



Nonpoint Source Annual Report

State Fiscal Year 2014-2015

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, 2014 – June 30, 2015



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Appendix A. 2014 Clean Water Act section 319 Nonpoint Source Project Approval

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 preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations. 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 rivers, streams, lakes, beaches, bays, and 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.

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 efforts to control and reduce nonpoint source water pollution. 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 projects that implement nonpoint source pollution control. This annual report conveys accomplishments related to implementing the applicable Nonpoint Source Management Program plans.

The State Water Resources Control Board also works with the California Coastal Commission to protect coastal waters from nonpoint source pollution sources such as urban 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 (CZARA). CZARA 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 California Nonpoint Source Program is funded 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 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 related to watershed preferences identified by different Regional Water Quality Control Boards.

The State and regional Water Boards work with various partners such as Department of Conservation, Natural Resource Conservation Service, and Department Fish and Wildlife on 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 water pollution 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 funds 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 focus 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.

State Water Resources Control Board

California Nonpoint Source Management Program Highlights

- State Water Resources Control Board (State Water Board) approved projects for the 2015 Clean Water Act section 319 grant solicitation as identified in Appendix A.
- State Water Board updated Grant Reporting and Tracking System.
- State Water Board completed the California Water Boards 2014 Accomplishment Report.
- State Water Board adopted amendments to the statewide water quality control plans are to address trash in water ways.
- State Water Board adopted 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
- Summary of Nonpoint Source Program Implementation Activities
- Clean Water Act section 319 project funding

Nonpoint Source staff members have completed the 2015 Implementation and Planning Assessment Grant solicitation. Thomas Howard, Executive Director of the State Water Board, approved 12 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 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.

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.

2014-2015 Water Boards' accomplishment report

The State Water Board and Regional Water Boards (collectively Water Boards), released the Water Boards Accomplishments Report in October 2015. The Water Board accomplishment report discusses key accomplishments and priorities for next state fiscal year and is available at:

http://www.waterboards.ca.gov/publications_forms/publications/general/docs/accomplishments_report2013.pdf

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. On April 7, 2015, the State Water Board adopted an Amendment to the Water Quality Control Plan for Ocean Waters of California (Ocean Plan) to Control Trash and Part 1 Trash Provision of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries (ISWEBE Plan). Together, they are collectively referred to as 'the Trash Amendments'. The project objective for the Trash Amendments is to provide statewide consistency for the Water Boards' regulatory approach to protect aquatic life and public health beneficial uses, and reduce environmental issues associated with trash in state waters, while focusing limited resources on high trash generating areas. Further information about this amendment is available on the State Board Website at:

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

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. On May 6th, 2015, the State Water Resources Control Board (State Water Board) approved an amendment to the state's Water Quality Control Plan for the Ocean Waters of California (Ocean Plan) to address effects associated with the construction and operation of seawater desalination facilities (Desalination Amendment). The amendment supports the use of ocean water as a reliable supplement to traditional water supplies while protecting marine life and water quality. The desalination amendment will for the first time, provide a uniform, consistent process for permitting of seawater desalination facilities statewide. In doing so, it provides direction for regional water boards when permitting new or expanded facilities, and provides specific implementation and monitoring and reporting requirements.

Irrigated Lands Regulatory Program

State and Regional Board Irrigated Lands Regulatory Program (ILRP) staff continue to develop, implement, enforce, and conduct adaptive management of agricultural operations enrolled in the ILRP. A large component of the ILRP is measuring compliance with the Nonpoint Source Policy through all agricultural regulatory actions. Staff work also continues to focus on the incorporation of groundwater protection related to agricultural activity and support the Governor's Healthy Soils Initiative. During the 2014/15 fiscal year, ILRP were involved in the following:

- To address groundwater impacts, staff participated in updating and implementing of the current Management Agency Agreement (MAA) and the Memorandum of Understanding (MOU) between the Water Boards and the California Department of Pesticide Regulation (CDPR) and California Department of Food and Agriculture (CDFA), respectively. In addition, ILRP staff continue work with other agricultural related agencies, commodity groups, coalition groups, technical service providers and academia to coordinate efforts

on both Surface and Ground Water protection efforts to assist growers comply with regulatory requirements.

- ILRP staff continue to participate as an active member of the USDA – Natural Resources Conservation Service (NRCS) National Water Quality Initiative (NWQI) California workgroup for the Fiscal Years 2014-2015 Environmental Quality Incentives Program (EQIP) funding. This work included attending meetings/teleconference calls, GIS mapping and numerous other tasks to determine and produce a jointly agreed upon list of recommended HUC-12 watersheds for annual funding (approximately \$2.5 million dollars).
- ILRP staff participated in and contribute to the development of a formal partnership between the Water Boards, Natural Resources Conservation Service(NRCS), and US Environmental Protection Agency Region 9 on how to best coordinate and leverage resources to assist growers comply with regulatory requirements and NPS control programs.

Staffing Changes

In March 2015, the State Board Nonpoint Source Senior, Steve Fagundes retired. The program thanks Steve for his leadership and support. As of the end of the reporting period, the position was still vacant (the position was filled in September 2015). Shortly after the end of the reporting period, the unit saw an 80% staff turnover. The significant vacancies and training needs will create challenges for the program, but also provide opportunities for new and creative thinking

Looking Forward

After several years with record low rainfall, with little water remaining in storage and 2014 one of the driest years on record, California was in grip of a severe drought. Accordingly, actions to address drought will continue to be among the highest priorities statewide for the Water Boards in the next state fiscal year. Significant staffing changes related to the previous mentioned staffing turn over will also challenge the program. Finally, experience gained through the ongoing development of the program implementation plan has highlighted an opportunity to rethink reporting strategies.

The State Water Board priorities for the Nonpoint Source Program in state fiscal year 2015 through 2016 include:

- Filling all staffing vacancies
- Working with US EPA and the Regional Boards to streamline reporting to improve relevancy and reduce the time and effort required to generate the reports.
- Soliciting for 2015 Clean Water Act section 319(h) planning and implementation proposals;
- Completing the Nonpoint Source Program Implementation Plan;
- 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 reflect the current funding mechanisms for State Water Board and Regional Water Quality Control Board regulation of nonpoint source wastewater discharges

North Coast Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Regional Board reviewed 174 private timber harvest plans or nonindustrial timber management plans and conducted 191 pre-harvest, active harvest, completion, compliant, or enforcement inspections.
- Regional Board enrolled 86 harvest plans in Waste Discharge Requirements (WDRs).
- Regional Board adopted the Jordan Creek Watershed-wide WDRs.
- Regional Board continued efforts to complete the Elk River Sediment Total Maximum Daily Load (TMDL) and Watershed-wide WDRs.
- Regional Board applied the watershed stewardship framework and worked closely with partners in the Scott River and Shasta River watersheds on actions such as salmon surveys, water leases, water right forbearance agreements, groundwater studies, irrigation improvements, riparian enhancement efforts, installation of beaver dam analogs, fisheries habitat improvements, grazing management, irrigation impoundment removal, road surveys, and water quality monitoring.
- Regional Board continued to implement the Scott River and Shasta River Waivers of WDRs.
- In the Garcia River Watershed, the Mendocino County Dept. of Transportation completed the \$1.36 million Fish Rock Road sediment control project and The Conservation Fund upgraded 14.5 miles of their roads. Road and sediment source inventories were completed for 7,000 acres (approx. 10% of the watershed) and control work is underway. Large wood was added to 1.5 miles of the South Fork Garcia River.
- Regional Board continued efforts to develop general WDRs or Waivers of WDRs for discharges from agricultural operations in the Tule Lake Basin, from the cultivation of Easter lily bulbs, and from vineyards and orchards.
- In the fiscal year, 7 sub-grants were successfully completed, 1 was terminated, 9 made progress in completing projects, 3 began, and 2 new grants were awarded.

Summary of Nonpoint Source Program Implementation Activities

Dairy Permitting - Initiative RB1.2.04

There are 126 cow dairies currently enrolled in one of the three general permits that comprise the [North Coast's dairy program](#)¹. Two new individual permits are being developed. Annual reports were submitted for all 126 dairies this fiscal year, with only three dairies requiring

¹ http://www.waterboards.ca.gov/northcoast/water_issues/programs/dairies/pdf/150507/150507_Item_4_DairyInfoltem.pdf



Del Norte Co. dairy cows on concrete which drains via concrete gutter to concrete holding tank for even distribution on



Humboldt Co. barn is scraped straight into manure pond with capacity. Weeds on banks are trimmed by cows to help spot potential cracks and

enforcement actions for late reports. Staff inspected twenty dairies. Stormwater samples were collected at ten dairies between December and February and assessed for temperature, pH, dissolved oxygen, conductivity, and ammonia. Five of the ten sites showed water quality concerns. These concerns were relayed to operators via dairy representatives and improvements were made onsite. Staff attended monthly stakeholder meetings, quarterly industry roundtables, and annual workshops. A summary of the program and monitoring results was presented to the Regional Water Board in May and is available at:

http://www.waterboards.ca.gov/northcoast/water_issues/programs/dairies/pdf/150507/150507_It em_4_DairyInfoltem.pdf

Cannabis Discharge Control & Permit Development – Initiative RB1.2.08

The Regional Water Board is focused on addressing water quality impacts from the cultivation of cannabis through education and outreach, interagency coordination, enforcement, and the development and implementation of a Waiver of WDRs. In the fiscal year, four full-time staff were hired and the team participated in two Regional Water Board workshops, twenty-four informational events, distributed over 2,000 brochures, and shared information through newspaper articles and in-depth radio interviews. Cleanup and Abatement Account funds were used to provide technical assistance on best practices to landowners and cultivators. As part of enforcement task forces and in response to complaints, staff conducted at least twenty inspections in four watersheds. In April, staff released the public review draft Waiver of WDRs and General Water Quality Certification. The Regional Water Board adopted the [Waiver](#) on August 13, 2015. The waiver is available at:

http://water100.waterboards.ca.gov/rb1/adopted_orders/detail.asp?discharger=cannabis&order



Fertilizers, chemicals, and water tank from a marijuana grow site. Photo by Jennifer Carah, The Nature Conservancy.



— Terracing and cultivation near a stream. —

[number=&WADbSearch1=Submit&ID=1775](#)

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

The North Coast Region is focused on attaining healthy watersheds, effective regulation, and strong partnerships. The Regional Board will consider adopting the U.S. Forest Service Waiver of WDRs and the Elk River Sediment TMDL and Watershed-wide WDRs in the next year. Implementation of NPS permits will continue, including those for discharges from dairies, cannabis cultivation, timber harvesting, and activities in the Scott River and Shasta River watersheds. Last, but not least, the Regional Board will continue to build partnerships through the watershed stewardship framework across the region.

San Francisco Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Finalized a Watershed Improvement Measure report (SP-12) for the Napa River watershed that documents water quality improvements for sediment, using a lines-of-evidence approach.
- Renewed a conditional waiver of waste discharge Requirements for existing dairies (Dairy Waiver) located within the region.
- Administered 13 Clean Water Act section 319(h) grants and were awarded 5 new grants, all in impaired waterbodies with completed TMDLs.
- Implemented the Tomales Bay and Napa River and Sonoma Creek Grazing Program through public outreach and a facility inspection program.
- Worked with groups interested in assisting growers comply with the requirements of anticipated general waste discharge requirements for vineyard properties.

Summary of Nonpoint Source Program Implementation Activities

In summary, the 2014-2015 NPS implementation activities described below, although focused on the North Bay, are not intended to exclude Water Board work (e.g., early total maximum daily load implementation) outside this focus area. NPS implementation activities described below promotes a balanced approach between Region-specific priorities and State Board Non-Point Source program strategies.

During 2014-2015, Water Board TMDL, Non-Point Source, and Surface Water Ambient Monitoring Program (SWAMP) program staff closely coordinated and supported TMDL implementation via stakeholder outreach, grant funding, inspections, water quality data review and synthesis, and complaint follow-ups. Our 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 aimed at implementing completed TMDLs.

Napa River SP-12

The Napa River and its tributaries are impaired by excess sediment. Fine (sand size) sediment clogs spawning gravels and degrades rearing habitat, contributing to a decline of salmon and steelhead populations. To address this water quality problem, the San Francisco Water Board completed a TMDL for sediment in the Napa River which was approved by the U.S. EPA in January 2011. The TMDL identified that significant sediment sources include erosion from unpaved roads/trails and gullies, channel incision, vineyards, and/or rangeland grazing.

Sediment reductions and habitat restoration have involved a watershed approach that included both regulatory and non-regulatory mechanisms. For example, habitat restoration has occurred through a cooperative program to enhance channel and floodplain habitat along 14-miles of the

Napa River. This effort was partially funded through 319(h) grants. Similarly, significant progress on identifying and controlling sediment sources from vineyards has been made through a voluntary, grant-funded third-party technical assistance effort to farmers in anticipation of the vineyard waste discharge requirements (under development).

Reductions in sediment loading from the land use practices identified in the TMDL (e.g., grazing lands, parks, open space and municipal public works, and rural lands) have involved Regional Board development of a conditional waiver of WDRs for grazing practices, and the incorporation of TMDL requirements for the control of sediment discharges from urban stormwater runoff into the State's MS-4 permit.

Dairy Waiver

In June 2015, the San Francisco Bay Water Board renewed the Dairy Waiver for existing dairies within the region. Dairy Waiver requirements apply to all types of dairies (e.g., cow, goat, sheep) located within the boundaries of the San Francisco Bay Region, and that are able to meet the waiver conditions, including Statewide Minimum Standards (Title 27) that prohibit the discharge of dairy facility wash water, animal wastes, and storm water runoff from animal confinement areas into waters of the State. Renewal of the waiver is significant in light of several TMDLs completed in the region that find that improperly managed animal wastes contribute to the degradation of surface water. The Dairy Waiver contains new requirements for monitoring surface and groundwater, and the formation of sub-watershed surface water monitoring groups, to better quantify Dairy Program success. Renewal of the Dairy Waiver involved input from, collaboration with, adjacent regional boards, resource conservation districts, dairy industry representatives, and academics.

Grazing Program

Region 2 Water Board staff continued to implement two conditional waivers of waste discharge requirements (Grazing Waivers) for grazing operations in the Napa River, Sonoma Creek and Tomales Bay watersheds. Implementation focused on outreach and wet and dry weather ranch inspections. The prolonged drought had an impact on rangelands resulting in less available forage causing ranchers to reduce herd sizes and to modify grazing rotations. Water Board worked closely with the Tomales Bay Advisory Committee and interested stakeholders to develop a coordinated water quality monitoring program for the Tomales Bay watershed. Staff 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 (standard used for assessing level of grazing use on annual rangeland), and with annual reporting.

Vineyard General WDRs

The Vineyard General WDRs (GWDRs), which are under development, will regulate discharges in order to achieve the vineyard discharge performance standards for sediment and storm runoff set forth in adopted sediment TMDLs completed for the Sonoma Creek and the Napa River.

Third-party technical assistance groups are expected to play a significant role in assisting producers to comply with the GWDRs; therefore, staff has worked closely with parties that have expressed an interest in filling this important function. Furthermore, 319(h) grants have been

awarded over the past several years to facilitate third-party development. The expectation is that third-party groups will assist producers in preparing farm plans that identify, plan, and schedule the implementation of effective management practices to achieve the performance standards identified in the General WDR and to achieve the load allocations defined in the TMDLs.

Grants

San Francisco Bay Water Board staff continued to administer up to 13 Clean Water Act section 319(h) grants, all in impaired water bodies with completed TMDLs.

Existing grants:

Nearly all existing implementation grants were on schedule and milestones met. Two time extensions, due to the drought and federal sequester, were implemented for:

- Grant # 11-092-552, Conserving Our Watersheds Phase III (COW III), Marin County Resource Conservation District (MRCD); and
- Grant #12-404-252, Upper Napa River Habitat Enhancement and Sediment Reduction Plan, California Land Stewardship Institute (CLSI).

For COW III, delays were due to a combination of factors, including the federal sequester impacting design work by a match fund provider, NRCS, and the cumulative impacts of several drought years that lead to a shifting of resources to address emergency water supply work. COW III designs and implementation are now moving forward according to the revised schedule.

The Upper Napa River Plan design work was delayed because it required fish spawning and rearing data which could not be collected in the River mainstem because there were too few spawning and rearing fish. This was due to poor fish passage, lack of migration attractant flows, and large stretches of the streambed that were dry during the summer months (no summer juvenile rearing).

Grants closed:

Five grants were closed where the grantees fully implemented the agreed to scopes of work. These include: #09-349-552, Fish Friendly Farming Rangeland; #10-444-552, Napa River Rutherford Reach Restoration Phase II; # 11-093-552, Implementing the Fine Sediment TMDL in the Napa River watershed through the Fish Friendly Farming Program; #09-668-552, Conserving Our Watershed Phase II (Marin RCD); and #10-439-552 Tomales Bay Pathogen Best Management Practices on Parklands (Point Reyes Seashore).

Grants awarded:

For 2014-2015 319(h) grant round, eight grant applications were received at the concept proposal stage. Staff worked with prospective grantees and five new grants were awarded to continue implementing our sediment, pathogen and mercury Total Maximum Daily Loads for the Napa River, Tomales Bay, Lagunitas Creek, and Guadalupe watersheds

Looking Forward

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 TMDLs completed to date and are NPS program implementation priorities. Development and implementation of our Vineyard Program is a high priority for the Water Board.

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

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 Water Board priority.

Central Coast Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- The Central Coast Water Board's Nonpoint Source efforts focus on three major initiatives: irrigated agriculture, groundwater assessment and protection, and protection of aquatic habitat. The following are a few highlights from the past year's activities related to our three initiatives:
- Irrigated Lands Program staff completed analysis of grower Annual Compliance Reports for 2014 and the first analysis of grower BMP implementation reporting required under the 2012 Agricultural Order. In general, compliance is high and continuing to improve. BMP implementation reporting will provide a baseline for future analysis and understanding of the impact of BMP implementation on water quality.
- Irrigated Lands Program staff issued 117 drinking water notification letters to growers and landowners whose wells exceeded the nitrate drinking water standard.
- The Groundwater Assessment Program is continuing to implement a domestic well sampling project to assess nitrate levels in domestic wells, which are not routinely tested. In 2014 State Board approved funds for the outreach and education component of a region-wide domestic well sampling project; the project is awaiting final contract approval.
- Central Coast Water Board staff promotes Low-Impact Development (LID) as an effective approach for protecting aquatic habitat and increasing groundwater recharge, as well as for complying with post-construction stormwater management requirements. The State Water Board Stormwater Grant Program awarded funding to five Central Coast projects, totaling more than seven million dollars, for implementation of LID. All projects are underway or already completed.
- The Central Coast Ambient Monitoring Program (CCAMP) released a new Data Navigator in October 2014 to provide more information on the "health" of monitored sites and watersheds.

Summary of Nonpoint Source Program Implementation Activities

The projects described below are located in two of the Central Coast Region's Measure W watersheds, and showcase collaborative and creative efforts to address difficult water quality issues on agricultural lands and roads in rural, mountainous areas.

Oso Flaco On-Farm Water Quality Implementation and Demonstration Project

This project was completed on agricultural lands in the Oso Flaco Creek watershed, just upstream of Oso Flaco Lake. Oso Flaco watershed is a sub-watershed of the Santa Maria River. Surface waters are impaired by nutrients and pesticides, including legacy pesticides found in sediment, such as DDT. The project was a collaborative effort between the Coastal San Luis Resource Conservation District, a local landowner, California Department of Parks and

Recreation and Water Board staff. The intent of the project was to implement farm-scale Best Management Practices to reduce pollutant loading in irrigation runoff and in stormwater originating on irrigated agricultural lands. BMPs included vegetated treatment ditches, sediment basins and a denitrifying bioreactor. A secondary goal of the project was to demonstrate feasible, farm-scale solutions for water quality improvement while minimizing impacts to farm operations.

The project constructed two sediment basins to demonstrate appropriate sediment reduction techniques at the farm scale and vegetated irrigation ditches to improve water quality and reduce erosion. To address nitrate, the project installed a low-maintenance, farm-scale denitrifying bioreactor to remove nitrate from Oso Flaco Creek prior to discharge to Oso Flaco Lake.

The denitrifying woodchip bioreactor was installed at the far northeast side of the project site. Woodchips were used to provide the carbon source for anaerobic bacteria which digest nitrate. The bioreactor is controlled automatically to reduce operation time for landowners, using a pump to move polluted water into the reactor. An automated control valve controls the process time and allows the irrigation water to drain back into the lake with reduced nitrate concentrations. The pump and treat system was chosen to allow for a blackberry crop to be planted on top of the bioreactor. Blackberries may help to rejuvenate the carbon source over time and can be a valuable production crop. Initial data from the first two months of operation showed significant reductions in nitrate concentrations and loading.

Table 1. Bioreactor Effectiveness Results

PARAMETER	RESULTS	EFFECTIVENESS	COMMENT
Volume of water treated	360,000 gallons or 1.1 acre-feet (AF) to date	Effective	Flow meter totalizer measures inflow volume. Outflow is assumed to be equal.
Nitrate Concentration Reduction	Average concentration reduction 12 ppm NO ₃ - N	Effective	Average in = 20 ppm Average out = 8 ppm
Nitrate Load Reduction	36 lbs NO ₃ - N to date	Effective	1.1 AF x 2.72 lbs/af/ppm x 12 ppm

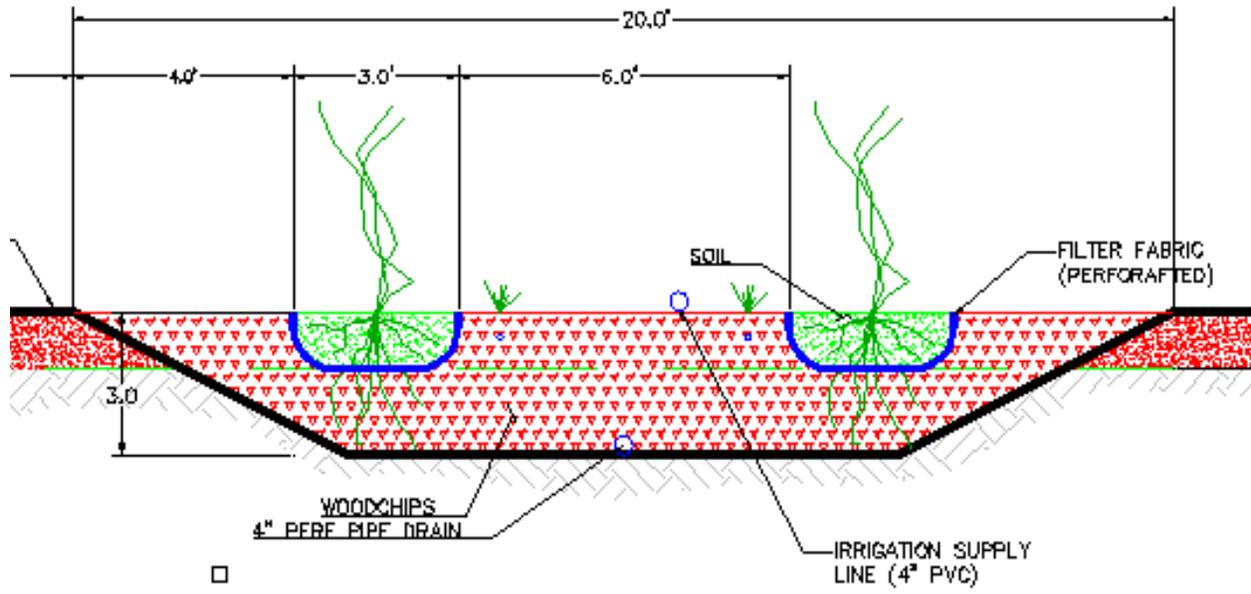


Figure 1. Diagram of Denitrifying Bioreactor



Figure 2. View of Bioreactor Liner



Figure 3. Placing drain and woodchips



Figure 4. Automated Control System



Figure 5. Inflow of Irrigation Water

San Lorenzo Watershed Rural Roads Program

For several years, the Santa Cruz County Resource Conservation District (SCCRCD) has been working with landowners in the rugged Santa Cruz mountains to address erosion from old logging roads that now serve as access to year-round residences. Natural conditions in the San Lorenzo watershed combine structurally weak geologic materials with a high level of seismic activity, steep hillslopes and high seasonal rainfall. Fine sediments, especially sand, are the principal cause of impairment of water quality and fish habitat. Roads are often steep, unpaved and poorly maintained, with failing culverts and erosion to nearby streams. The Rural Roads Program provides cost-share funding to high priority projects in targeted areas of the watershed.

In the fall of 2014, the Rural Roads Program worked closely with a landowner, the Natural Resources Conservation Service (NRCS), and California Department of Fish and Wildlife to complete a project in Lompico Creek, a tributary of the San Lorenzo River. A tributary channel of Lompico Creek flows near the toe of an old earthen dam. A stream crossing culvert for an old haul road was in danger of failing and releasing fill material into the stream. There was also danger of the stream changing course in a failure and increasing erosion along the toe of the dam. The project removed the failing stream crossing culvert, re-graded a 74-foot section of the tributary channel, and decommissioned a section of an old haul road. The stream was daylighted, the stream banks were laid back and planted with native vegetation, and a section of the channel was lined with geotextile fabric, rock, gravel and wood material. The site will be monitored for three to five years to ensure that revegetation is successful. The stream channel will be monitored for erosion and stability and to ensure the channel does not erode the toe of the nearby earthen dam.



Figure 6. A failing, rusted-out culvert under the old haul-road is not visible due to dense vegetation.



Figure 7. The culvert was removed and the stream channel daylighted. Engineered streambed material was used to protect the disturbed channel bed. The banks were protected from erosion and revegetated with native plants.



Figure 8. The same view as Figure 2, taken approximately seven months later.

Looking Forward

In the next year, Central Coast Water Board staff will continue assessing implementation activities of farmers enrolled in the Irrigated Lands Regulatory Program, will continue the domestic well sampling program, and will track wetland mitigation, aquatic habitat protection activities, and implementation of LID. Staff provides regular updates to the Board on the status of nonpoint source initiatives and other activities through Board items and Executive Officer reports. The following reports about our on-going activities are scheduled for FY 2015-2016:

- Irrigated Lands Program report on follow-up actions taken for prioritized ranches, including any enforcement actions.
- Groundwater Assessment and Protection Program report on the status of the region-wide domestic well sampling program.
- Central Coast Ambient Monitoring Program (CCAMP) report on the status of watershed assessment efforts.
- Water Quality Certification Program Annual Effectiveness Assessment report on increases in wetland mitigation, decreases in wetland impacts and aquatic habitat enforcement actions.
- Stormwater Program report on the implementation of post-construction stormwater requirements by Central Coast municipalities, as well as the status of the region's Low-Impact Development Initiative and LID implementation activities.

Los Angeles Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Conducted 32 inspections to determine need to enroll in the Irrigated Lands Waiver.
- Issued 16 NOVs for non-enrollment in the Irrigated Lands Waiver and followed up with outreach and pre-prosecution letters; only two cases need possible further enforcement.
- Issued 6 notices to enroll to growers who were previously enrolled, but dropped out of the Irrigated Lands Waiver. Staff will continue with enforcement efforts as necessary.
- Managed 319(h) grant to reduce pollutant loading from nurseries in the San Gabriel River watershed to comply with the Irrigated Lands Waiver and the San Gabriel River Metals TMDL.
- Executed final MOU to implement McGrath Lake TMDL.
- Oversaw a sampling effort to collect copper data from multiple marinas in the region for a possible region-wide approach to addressing copper loading from boat hulls.
- Met with two stakeholder groups regarding potential revisions to waivers for nonpoint source trash for the Calleguas Creek Trash TMDL and the Ventura River Estuary Trash TMDL.

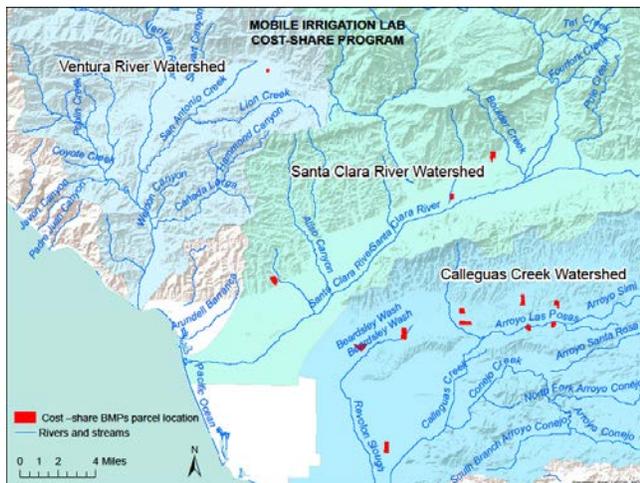
Summary of Nonpoint Source Program Implementation Activities

Conditional Waiver for Irrigated Lands

The Los Angeles Region has approximately 97,000 acres of agriculture under irrigation and approximately 2,100 operations. The objectives of Irrigated Lands Regulatory Program are to monitor the water quality impacts of discharges from irrigated agricultural lands and, if required, mitigate the impacts. The Irrigated Lands Waiver requires agricultural dischargers to (1) enroll in the program, (2) conduct water quality monitoring, and (3) develop a water quality management plan to implement iterative management practices and attain water quality standards.

Dischargers may enroll as an individual discharger or as a member of a discharger group. There are two discharger groups in the Los Angeles Region: one in Los Angeles County and one in Ventura County. In 2014-15, the Regional Board focused on enforcement to increase enrollment. As a result, enrollment in Ventura County increased to 93 percent, but did not increase significantly in Los Angeles County.

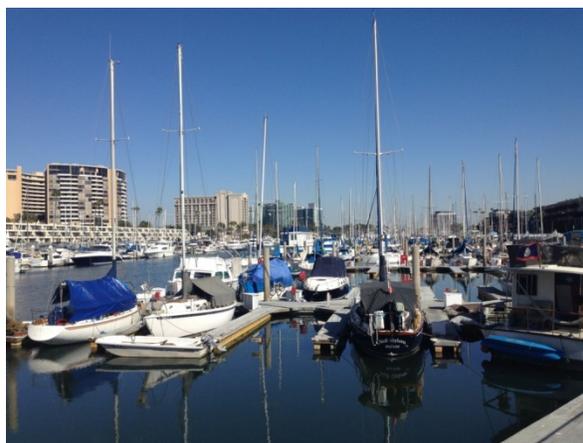
In 2014-15, the Los Angeles Regional Board maintained a GIS database with water quality monitoring results, program members, and management practice implementation in order to develop a proposed waiver renewal in 2015-16. For example, the VCRCD Mobile Irrigation Lab (MIL) program was developed under the Proposition 84 Agricultural Water Quality Grant to help farmers improve water quality by decreasing irrigation runoff and nutrient leaching. VCRCD performed 133 irrigation evaluations and assisted 14 growers with irrigation efficiency improvements using the cost-share program, resulting in a water use reduction of approximately 200 acre-feet per year.



Example Water Quality Database

Marina Del Rey Toxics Pollutants Total Maximum Daily Load

The Los Angeles Regional Board adopted a TMDL for copper in Marina del Rey Harbor under Regional Board resolution No. R14-004. The TMDL will be implemented through a regulatory mechanism addressing copper hull paint. If there is toxicity caused by copper in other marinas in the region, then the Regional Board may consider a single regulatory mechanism to address boats painted with copper hull paint in all of the impaired harbors in the region. In 2014-15, the Los Angeles Regional Board began work on a regulatory mechanism, by overseeing a sampling effort to collect copper data from multiple marinas in the region for a possible region-wide approach.



Marina del Rey Harbor

Ventura River Algae Total Maximum Daily Load

The TMDL assigns load allocations to horse/intensive livestock and grazing facilities. The Regional Board must develop a regulatory mechanism to implement the load allocations and intends to develop WDRs or waivers of WDRs for these two sources. The Los Angeles Regional Board significant work on developing waivers, including development of a list potentially impacted horse properties, development of fact sheet and mail-out of notices to those properties, and holding an outreach meeting to discuss upcoming horse waiver. The Los Angeles Regional Board also assisted with successful full proposal for a 319(h) grant to develop a horse facilities program and began working on the grant agreement so that the project can start in 2016.



View of Ventura River

Looking Forward

2015-16 Priorities

- Renew Conditional Waiver for irrigated lands
- Enforce Conditional Waiver for irrigated lands
- Coordinate with partners in other agencies to provide technical and financial assistance to growers to reduce loading from irrigated agriculture (ongoing)
- Implement MOU for McGrath Lake TMDL
- Implement load allocations for nonpoint source discharges in Ventura River Algae TMDL
- Develop and distribute for public comment a Draft Horse Facilities Waiver
- Review baseline monitoring plan for grazing activities
- Oversee 2016 CWA 319 grants for horse facilities program and onsite wastewater treatment systems study
- Solicit and assist with applications for CWA 319 grants and other sources of funding to address nonpoint source pollution (ongoing)

Major Issues/Challenges

Maintaining high enrollment in Ventura County in the Irrigated Lands Waiver is an ongoing effort as growers need to be reminded of their requirement to stay in the program.

Increasing enrollment in Los Angeles County in the Irrigated Lands Waiver is difficult due to the small, dispersed nature of growers, and the high cost to enroll. Enforcement is a key tool to

encourage enrollment in the Irrigated Lands Waiver, but it is resource intensive and depends on discharger groups timely processing of enrollment.

Central Valley Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Central Valley Water Board developed a Nitrogen Management Plan template for completion by all growers regulated by the Waste Discharge Requirements for discharges from irrigated agricultural lands
- Development of the Delta Regional Monitoring Program (RMP) continues to move forward with an approved Monitoring Design and Workplan and the first Delta RMP pathogen study samples were collected in April 2015
- Central Valley Water Board continues work on the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)
- Central Valley Water Board addresses NPS pollution from off highway vehicles and shooting ranges

Summary of Nonpoint Source Program Implementation Activities

Irrigated Lands Regulatory Program

The Central Valley Water Board adopted a series of [Waste Discharge Requirements General Orders](#) (WDRs) for discharges from irrigated agricultural lands to protect both surface water and groundwater throughout the Central Valley. The [Central Valley Agricultural Waiver of WDRs](#) 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 WDRs. Among other requirements, the new WDRs require all growers to report the practices they are implementing to protect water quality and develop nitrogen management plans to minimize the discharge of nitrate to groundwater; the WDRs also require growers in high vulnerability areas to develop sediment discharge and erosion control plans to prevent impacts of sediment on streams.

The Nitrogen Management Plan Template (including instructions) was issued to the Central Valley Agricultural Water Quality Coalitions in December 2014. Third-party representatives distributed the template to coalition members and provided training to growers on filling out the template. Water Board staff participated in the training for growers as well as training for certified crop advisors. Coalition members will use the template to fulfill the applicable requirements of the WDRs governing discharges from irrigated lands. Due dates for the Nitrogen Management Plan depend on farm vulnerability and size.

The Central Valley Agricultural Water Quality Coalitions developed the Nitrogen Management Plan Technical Advisory Work Group to address knowledge gaps that need to be addressed to allow calculation of a nitrogen ratio in the Nitrogen Management Plans (i.e., the amount of nitrogen supplied over the amount of nitrogen utilized). Issues to be addressed by the Work Group include development of tools for calculating nitrogen removal from crops and methods to estimate available nitrogen in organic amendments and residual in soil.

Delta Regional Monitoring Program

Development of the Delta Regional Monitoring Program (RMP) is continuing to move forward. The Delta RMP Steering Committee officially approved the overall monitoring design for the Delta. The design includes pathogen monitoring, current use pesticides and toxicity monitoring, mercury monitoring, and nutrient analysis.

A program milestone was achieved in April 2015 when the first Delta RMP pathogen study samples were collected. The pathogen study is a joint collaboration between the Municipal Water Quality Investigations Program (California Department of Water Resources), the Central Valley Drinking Water Policy Workgroup, and the Delta RMP.

The next Delta RMP study will begin in July 2015 and will focus on monitoring current use pesticides and toxicity at nine sites in the Delta. Monthly monitoring and targeted event sampling will be conducted by the U.S. Geological Survey and the toxicity samples will be analyzed by the University of California Davis Aquatic Toxicology Lab. The Delta RMP Technical Advisory Committee (TAC) formed a Toxicity Identification Evaluation (TIE) subcommittee, which is tasked with developing criteria for TIE triggers. Also, the TAC reviewed responses to the draft Quality Assurance Program Plan (QAPP) developed by Aquatic Science Center for the Delta RMP. The SWAMP-funded portion of the QAPP is currently under preliminary review by the State Water Board.

Nearly a dozen wastewater treatment plants (WWTPs) are participating in the Delta RMP and Water Board staff intends to reach out to additional WWTPs as their NPDES permits are being amended to allow participation in the Delta RMP. In addition, several NPDES permits for Phase I Municipal Separate Storm Sewer Systems (MS4s) were amended to allow the MS4 Permittees to participate in the Delta RMP. Ten Permittees under the General Permit for Waste Discharge Requirements for Stormwater Discharges from Small MS4s have been approved to participate in the Delta RMP as well.

Four Irrigated Lands Regulatory Program WDRs were also amended in April and June of 2015 to allow participation in the Delta RMP. Water Board staff met with four Agricultural Water Quality Coalitions that are in and adjacent to the Delta to identify opportunities for their participation in the Delta RMP.

Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS)

The Central Valley Water Board, State Water Board, and a broad group of agriculture, city, and industry stakeholders are collaboratively developing a comprehensive salt and nitrate management plan (SNMP) for the Central Valley. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a strategic initiative to address salinity and nitrates in the surface waters and groundwater in a manner that ensures environmental and economic sustainability. 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 SNMP.

Technical work completed during FY14/15 included: refined salt and nitrate source/fate conceptual model providing background water quality concentration, groundwater assimilative capacities and trends; and the Strategic Salt Accumulation Land and Transport Study (SSALTS)

to identify implementation alternatives. Technical projects are continuing on schedule, with focused work on a management zone case study to ground-truth implementation alternatives and refinement and update of groundwater data for the conceptual model. These and ongoing projects will verify early findings so that the initial draft SNMP can be prepared. A brief summary of all CV-SALTS technical projects can be found at the [CV-SALTS website](#).

The CV-SALTS Lower San Joaquin River (LSJR) Committee is progressing in its efforts to compile the technical information necessary to support a Basin Plan Amendment for salinity water quality objectives for the San Joaquin River between the Merced River confluence and Vernalis. During May and June, the LSJR Committee focused on refining their preferred project alternative for establishing the appropriate water quality objective and implementation program. Refinement included the development of an “extended dry period” policy to address appropriate water quality objectives during dry periods lasting three years or more. Draft technical reports on the economic analyses and monitoring and surveillance components of the project were made available to committee members for comments, with final reports due at the end of July 2015. The LSJR Committee is scheduled to complete technical work and environmental review by the end of 2015, which in turn will be utilized by Water Board staff to develop a Basin Plan Amendment for Water Board consideration in 2016.

Off Highway Vehicles, Shooting Ranges and Restoration

In addition to a wide range of watershed program support activities in impaired waters, Central Valley Water Board staff continued to make progress at off highway vehicle (OHV) recreation areas and shooting ranges. Staff worked with land managers to improve management measures that reduce erosion and sediment discharges at four major OHV areas and provided technical input, permitting, and planning review for these facilities. At the Carnegie OHV area, staff oversaw a metals assessment, erosion control of eroding mine tailings, and compliance with the Cleanup and Abatement Order. At Clay Pit OHV area, staff directed restoration of a creek that is heavily impacted by OHV use.

In addition, Central Valley Water Board staff assessed 20 shooting ranges 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. Lead control measures are being installed at Iron Mountain Road, Record Road, and Anderson High School ranges. Staff used a variety of enforcement actions and direct engagement to achieve these results.

Staff also provided technical input and permitting for 19 restoration projects that improve water quality and aquatic habitat conditions. A restoration project under development for Clear Creek will address a legacy mercury source and provide long-term aquatic habitat benefits.

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.

Along with continuing numerous Delta activities identified in the 2014 Delta Strategic Plan, the Delta Regional Monitoring Program staff will be coordinating with the Central Valley Agricultural Water Quality Coalitions on potential sampling locations and parameters.

Technical projects are continuing on schedule for CV-SALTS. Work will begin on development of the Salt and Nitrate Management Plan, progress will continue on Phase II of the Conceptual Model Development, and Phase III of the Conceptual Model Development will begin. 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

- Continued to work with members of the Bridgeport Ranchers Organization on implementation of the Bridgeport Valley Grazing Waiver with a report to the Lahontan Board in June 2015. Grazing Management Practices implemented during the 2014 season include over 4,000 feet of exclusion fence, 2,500 feet cross fence, 1,320 feet of riparian filter strip, three new water weirs, one new watercourse crossing, pipe for off-stream watering, noxious plant removal and replacement with grass filter.
- Continued implementation of “Rivers and Ranches” project by coordinating with U.C. partners to provide monitoring and technical expertise. Began implementation of grazing management practices on five ranches with the projection of using over \$350k in grant funds specifically for water quality improvements. (The Rivers and Ranches project is funded by both a Proposition 84 grant and the Nonpoint Source Program)
- Reviewed environmental documents and conducted inspections at 17 timber and vegetation management and restoration project sites on federal forest lands for compliance with the Lahontan Water Board's Timber Waiver.
- Continued to administer four Clean Water Act 319 grants, all in impacted water bodies with Total Maximum Daily Loads. Existing grants were on schedule and milestones met. Successful completion of five 319h projects completed for this fiscal year. Three new grant proposals were selected for funding and the grant agreements for these projects were completed.
- Conducted water quality-based interdisciplinary educational activities with over 200 kindergarteners and 20 high school students from the Lake Tahoe and Truckee watersheds.
- Coordinated with the statewide Grazing Regulatory Action Program (GRAP) work team to draft an Issue Paper, and conducted four 2014 Focused Listening Sessions with industry, government, academia, and conservation community stakeholders. Additional public listening sessions were held in San Luis Obispo, Redding, and Bishop in January, 2015.
- Collected and analyzed over 250 water quality samples from 65 stream and river sites in the eastern Sierra Nevada to evaluate bacteria concentrations and its sources.

Summary of Nonpoint Source Program Implementation Activities

The Coldstream Canyon Creek and Floodplain Restoration Project (Coldstream Project)

[A joint project of the Truckee River Watershed Council (TRWC) and California Department of Parks and Recreation (CDPR). The project was funded through a 319h Implementation Grant awarded to TRWC, the project lead. TRWC is a non-profit organization that was founded to protect, enhance, and restore the Truckee River]

The Coldstream Project was completed as an implementation measure for the Truckee River Sediment TMDL. The primary goal of the project was to improve water quality through reducing erosion. Erosion through the project reach has essentially been halted. The load reduction attained through this project is approximately 200 tons/year. The project addressed a highly erosive stretch of Cold Creek, which was historically channelized to accommodate gravel mining. Prior to modification, the project reach functioned as an alluvial fan. Confinement to a single channel increased velocities along Cold Creek resulting in erosion of the adjacent banks. The Coldstream project was designed to improve water quality through reducing this erosion. The full project included pre-project monitoring, construction, post-project monitoring, and outreach activities. Project construction consisted of grading streambanks to sustainable angles, creating an inset floodplain, creating structure on the floodplain surface, repairing a headcut in a tributary drainage, and revegetation. In total, 13,500 cubic yards of material were excavated from the streambanks during regrading. An additional 0.8 acres of floodplain was created. The entire site was revegetated with native plants. Pre- and post-project monitoring demonstrated that the project was successful in arresting erosion in the project area. Monitoring will continue as the project evolves. Outreach consisted of site tours, a public presentation, Truckee River Day volunteer work projects, printed newsletter articles, and development of interpretive materials.



Coldstream Canyon Creek Restoration Project



Newly constructed inset floodplain in Coldstream Canyon Creek. The rocky area was graded to an elevation appropriate for colonization by riparian plants. Willow stakes were incorporated into the floodplain.



Repaired headcut in Coldstream Canyon Creek. The tributary drainage was graded to a continuous angle and lined with streambed material.



Volunteers on Truckee River Day. Volunteers planted native plants in the project area above the inset floodplain elevation.

Rivers and Ranches Project

(The Rivers and Ranches project is funded by both a Proposition 84 grant and the Nonpoint Source Program)

The Rivers and Ranches project includes three major components: (1) implementing water quality improvement projects on ranches; (2) water quality monitoring; and (3) education and outreach. As part of the project, the non-project Alpine Watershed Group, worked with Ace Hereford Ranch to develop and implementing grazing management practices on the over 900 acre ranch located in Paynesville, Alpine County. Practices installed on the ranch included installation of exclusion fencing to improve pasture utilization, inhibit nutrient loading, disperse grazing and protect sensitive habitats; repairing and improving infrastructure, including a bridge, to allow the ranch livestock to access pastures away from the river; planting grasses, aspen, and evergreens to stabilize slopes, inhibit erosion while dispersing and capturing runoff; and enhancing wetlands by improving an historic irrigation ditch to provide necessary water for the wetland. The Alpine Watershed Group and Ace Hereford Ranch also hosted an education day for kindergarten through eighth grade students. Lahontan Water Board staff assisted. Educational activities included a tour of the ranch and its improvements and water quality testing. As part of the Rivers and Ranches project, the Alpine Watershed Group is planning its premier outreach and educational event, the Alpine Aspen Festival in October 2015. The festival is an environmental fair that celebrates the importance of the upper watersheds of the rivers that originate in Alpine County. The goal is to raise awareness of the role Alpine County's meadows and mountain streams play in providing clean water to 5.2 million public water users across California and Nevada. The festival will also showcase the improvements completed on the Ace Hereford Ranch.



Improved fencing to protect riparian areas at the Ace Hereford Ranch



Improved Stream Crossing at the Ace Hereford Ranch



Plantings at the Ace Hereford Ranch



Rebuilt Irrigation Ditch at the Ace Hereford Ranch (Snowshoe Thompson Ditch)





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Looking Forward

Priorities for next fiscal year for the California NPS Program in the Lahontan Region are:

- Continue to implement the RB6 Timber Waiver (emphasizing development of a strategy focusing on impacts from roads) and provide the additional reporting required by Assembly Bill 1492. Continue to review and inspect projects to prevent soil erosion and discharge to surface waters, stream course damage, compaction or removal of riparian soil and vegetation, and soil and plant loss in wetlands.
- Continue to implement the Grazing Waiver for Bridgeport Valley/East Walker River Watershed to facilitate use of management practices to address pathogen loading to surface waters. Continue to support implementation of grazing management practices to improve water quality in other impaired waterbodies.
- Continue to conduct environmental education and outreach activities to inform public/youth of sources of water quality impairment. Participate in outreach and education, focusing on priority watersheds such as Lake Tahoe and Truckee, through proactive measures to protect water quality, healthy watersheds, and promote environmental stewardship.
- Continue to manage local technical assistance projects to ensure management measure and management practice implementation consistent with Total Maximum Daily Load and watershed planning implementation priorities.

Colorado River Basin Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- Colorado River Basin Water Board adopted an agricultural waiver for Imperial Valley, Imperial County, in January 2015 that covers 450,000 acres of irrigated agriculture.
- Colorado River Basin Water Board staff members worked on the implementation of agricultural waivers for Bard, Coachella, Imperial and Palo Verde Valleys in Imperial and Riverside Counties. These agricultural waivers cover approximately 647,000 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 20115.
- USEPA approved in June 2015 the Colorado River Basin Water Board adopted 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 (450,000 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 2015.

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 seven United States Environmental Protection Agency approved Total Maximum Daily Loads for sediments, pathogens, dissolved oxygen and trash.

Agricultural Waivers

A high priority for that fiscal year was the implementation of Conditional Waivers of Waste Discharge Requirements for Agricultural Wastewater Discharges (agricultural waivers) 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 in September 2012 (130,000 acres), Bard Valley in January 2013 (7,000 acres), Coachella Valley in June 2014 (60,000 acres), and Imperial Valley in January 2015 (450,000 acres).

The implementation of the four agricultural waivers is going on schedule. The majority of agricultural areas (99.7%) in the region are regulated by Conditional Waivers. The memberships to the coalitions have been high due in part to intensive outreach from the Regional Board and coalitions. The Palo Verde Coalition submitted their second Annual Monitoring Report in March 2015 to the Colorado River Basin Water Board. It was approved with the recommendation that Palo Verde Coalition's Monitoring and Reporting Program be revised. The Bard Coalition water quality monitoring program began in June 2015 and they have been submitting reports of water quality sample results. According to both Bard and Palo Verde Coalitions, membership is at 100%. The Coachella Valley Coalition began implementing their Compliance Program in April 2015. They are currently accepting membership. The next step will be for the Coachella Valley Coalition to submit their coalition member information. The Imperial Valley Coalition held 9 drained meetings in May and June 2015 to educate farmers about the requirements of the



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

recent adopted agricultural waiver. Colorado River Basin Water Board participated in all those meetings.

Grants

Alamo River Treatment Wetlands at Shank Road. A Clean Water Act section 319(h) grant program project was awarded to Desert Wildlife Unlimited for the Alamo River Treatment Wetlands at Shank Road and executed in April 2013. 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. In the past fiscal year, Desert Wildlife Unlimited has planted more wetland plants (cattails, bulrush and phragmites) around the separate ponds, Colorado River Basin Water Board approved the Quality Assurance Project Plan and monitoring began in February 2015 (Figure 13).

Looking Forward

Colorado River Basin Water Board milestones for the next fiscal year 2015-2016 include:

- Ninety (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 annual reports by Coalitions and individual dischargers submitted to Colorado River Basin;
- Coordination with Imperial and Riverside Counties 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.



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

Santa Ana Regional Water Quality Control Board

California Nonpoint Source Management Program Highlights

- As a result of Mark Adelson's retirement, Wanda Cross has taken over the position as Chief of the Regional Planning Program Section at the Santa Ana RWQCB. This Section is responsible for the Region's Nonpoint Source Management Program. Imtiaz-Ali Kalyan continues to serve as the Regional Board's Nonpoint Source Coordinator.
- Regional Board staff completed the Semi-Annual Progress Reports for July 1, 2014 through December 31, 2014, and January 1, 2015 through June 30, 2015.
- Regional Board staff participated in regular NPS monthly teleconference calls and quarterly NPS roundtables, including a two-day NPS Roundtable meeting in Sacramento.
- TMDL staff participated in technical advisory committees and stakeholder groups addressing NPS pollutant loads, met with TMDL implementation project proponents, and reviewed project concepts and designs. In addition, staff reviewed TMDL projects for NPS compliance activities, and visited sites to review implementation projects.
- Total Maximum Daily Loads for Selenium for the Newport Bay Watershed are being developed for consideration of adoption by the Regional Board by the end of 2015/early 2016. These Total Maximum Daily Loads will include an implementation plan to address point and nonpoint source-based groundwater discharges high in selenium. The draft staff report, SED and Basin Plan amendment are currently undergoing a second round of review and revisions by Regional Board staff and the stakeholder group.
- Stakeholders have already implemented, or are in the process of implementing, several diversion projects to divert selenium in surface waters to the sanitary sewer. After treatment and removal of selenium by the Orange County Sanitation District (OCSD), diverted flows from two of the projects will go to Orange County's Groundwater Replenishment System (GWRS) for groundwater infiltration. The GWRS is a joint project between OCSD and the Orange County Water District (OCWD).
- In developing TMDLs for metals in the Newport Bay watershed, Regional Board staff completed a metals Impairment Assessment based on data collected after 2002. (USEPA promulgated Metals TMDLs for Newport Bay and San Diego Creek in 2002.) The Impairment Assessment will be released along with the Board staff technical report for the revised metals TMDLs.
- Staff continues to work on copper and other metals issues related to NPS discharges in marinas with State, federal and local agencies including the LA Regional Board, SD Regional Board, State Water Board, CA DPR, CA State Lands Commission, U.S. Environmental Protection Agency, U.S. Fish & Wildlife Service, U.S. Navy SPAWAR Division, City of Newport Beach, County of Orange, Orange County Coastkeeper, and others.

- Regional Board staff also participates in the Nonpoint Source Program's Interagency Coordinating Committee (IACC) Marinas and Recreational Boating Workgroup, Antifouling Strategies Workgroup, in Marina Education Workgroup meetings, and in meetings with CA Dept. of Pesticide Regulation (DPR).
- Regional Board staff is developing a draft revised Copper TMDL, and conducted two CEQA scoping meetings for this Copper TMDL for Newport Bay on July 23, 2015.
- Regional Board Staff have completed the draft Conditional Waiver of Agricultural Discharges for the San Jacinto Watershed (CWAD) and supporting documents, and posted them on the Regional Board website for public review and comment. The CWAD has been presented to the Regional Board at a public workshop/information session. Members of the public and stakeholders participated in the workshop.
- The stakeholders and CWAD Advisory Group are currently reviewing final drafts of the Ag Waiver. Adoption of the waiver is anticipated by December 2015.

Summary of Nonpoint Source Program Implementation Activities

NPS Policy Implementation for Agricultural Operations (Conditional Waiver of Agricultural Discharges, or "CWAD") Program:

CWAD program development has been making progress. On June 19, 2015, the Santa Ana Regional Water Quality Control Board held a public workshop during one of the regular Board meetings; the Conditional Waiver was presented to the Board members and the public. Members of the Regional Board CWAD Advisory Group attended and requested postponement of the CWAD's adoption in order to receive and consider additional review and comment. A follow-up Advisory Group meeting was held on July 22, 2015 to discuss and respond to possible areas of concern with the current draft version of the CWAD. Regional Board staff provided clarification on the requirements stated in the conditional waiver. Stakeholders, including the Advisory Group, are in the process of reviewing the most recent version of the CWAD, and plan to make recommendations for changes or revisions to make the order more understandable to the agricultural community. Regional Board staff anticipates receiving comments from the Advisory Group before their next meeting tentatively scheduled for October 2015.

Agricultural landowners in the Middle Santa Ana River (MSAR) watershed have submitted a Bacterial Agricultural Source Management Plan (BASMP) for review and approval. This plan proposes tasks that will identify nonpoint source related agricultural sources of bacteria to the MSAR, and implement BMPs to comply with the TMDL load allocations.

The TSO BMP Strategic Plan approved by the Regional Board's Executive Officer during FY2014 continues to be implemented by the stakeholders to address selenium impairment in the Newport Bay watershed. The BMP Strategic Plan relies upon a phased implementation approach to address selenium impairment in the Santa Ana-Delhi Channel and San Diego Creek Sub-Watersheds. These early implementation measures continue to be monitored to evaluate selenium reductions in groundwater inflows and seepage, the primary source of elevated selenium concentrations in surface waters.



Placement of the pipeline portion of the Peters Canyon Channel Water Capture and Reuse Pipeline Diversion project in Irvine, California. Construction began in June 2015.

Two diversion projects, proposed by the regulated stakeholders to attain selenium reductions and help meet proposed selenium fish tissue and bird egg tissue targets, are either under construction or in design. Construction of the Peters Canyon Channel Water Capture and Reuse Pipeline Diversion project began on June 27, 2015 and is slated for completion during the fall of 2016. Sixty percent of the final engineering design has been completed for the Santa Ana Delhi Diversion project; construction is anticipated to start in July 2016. Both projects will divert surface water flows to OCSD's sanitary sewer for delivery and treatment prior to being sent to the GWRS.

In addition, the City of Newport Beach has already implemented a diversion project in Big Canyon Wash that has significantly reduced selenium inputs in the area of the Big Canyon Golf Course (the TSO BMP Strategic Plan does not apply to Big Canyon Wash). Dry weather low flows in the south branch of the creek are diverted to the sanitary sewer at the east end of the golf course. Total selenium concentrations in the creek and lakes on the golf course have

decreased by 30-50% as a result. The City continues to proactively investigate sources of selenium and to develop BMPs to address these sources for this small (approximately 2-acre) watershed.



Figure 2. Completed dry weather flow diversion to sanitary sewer on south branch of Big Canyon Creek, Newport Beach, CA.

Looking Forward

Santa Ana Regional Board staff anticipates adopting the Selenium TMDLs and Copper TMDLs for the Newport Bay watershed by the end of the 2015-2016 State fiscal year. For the Selenium TMDLs, stakeholders continue to move ahead with implementation projects as required under the TSO BMP strategic plan. The projects that reduce selenium in the watershed also reduce concentrations of nitrates in water (the Newport watershed stakeholders are implementing nutrient TMDLs). As has been previously noted, controlling and reducing selenium inputs from diffuse nonpoint sources of groundwater inflows and seepage remain problematic because of the lack of a cost- and space-effective and practicable treatment technology for selenium in this highly urbanized watershed. Diversion projects are expected to help achieve reductions in selenium and nitrate concentrations, however, this has to be balanced against maintaining sufficient flows to protect downstream beneficial uses, including endangered species and their critical habitat, in both the freshwater and estuarine waters in the watershed. The City of Newport Beach is continuing to investigate sources of selenium to Big Canyon Creek and is planning another diversion project at the west end of the golf course or at the upstream end of the Big Canyon Nature Park so that the City can move forward with restoration plans for the park (timing of this project is not yet known). Restoration of the park includes plans to restore wetland habitat.

For the Copper TMDLs, staff continues to respond to comments received at the two public CEQA scoping meetings held on July 23, 2015, in Newport Beach, CA. The primary source of copper inputs into Newport Bay is copper-based anti-fouling paints (Cu-AFPs). As has been experienced elsewhere in southern California, adoption of copper TMDLs has been highly controversial and staff continue to work with local agencies, stakeholders, other regional boards, and State and federal agencies to address concerns about the copper TMDLs including the science behind the applicable California Toxics Rule copper criterion and the implementation actions that are necessary to reduce copper inputs, such as the use of non-toxic AFPs.

The desired outcome of the conditional waiver is to measurably reduce NPS pollution, principally nitrogen and total dissolved solids (TDS) loadings to both surface and ground waters from agricultural operations in the San Jacinto River Watershed. Based on an estimate of 137 potentially eligible enrollees, the CWAD program will seek to attain at least 20 percent enrollment through the use of an electronic enrollment form. The CWAD will also include a monitoring and reporting program to assess compliance and BMP effectiveness. If the stakeholder comments received on the draft CWAD do not require that the conditional waiver not require additional major revision, it is planned to be adopted by the end of December 2015.

San Diego Regional Water Quality Control Board

San Diego Water Board Nonpoint Source Management Program Highlights

The San Diego Water Board is developing a tentative General Waste Discharge Requirements (WDR) for Agricultural Dischargers.

Summary of Nonpoint Source Program Implementation Activities

As of July 2014, the San Diego Water Board has shifted from using its CWA §319 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 WDRs for such activities.

The San Diego Water Board's staff of Irrigated Lands Regulatory Program (ILRP) has been developing WDRs and a Monitoring and Reporting Plan (collectively referred to as the Ag Order) and associated California Environmental Quality Act (CEQA) documentation for consideration for adoption by the San Diego Water Board in Calendar Year 2015. The Ag Order is a logical extension of the Ag Waiver, which expired in February 2014, and will be a more effective regulatory tool to reduce the impact to water quality from agricultural activities within the San Diego Region.

One of the main tasks for San Diego Water Board's ILRP Team is public outreach. It has engaged stakeholders and the public through stakeholder meetings, public workshops, individual meetings, and the San Diego Water Board ILRP [webpage](#). This robust outreach not only furthers the Proactive Public Outreach and Communication element of the Regional Water Board's Practical Vision strategy, it also provides the opportunity for stakeholders and the public to meet with Regional Water Board staff to provide their input. The Public Outreach also provides Regional Water Board staff the opportunity to discuss why the Ag Order is needed and to engage the Agricultural Community to enroll in and comply with the Ag Order once it is adopted.

A new series of stakeholder meetings and Public Workshops is scheduled for the summer of 2015.

During fiscal year 2014-2015, staff has met with representatives of the San Diego Irrigated Lands Group, the San Diego Farm Bureau, the San Mateo Irrigated Lands Group, the Wild Willow Farm, and the Bee Organic. Invitations for additional meetings have been or will be extended to the following stakeholders:

- San Diego County Agricultural Commissioner;
- Riverside County Agricultural Commissioner;
- Riverside Farm Bureau;
- Orange County Farm Bureau;

- University of California Cooperative Extension;
- Mission Resource District;
- Elsinore-Murrieta-Anza Resource District;
- Temecula Valley Winegrowers Association;
- Ramona Valley Vineyard Association;
- San Diego County Flower and Plant Association;
- Selected Grove Managers;
- Indian Environmental Agencies;
- Surfrider Foundation;
- Coast Keeper; and,
- Sierra Club.

Outreach will also include contacting statewide organizations such as the California Avocado Society and the California Sustainable Wine Growing Alliance.

Looking Forward

The San Diego Water Board will continue its ongoing work to develop a region-wide general WDRs for commercial agriculture and nursery activities, and plans to adopt this general WDRs before the end of 2015.

*Appendix A. 2014 Clean Water Act section 319 Nonpoint
Source Project Approval*