep slopes as focus areas for greater effort to enroll and assess vineyard/orchard parcels. An additional 3,490 acres will be re-certified with effectiveness monitoring of management measures and changes made to ineffective measures. The FFF program has been very successful at implementing the	$250,750.00	$92,200.00	$342,950	$672,246

						sediment and water temperature TMDLs on private agricultural lands in a number of counties and has over 128,000 acres enrolled. The Work Plan for the Regional Board's Sediment Implementation Policy specifically recommends the FFF program for TMDL implementation. Certifications are done by 3 agencies to assure objectivity.				
5	25798	2	Imp	Treating Remaining High Priority Rangeland Pathogen Sites on Parklands in Tomales Bay Watershed	Point Reyes National Seashore - Resource Management	The project will implement 4-9 pathogen reduction management practices (MPs) on National Park Service grazing lands in the Tomales Bay watershed, which is a NPS Program Preference. A TMDL for pathogens identifies grazing as contributing to elevated pathogen levels in Tomales Bay and its three main tributaries. The project focus will be implementing MPs at remaining identified high priority areas in the Olema Creek watershed and a subset of areas in the Lagunitas Creek watershed, two of the three Tomales Bay tributaries described in the TMDL. This will result in a grand total of 68% of Olema Creek tributaries and 50% of Lagunitas Creek tributaries treated on National Park Service lands. Besides anticipated reductions in pathogen, sediment and nutrient loading, the MPs will contribute to endangered coho and steelhead habitat improvement. Assessment of existing water quality data will also be conducted and utilized as an adaptive management tool for future implementation and	$570,030.00	$192,040.00	$762,070	$1,242,276

						monitoring.				
6	25862	2	Plan	LandSmart Farm Planning for Sonoma Creek Vineyards, Phase II	Sotoyome Resource Conservation District	This project with the Sonoma Resource Conservation District (a merger of the former Sotoyome & Southern Sonoma County RCDs) is seeking funds to provide farm planning technical assistance to vineyard managers/owners in a manner that is consistent with General Waste Discharge Requirements for Vineyards in the Sonoma Creek and Napa River watersheds that the SF Bay Regional Water Board anticipates adopting within the next year. The RCD proposes to provide this assistance through the LandSmart program, a regional conservation initiative developed in close partnership with the Napa RCD, USDA-Natural Resources Conservation Service, and with input from many other local and regional stakeholders. The proposed project builds upon Phase I of LandSmart planning currently underway in Sonoma Valley through a 319(h) grant awarded in the 2012 cycle. Phase II, proposed here, will result in the completion of additional farm water quality plans and development of additional on-farm practices for future implementation.	$150,000.00	$50,000.00	$200,000	$1,392,276

7	25816	3	Imp	Pinto Lake Restoration Project	City of Watsonville - Public Works and Utilities Department	This project is designed to restore the NPS nitrate-impaired lake through the reduction in pollutant loads as called for in the adopted TMDL. Every year, the lake experiences massive cyanobacteria blooms that produce cyanotoxins, often reaching levels 10,000 times the State health limit and severely impacting the beneficial uses of the lake. The project will: * Treat internal nutrient loadings that drive the cyanobacteria blooms using sediment phosphorous inactivation using environmentally safe and proven polymers/coagulants such as aluminum sulfate (alum). * Treat the tributaries (which flow seasonally into the lake) with a flow-based polymer/coagulant dosing system. * Work with watershed stakeholders to implement management measures that reduce loadings to Pinto Lake. *Collect water quality data showing reduction of nutrients in-lake and from the watershed.	$750,000.00	$0.00	$750,000	$2,142,276

8	25805	5	Imp	Eightmile Valley Sediment Reduction and Habitat Enhancement Project Phase I	Bureau of Land Management - Ukiah Field Office	This project in Eightmile Valley, approximately 16 acres in area, is located in the Bureau of Land Management's (BLM) South Cow Mountain Recreation Area, Lake County. The valley was impacted by historic agricultural practices and is susceptible to severe winter storms and flood events. In the summer of 2005, the BLM implemented a Plug and Pond Project that was later impacted by the 05/06 severe winter storms. The storms inundated the area, causing catastrophic failure of control structures and the development of a new gully system in the valley. This introduced sediments into headwater tributaries of Scotts Creek which flow through the valley into Clear Lake. This portion of the Clear Lake Watershed contributes a major portion of sediments to the lake, impacting water quality. This project will implement restoration management practices developed by the Scotts Valley Band Pomo Indians, BLM, and West Lake Resource Conservation District in 2012 to capture sediment and impede active erosion from developing gullies in the valley.	$749,992.00	$116,235.80	$866,228	$2,892,268
9	25814	6	Plan	Upper Truckee River and Marsh Restoration Project	California Tahoe Conservancy	This project is a strategic data collection effort designed to complete specific water and sediment budgets for the Upper Truckee Marsh (UTM) located in Lake Tahoe, CA. The proposed assessment will quantify pre-restoration sediment load	$154,935.00	$53,600.00	$208,535	$3,047,203

				Water Quality Assessment		changes, define a UTM restoration effectiveness monitoring plan, and inform a mass balance tool that will estimate average fine sediment particle load reductions achieved in river channel morphological changes. Data collected from this effort will improve the ability to estimate average annual pollutant load reductions from the UTM, evaluate the effectiveness of future restoration, and inform the restoration design.				
10	25838	6	Plan	Truckee River Tributaries Sediment Source Assessment	Truckee River Watershed Council	This project will reduce excess sediment generated in key tributaries in support of the Truckee River TMDL. The assessment will directly lead to a restoration plan for sediment sources in the target area that includes eight of the twenty-seven sub-basins in the Middle Truckee River watershed: the uncontrolled tributaries of Cabin Creek, Deep Creek, Pole Creek, Silver Creek, Deer Creek, and Bear Creek. In addition, the Prosser Creek watershed below the dam and focused areas along the mainstem of the Truckee River in the Big Chief corridor will be targeted. Tasks consist of reviewing existing data, conducting a focused field assessment, developing a Prescription Plan for project implementation, and completing National Environmental Policy Act and California Environmental Quality Act requiremnets. Once completed, the Tributaries Assessment will result in shovel-ready implementation projects.	$101,560.00	$34,135.00	$135,695	$3,148,763

11	25861	6	Imp	Accelerated Best Management Practice Implementation in the Lake Tahoe Basin	Tahoe Regional Planning Agency (TRPA)	This project will build on TRPA's existing program to facilitate best management practice (BMP) implementation on high priority private parcels and will result in fine sediment load reductions from the urban upland. The Lake Tahoe TMDL has identified fine sediment particles delivered to Lake Tahoe by urban stormwater as the primary pollutant of concern for the lake. Specific tasks in this project include utilizing TRPA's accelerated implementation process to increase private parcel BMP compliance, expanding on public education and outreach, and expanding on programs that incentivize voluntary BMP implementation.	$300,000.00	$115,000.00	$415,000	$3,448,763
12	25859	8	Imp	Agua Chinon Foothill Restoration Project	New Irvine Ranch Conservancy	This project will restore 22 acres of degraded hillsides within the upper reaches of Agua Chinon Wash, a tributary to San Diego Creek and Newport Bay. Restoration sites include hydroseeding landslide areas directly above the wash and the fire road contouring its western edge. Slopes consisting of only annual grasses and mustard will be restored to coastal sage scrub, a habitat dominated by perennials with a diversity of above and below ground vegetative structure and active growth throughout the year. The project is a high priority for land owners and land managers, based on habitat restoration prioritizations, and by the Santa Ana Regional Board, based on its release of fine sediment to the watershed. Funding	$523,211.00	$174,404.00	$697,615	$3,971,974

						will support project implementation. After the three year funding period, maintenance activities will continue under existing long-term land management contracts between the land manager (The New Irvine Ranch Conservancy) and land owners.				
↓Funding - Probable↓										
13	25843	4	Imp	Improving Agricultural Drainage in Oxnard Central Ditch	Ventura County Resource Conservation District	This project includes on-farm best management practices (BMPs) to mitigate runoff and trap sediment in the the Central Ditch, which is located in coastal Ventura County. Proposed BMPs will slow down flow of water, stabilize channel walls, retain sediment, and remediate pesticides. Channel improvements will include shaping of the channel by smoothing banks and cleaning out sediment flowing into piping. Small quantities of sediment will be hauled to a landfill. Aged and silted pipes will be replaced. Flexamat will be used for pipe headwall support, along channel walls, and on the bottom in critical sections to maintain stability and retain sediment. Flexamat is a recommended BMP by Natural Resources Conservation Service (NRCS) because of its ability to reduce flow of water and retain sediment while also allowing for vegetative growth which facilitates in remediation of pesticides.	$729,500.00	$243,000.00	$972,500	$4,701,474

↓Funding - Possible↓										
14	25832	3	Imp	Pajaro Watershed Livestock and Land Program	Resource Conservation District of Santa Cruz County	This project will continue the Livestock and Land program, which achieves water quality goals through implementation projects, project design, technical assistance, recruitment and training. The project addresses the fecal coliform TMDL for the Pajaro Watershed due to the domestic animals on rural residential properties. The approach used by the Livestock and Land team to accomplish program implementation includes: 1) public outreach and education through technical and hands-on training focused on reducing/eliminating water quality pollution; 2) establishment of demonstration sites to highlight implementation of best management practices throughout the project area; 3) development and strengthening of a peer-to-peer leadership program to transfer information via a volunteer/peer leader network; 4) an incentives based approach to achieve "cultural change" needed for owners of livestock facilities to voluntarily adopt management measures that improve the healthy functioning of watersheds.	$471,395.00	$229,759.70	$701,155	$5,172,869
15	25856	5	Plan	Evaluation of MeHg Production In	San Joaquin County Resource	This project will monitor total mercury, methylmercury, and dissolved organic carbon at locations in irrigated agriculture in the South Delta to determine the	$119,390.00	$44,250.00	$163,640	$5,292,259

				Agricultural Lands in the South Delta	Conservation District	source(s) of methylation. The project will measure levels in irrigation source water and again at field runoff points. Monitoring data will be used to determine which management practices could be effective in reducing or eliminating the discharge of methylmercury to the Delta and allow the south Delta to meet its load reduction targets.				
16	25796	4	Plan	Study of Water Quality Impairments Attributable to Onsite Wastewater Treament Systems (OWTS) in the Ventura River Watershed	County of Ventura - Environmental Health Division	This project will identify Onsite Wastewater Treatment Systems (OWTS), either individually or by geographic area, that are contributing to the total maximum daily loads (TMDL) of surface waters for algae, eutrophic conditions and nutrients in the Ventura River Watershed and its tributaries. The study will facilitate a focused application of available resources to reduce or eliminate the contribution of these OWTS to the water quality impairments, and more effectively meet the requirements of the State Water Board's OWTS Policy and TMDL requirements. Anticipated steps in the project include a literature review, review of existing water quality data, consideration of soil and hydrogeologic conditions in areas served by OWTS, and a ranking of areas as to potential for contribution to the impairments. For those areas deemed to have a significant potential for contribution, additional analyses to address the fate and transport of pathogens and biostimulatory	$175,000.00	$67,464.80	$242,465	$5,467,259

						substances will be conducted.				
↓Funding - Not likely↓										
17	25801	1	Imp	Navarro Watershed Working Landscapes TMDL Implementation Project	Mendocino County Resource Conservation District (MCRCD)	This project with the MCRCD and its conservation partners will implement three integrated project elements reflecting RWRCB priorities for the Navarro River watershed to promote Temperature and Sediment TMDL goals. The three elements, to be implemented in collaboration, include: 1) expanding and adapting conservation planning tools, developed in partnership with Sonoma and Napa Resource Conservation Districts, and conducting a pilot program with approximately 8 working landscapes to proactively prepare for TMDL compliance and the future RWQCB Agriculture Lands Program requirements; 2) promoting water conservation measures in partnership with USDA-Natural Resources Conservation Service (NRCS) and The Nature Conservancy, through workshops, tours and demonstration projects; and 3) Implementing 4 sediment reduction restoration demonstration projects, identified with NRCS and local stakeholders, that showcase best management practices for supporting	$370,457.66	$315,607.50	$686,065	$5,837,717

						TMDL goals.				
18	25840	5	Plan	Coordination and Synthesis of Nonpoint Source Methylmercury Control Studies in the Delta	Sacramento River Watershed Program	This project will facilitate and coordinate compliance with Phase 1 of the Delta Mercury Control Program outlined in the draft Sacramento-San Joaquin Delta Methylmercury TMDL and Basin Plan Amendment (BPA) promulgated in 2011 by the Central Valley Regional Water Quality Control Board and USEPA. The TMDL and BPA address methylmercury contamination in the Sacramento-San Joaquin Delta, listed as an impaired waterbody pursuant to Section 303(d) of the Clean Water Act, and require actions targeting mercury reductions in both organic (methylmercury) and inorganic forms. The project will provide wetlands and irrigated agricultural land managers with a plan to develop prioritized and collaborative Phase 1 methylmercury control studies (Control Studies). The Control Studies will identify and characterize appropriate management measures for the control of methylmercury loads from wetlands and irrigated agriculture to the Delta's open waters. This project will also provide an organizational structure to educate and outreach to the wetland and irrigated agricultural community (as well as to the broader stakeholder community), and to facilitate	$172,665.00	$75,945.00	$248,610	$6,010,382

						future coordination and collaboration during implementation of the Delta Mercury Control Program. This project follows on the heels of a successful 2011-2013 planning grant that is producing a collaborative Control Study Workplan, facilitating its implementation by a subset of NPS Workgroup members for the benefit of all.				
19	2582 2	4	Plan	McGrath Lake Work Plan to Address Contaminated Sediments-Remmediation Alternatives Analysis	California State Parks - Department of Parks and Recreation	This project will develop the McGrath Lake Workplan (MLWP), which will identify management measures to implement the McGrath Lake Organochlorine Pesticides and PCBs TMDL. McGrath Lake is on the Clean Water Act Section 303(d) list due to PCBs, organochlorine pesticides (chlordane, dieldrin, DDT and derivatives), and toxicity in the lake sediments. The TMDL concludes that the majority of contamination results from historical and current loading of contaminants via suspended solids in stormwater and agricultural runoff. The TMDL assigns load allocations to: (1) ongoing discharges to the lake and (2) internal sources from the lake sediment. The TMDL allows Cooperative Parties to implement the lake sediment load allocations through a voluntary memorandum of agreement (MOA) that will direct the development of the MLWP. This project will fund the development of the MLWP and oversight of its development by Cooperating Parties. The proposed project may lead to a significant reduction of a major pollutant	$131,250.00	$43,750.00	$175,000	$6,141,632

						source and the restoration of an important ecological resource.				

Notes: 1. "Imp" means implementation projects.

2. "Plan" means planning-assessment projects.