

California Nonpoint Source Program Annual Report



**STATE FISCAL YEAR 2012-2013
(JULY 1, 2012- JUNE 30, 2013)**



**CALIFORNIA
COASTAL
COMMISSION**

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Executive Summary

The purpose of the California Nonpoint Source Program Annual Report (NPS Report) is to provide an overview of progress made in reducing nonpoint source (NPS) pollution in California. The NPS Report is presented as a function of the “initiatives” identified by the “core NPS agencies” - State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), and California Coastal Commission (CCC) - in the 2008-2013 California NPS Program Five-Year Implementation Plan. These “initiatives” represent the “major areas of focus” for the “core agencies” during the five-year implementation planning period. The NPS Report provides an update on tasks that help implement these “initiatives” during the 2012 – 2013 state fiscal year (SFY). Below are abbreviated updates on the “initiative tasks” for by the SWRCB, RWQCBs, and the CCC.

SWRCB staff members continued to develop and implement total maximum daily loads (TMDLs), which is an important step in achieving the water quality goals of the Clean Water Act (CWA). The SWRCB’s NPS Program uses CWA Section 319(h) funds and matching funds to implement projects necessary to help meet TMDL reductions. For SFY, there were 10 projects funded— totaling over \$4,476,185 in CWA Section 319(h) award (\$6,463,703 total cost of projects when including project applicant matching funds).

North Coast Regional Water Quality Control Board (RWQCB-1) staff members continued to implement the three-tier permitting program for dairies to address the range of potential threats to water quality from existing dairy facilities and confined animal facilities operations in the region. RWQCB-1 staff member are developing a TMDL for the Laguna de Santa Rosa to address nitrogen, phosphorus, dissolved oxygen, temperature and sediment impairments.

San Francisco Bay Regional Water Quality Control Board (RWQCB-2) staff members prepared a tentative waiver of waste discharge requirements (WDRs) for vineyards. RWQCB-2 staff members also continued implementation of the Tomales Bay and Napa/Sonoma grazing waivers including updating the grazing program database. Additionally, RWQCB-2 staff members promoted the creation of additional third-party technical assistance groups.

Central Coast Regional Water Quality Control Board (RWQCB-3) staff members sent notification letters to interested parties, made presentations at six major agricultural conferences, updated the electronic notice of intent to , prioritized farming operations in the priority watersheds, evaluated compliance and issued 22 letters of notification for groundwater nitrate exceedances. About 94 percent of estimated agricultural acreage is enrolled in the Conditional Waiver of WDRs for Discharges from Irrigated Lands.

Los Angeles Regional Water Quality Control Board (RWQCB-4) staff members continued cooperative efforts with discharger groups to increase enrollment and assisted growers in implementation of the irrigated lands waiver. About 86 percent of the irrigated acreage in the region is enrolled in the Irrigated Lands Waiver. RWQCB-4 staff began work on the waiver renewals to continue the Minimum Frequency of Assessment and Collection program in conjunction with management practices.

Central Valley Regional Water Quality Control Board (RWQCB-5) staff members coordinated with other agencies to implement studies and evaluated study results on the potential impacts of contaminants on the Delta ecosystem. RWQCB-5 staff inspected 550 dairies and issued Notice of Violations to dairies covered under the Dairy General Order that failed to submit the 2011 Dairy Annual Report.

Lahontan Regional Water Quality Control Board (RWQCB-6) staff members completed environmental review; determined waiver compliance and conducted inspections at over 45 timber and vegetation management project sites. RWQCB-6 staff members also worked with ranchers to track success of grazing management practices required under the five-year Bridgeport Grazing Waiver, which was revised and renewed in July 2012.

Colorado Regional Water Quality Control Board (RWQCB-7) staff members focused on the development and adoption of Conditional Waivers of Waste Discharge Requirements for Agricultural Wastewater Discharges in the main agricultural areas in the Region. The Regional Board adopted a Conditional Waiver of Waivers of Waste Discharge Requirements for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Palo Verde Valley and Palo Verde Mesa, Riverside and Imperial Counties.

Santa Ana Regional Water Quality Control Board (RWQCB-8) staff members revised the Dairy Program General Permit. RWQCB-8 staff members also continued to manage of NPS pollutant loads from forested areas of the Region, principally in the watershed of Big Bear Lake.

San Diego Regional Water Quality Control Board (RWQCB-9) staff members issued over 38 CWA Section 401 certifications. RWQCB-9 staff member is overseeing a CWA Section 319 grant project that reduce the level of copper in Shelter Island Yacht Basin by encouraging boaters to voluntarily switch from copper to non-biocide hull paint. To date, 30 boats in Shelter Island Yacht Basin have converted to non-biocide hull paints.

California Coastal Commission staff members have been updating the recommended Local Coastal Program policies based on the changes made to storm water and NPS programs statewide. In addition, the CCC staff members have begun work on the elements of a model water quality ordinance for use in updating Local Coastal Program implementation plans.

SWRCB, the nine RWQCBs, and CCC will continue to make significant progress in restoring NPS impaired waters by focusing programs and projects geographically, targeting water quality problems, and promoting a high level of public involvement in projects and problem solving, and measuring success through monitoring and data gathering.



Introduction

Polluted runoff (also known as [nonpoint source \[NPS\] pollution](#)) from agriculture, urban development, forestry, recreational boating and marinas, hydromodification and wetlands activities is the leading cause of water pollution in waters across the country and in California. To address California's NPS problems, many stakeholders—including landowners, private non-profit groups, federal and local agencies—are involved in numerous efforts to reduce and prevent NPS pollution.

Two primary federal statutes establish a framework in California for addressing [NPS - Section 319 of the Clean Water Act \(CWA\)](#) of 1987 and Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Together these statutes encourage the state to assess water quality problems associated with NPS pollution and to develop programs to address these challenging problems. The United States Environment Protection Agency (USEPA) oversees these NPS programs and provides funding to the State of California for certain aspects of program implementation.

The purpose of the [NPS Program](#) is to improve the State's ability to effectively manage NPS pollution. The overall goal of [California's NPS Program](#) is the prevention or control of NPS pollution such that none of the beneficial uses of water are impaired by NPS pollution. The lead agencies and partners for California's NPS Program are the [State Water Resources Control Board \(SWRCB\)](#) and the [nine Regional Water Quality Control Boards \(RWQCBs\)](#) (SWRCBs and RWQCBs collectively known as Water Boards) and the California Coastal Commission (CCC). The Water Boards are the lead water quality agency and the CCC is the lead coastal zone management agency.

The Water Boards and the CCC adopted the [Plan for California's NPS Pollution Control Program \(NPS Program Plan\)](#) in 1998 as a fifteen-year strategy to improve and protect water quality and its beneficial uses. California has continuously expanded and refined its NPS pollution control efforts through a series of three, five-year implementation plans. The most recent of these NPS Five-Year NPS Implementation Plans covers the planning period from 2008 to 2013 (2008-13 NPS FIP). The 2008-2013 NPS FIP assessed the progress made by the NPS program during the previous five years, discussed tools made available to the Water Boards, and looks at the need for prioritizing resources and efforts.

Annually, the California NPS Program will review its performance to evaluate progress using the California NPS Program Annual Initiatives Report. Initiatives are beginning steps proposed by the Water Boards and CCC in the NPS Five-Year Implementation plan. The NPS Annual Initiatives Report provides an update on tasks that help implement these initiatives during the fiscal year. This California NPS Program Annual Initiatives Report provides information to United States Environmental Protection Agency (USEPA) on the progress made in implementing the NPS Program Plan during state fiscal year (SFY) 12/13 (July 1, 2012 through June 30, 2013).

Statewide NPS Program Initiative

There are several major areas that the “core agencies”— Water Boards and CCC — of the California NPS Program will concentrate on during this 2008-2013 NPS FIP planning period to ensure that the NPS Program’s Vision and Goals are satisfied. Some of these activities are specific to those aspects of the NPS Program for which the “core agencies” are solely responsible, and others take a broader approach and utilize multi-agency collaboration to address NPS pollution control. The purpose of this section is to delineate these six focus areas and the responsibilities of each of the “core agencies”. These six focus areas are: (1) education, outreach, and technical assistance; (2) financial coordination and assistance; (3) policy development and support; (4) interagency coordination; (5) critical coastal areas; and (6) monitoring. Each of the focus areas will be discussed with respect to the planned activities to achieve the goals in the NPS Five-Year Plan, and method used to assess the performance of California NPS Program in achieving the focus area goals.

I. Education, Outreach, and Technical assistance

Technical assistance and public outreach provide greater understanding of watersheds, raise awareness, and increase the use of management practices (MPs) to control and prevent adverse impact on surface waters. One of the main goals of the Water Boards is to reach out and educate the general public about water quality issues and water pollution prevention. There is valuable information on the [SWRCB website](#), such as tools and annual reports, designed to reach out to members of the general public. Tools include the Management Practice Miner, NPS Encyclopedia, Grant Reporting and Tracking System, and annual reports. In addition, annual reports that are generated include Measure Ws, Success Stories, and the Annual Water Board Performance Reports.

A. Nonpoint Source Encyclopedia

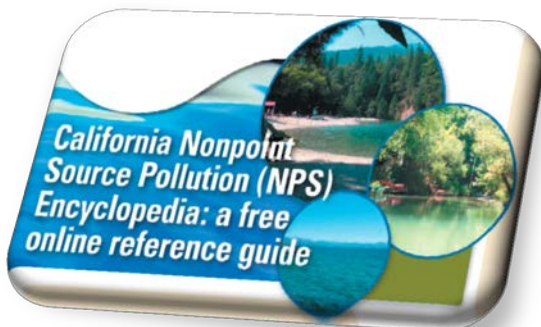


Figure 1. Information on management measures and practices can be found in the NPS Encyclopedia.

The [NPS Encyclopedia](#) is a free on-line reference guide that supports the implementation and development of [NPS total maximum daily loads](#) (TMDLs) and [watershed action plans](#) with a goal of protecting high-quality waters and restoring impaired waters (Figure 1). In addition, the MP Miner is designed to facilitate a basic understanding of NPS pollution control and to provide quick access to essential information from a variety of sources by providing direct hyperlinks to resources available on the World Wide Web.

The home page for the NPS Encyclopedia contains a description on how to use the guide, NPS Encyclopedia purpose, an index of each of the six

land use categories (agriculture, forestry, urban, marinas and recreational boating, hydromodification, and wetlands, riparian, and vegetative treatment systems), relevant federal, state and local laws, policies and ordinances, and general technical and financial resources. Each land-use category web page contains an index of relevant management measures (MMs), general technical and financial resources, programs, and references. Each MM web page describes the MM in detail, lists each relevant management practice (MP), provides specific technical and financial resources, and describes relevant programs and references. Web pages for all of the MMs can be accessed through an index located on the NPS Encyclopedia home page. During current SFY 12/13, no new MMs were added.

B. Management Practice Miner

The [MP Miner](#) database was developed to reduce the volume of NPS pollution stemming from the lack of information about mitigation procedures and alternatives (Figure 2). The MP Miner summarizes details about a variety of MPs and offers a simple way to compare practices. MP miner users can find critical information on the MPs to improve, enhance, and restore water quality and its beneficial uses. This includes MP descriptions, cost-efficacy information, installation instructions, environmental considerations, bibliographic links, and a variety of additional useful and important information.

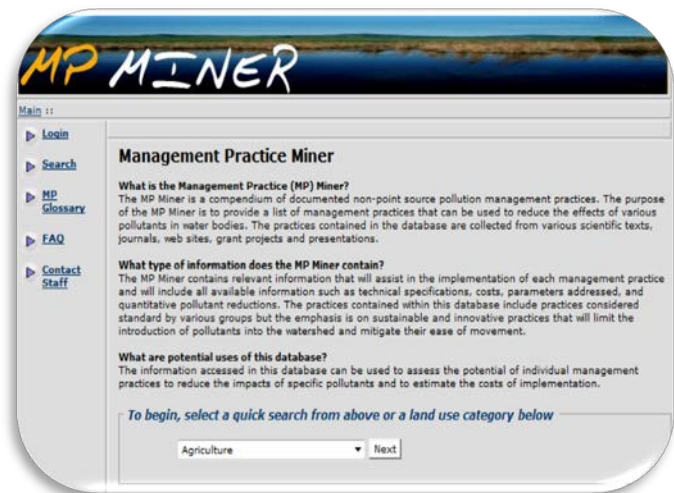


Figure 2. MP Miner is a compendium of documented NPS management practices.

About 120 MPs have been entered into the database to date and these MPs have been approved and are available for the general public to view. A [site meter](#) is available to show the amount of traffic on the MP Miner webpage and counts how many people have accessed the MP Miner Database. MPs will be continually reviewed and entered into the database. SWRCB NPS staff anticipated that MP studies would be evaluated and entered into the MP Miner each year. No MPs were added to the MP Miner during SFY 12/13 due to management's decision to shift staff members to other high priority work.

C. Grants Reporting and Tracking System

The [Grants Reporting and Tracking System \(GRTS\)](#) is an online, informational database that provides stakeholders with a wealth of information on the type and results of CWA Section 319(h) funded projects that are either in progress or have been completed in California (Figure 3). In addition, GRTS is the USEPA's main reporting vehicle for the CWA Section 319(h) Program. CWA section 319(h) (11) requires states to report annually on what their NPS programs are accomplishing. USEPA and the states have been working to improve how CWA Section 319(h) money is spent and what water quality improvements are being achieved with these federal expenditures.

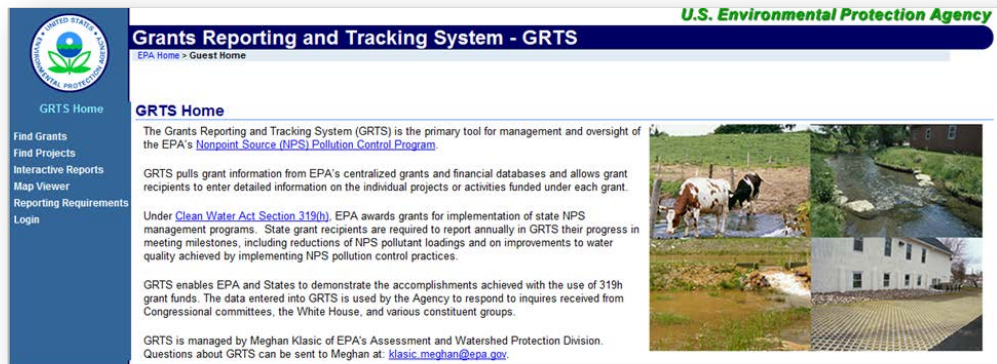


Figure 3. GRTS is the primary tool for oversight of the USEPA's NPS Program.

During SFY 12/13, SWRCB NPS staff members continued inputting information into the GRTS database. Information added into GRTS includes the required load reductions for all active projects and the status for each active sub-grant with the Grant Agreement Progress Reports. The Grant Agreement Progress Reports were submitted along with the grantee's invoice and [Minority Business Enterprise/Women Business Enterprise Reporting](#) form to satisfy USEPA reporting requirements.

D. Water Quality Improvement Measures and Success Stories

The USEPA uses [Watershed Improvement Measures \(SP-12\)](#) and [Success Stories \(WQ-10\)](#) as a tool to indicate where water quality improvements are occurring. The SP-12 measure, also known as Measure W, reports on the number of watershed 12-digit hydrologic units that have been partially or fully restored through a watershed approach. Success stories report on the number of water bodies primarily impaired by NPS pollutants that have been partially or fully restored due to the use of CWA Section 319(h) funding.

During SFY 12/13, three Measure Ws were written and no success stories were written. Measure Ws were written for three watersheds units that demonstrated improved water quality condition in the Los Angeles River watershed. No success stories were written because the 2012 CWA Section 303(d) list of delisted water bodies for California was delayed and no success stories were found using the 2002 and 2010 lists.

E. Total Maximum Daily Load (TMDL) Implementation Planning

One way RWQCBs can gauge whether they are meeting their goals and objectives is by meeting water quality standards through a [Total Maximum Daily Load](#) or TMDL. Under CWA 303(d), states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDL for these waters.

TMDL implementation varies by pollutant source. For regulated point sources, once a TMDL is approved; USEPA and delegated States must ensure that the permits issued through the National Pollutant discharge Elimination System program are consistent with the waste load allocation. Municipal storm water permits do not include specific effluent limits; instead they include management practices to reduce storm water pollution. For NPS, USEPA and the State rely on a combination of voluntary source activities, state rules, and active watershed organizations that promote community action.

In SFY 12/13, the RWQCBs adopted [12 TMDL projects](#) that addressed 13 water body-pollutant combinations, or listings, to help restore impaired water bodies in the state. Another 87 TMDL project commitments, which address 433 listings, were underway. Since the early 1990s, the RWQCBs have adopted about 197 TMDL projects that have addressed almost 1,256 listings. Over 2,233 water body-pollutant combinations, however, remain listed as impaired for SFY 12/13. Those responsible for the pollutant sources that cause or contribute to the impairments take corrective actions to protect the water bodies. There is variance in the complexity of each TMDL developed by the RWQCBs; some TMDLs will require more resources than others to develop.

The SWRCB TMDL, NPS and other regulatory programs continued meeting throughout SFY 12/13 in an effort to improve communication and coordination at the State program level and to improve inter-program communication and coordination at the RWQCBs. Subjects under discussion include: (1) developing and writing TMDL implementation plans so they can be implemented effectively through the NPS Implementation Policy; (2) Combining Watershed Priorities in both the TMDL and NPS Work plans for better coordination; (3) encouraging SWRCB TMDL, NPS and other regulatory program staff to attend other program roundtables meeting; (4) expanding the existing TMDL Planner/Tracker database system to enable and ensure more consistent implementation; (5) tracking the implementation of TMDLs subject to the NPS Program/Policy and other Regulatory programs to monitoring results for TMDL/water quality compliance determination (delisting opportunities); (6) increasing coordination of compliance monitoring between programs; and (7) improving TMDL implementation plan language for improved enforceability through permits, waivers and prohibitions.

In the next SFY, the SWRCB NPS Program will coordinate with the TMDL program to understand the timeline to TMDL implementation. NPS program is relying on TMDL program to be actively involved in the planning effort. Coalescing information from the TMDL and NPS Program can help to reduce the number of reports generated. In addition, Water Boards will continue to make significant progress in restoring NPS impaired waters by focusing programs and projects geographically, targeting water quality problems, and promoting a high level of public involvement in projects and problem solving, and measuring success through monitoring and data gathering.

E. Water Board Annual Performance Report

The Water Boards establish annual performance targets for key output measures. The targets are goals that establish measureable levels of performance to be achieved within a specified time period by specific Water Board programs (Figure 4). Actual work achieved for SFY 12/13 will

be compared to targets to better assess progress in the [California Water Boards' Annual Performance Report](#).



Figure 4. Water Boards met 49 percent of target in SFY 12/13

The SFY 12/13 Performance Report provides a mechanism to measure and evaluate both what we do and how the environment is responding to our actions, and is part of our overall effort toward developing as performance-based organizations. The Water Boards regulates about 24,000 dischargers, and our core regulatory workload achievements for SFY 12/13 included review, update, or issuance of about 166 individual permits; inspection of over 5,400 facilities; and completion of more than 230 penalty and compliance actions (Figure 5).

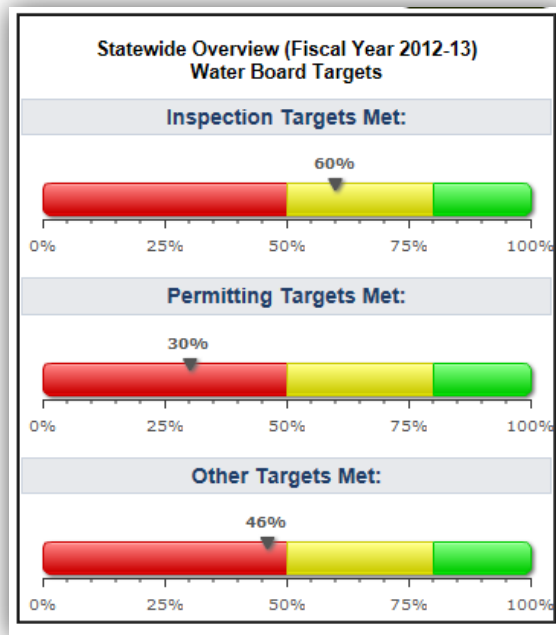


Figure 5. SFY 12/13 Results Compared to Targets and Resources

The Water Boards continued efforts to work with our stakeholders to evaluate the [cost of complying](#) with water quality protections contained in our regulations, permits and policies to identify potential cost savings while still protecting the State's waters, as it is now more important than ever that every dollar spent on water quality protection be used wisely and be focused on our most important priorities. The Water Boards Performance Report also highlights water quality improvements associated with TMDLs and TMDL Water Quality Report Cards. The Water Boards in general and the NPS Program in particular are moving in this direction.

G. Education, Outreach, and Technical Assistance Performance Review

Due to more focused efforts to update, bring into compliance, and better manage and maintain the GRTS database and a previous overestimation of the number of MPs to be entered into the MP Miner, the SWRCB NPS staff has adjusted the number total MPs to 25. A total of 25 MPs in the agriculture land was the goal for SFY 12/13. However, SWRCB NPS staff was not able to work on the MP Miner and NPS Encyclopedia during SFY 12/13 due to staff redirection. There was a management decision to shift staff to high priority work (e.g., new Five-Year Implementation Plan).

SWRCB NPS staff will continue to work closely with the all RWQCBs, non-governmental organizations, California Department of Pesticide Regulation (CDPR), Air Resources Board and other SWRCB programs to compile and incorporate MPs into the MP Miner. SWRCB NPS staff will continue researching management practices through June 30, 2014 and populate the database with about 2 to 3 MPs per month for next SFY. The goal for next SFY is to update the NPS Encyclopedia and get hyperlink verification from the SWRCB Office of Information Management and Analysis.

By providing the technical advice and guidance to other stakeholders, California's NPS Program creates a more effective and coordinated approach to controlling NPS pollution. The reports (e.g., Measure "W"s, Success Stories, Annual) and tools (e.g., GRTS, MP Miner, NPS Encyclopedia) are useful resources to learn more about new MPs in both restoration of impaired waters and protection of high quality waters (Figure 6). The Water Boards will continue their efforts and include other stakeholders to share information to others and collaborate.

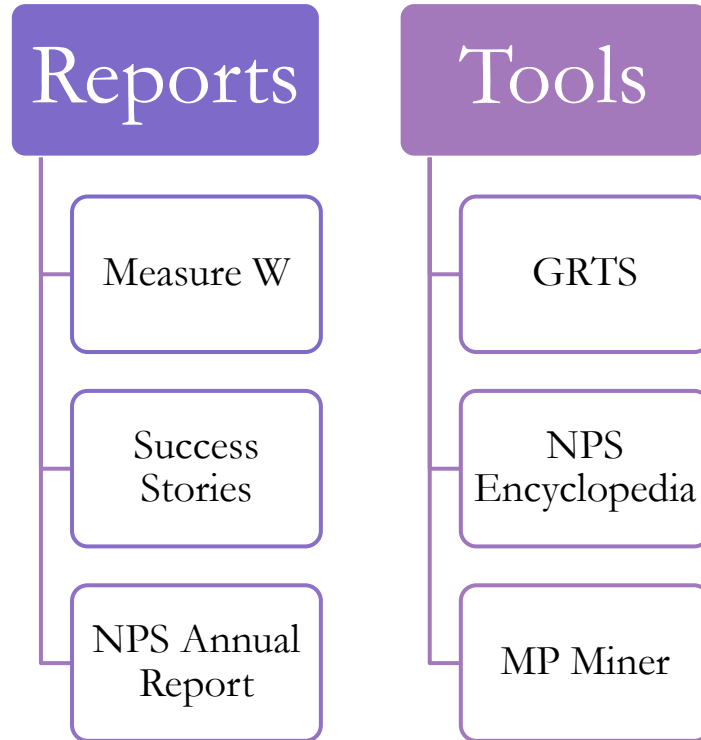


Figure 6. NPS Program shared reports and tools with the public.

II. Financial Coordination and Assistance

The Financial Coordination and Assistance initiative focuses on activities that direct financial assistance to support the clean-up and prevention of NPS pollution, and the restoration, preservation and enhancement of California's water quality. CWA Section 319 (h) specifically authorizes USEPA to award grants to states with approved NPS Programs. In addition, a variety of other funding sources are available under the CWA (e.g., Sections 106, 320, and 604(b) and the State Revolving Fund) or federal agencies (e.g., Environmental Quality Incentive Program funds from United States Department of Agriculture). With ever increasing NPS pollution and declining CWA Section 319(h) funds; there is a need to better tap and leverage all available resources. The USEPA provides [Watershed Funding Programs](#) for state, local governments, and watershed organizations that need adequate resources to achieve the goals of the CWA (Figure 7).

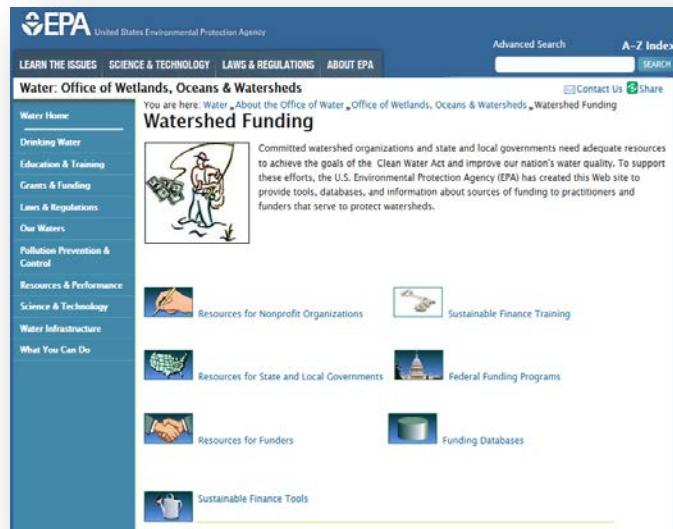


Figure 7. Watershed Funding website provides tools, databases, and information about sources of funding.

A. Annual Solicitation of CWA Section 319(h) Grants

The management of the annual solicitation, referred to as the [Request for Proposal \(RFP\)](#) for CWA Section 319(h) funds to support NPS pollution planning /assessment and implementation projects, was targeted towards the restoration of impaired water bodies using the results of the Water Boards' TMDL and CWA Section 303(d) Programs. SWRCB NPS Program staff requested that each RWQCB provide a preference list of TMDLs for their specific regions. These [preference lists](#) were used as one of the determining factors for selecting the 2013 CWA Section 319 (h) projects for funding and for future funding processes. These preference lists can be updated annually by the RWQCBs, as priorities in those areas change. In addition, the preference list will also be affected by watershed-based plans in the future. USEPA and SWRCB staff members will review and approve watershed-based plans that provide the basis for CWA Section 319-funded projects.

The California NPS Program made about \$4.5 million of CWA Section 319(h) grant funds available to support the restoration of waters impaired by NPS pollution. About \$1.0 million were designated for planning/assessment projects and \$3.5 million for implementation projects. Most of the goals for the financial assistance aspects of the NPS Program for SFY 12/13 were met. Continued support was provided directly through the funding of 10 projects totaling over \$4,476,185 through CWA Section 319(h) funds (\$6,463,703 when including project applicant matching funds) (Table 1). The focus of the CWA Section 319(h) RFP on projects for the implementation of specific TMDLs in preferential watersheds was initiated through a coordinated effort between the SWRCB's TMDL and NPS Programs. The NPS Program is scrutinizing the management of individual sub-grant agreements and the CAP Grant (e.g., zeroing out this SFY 12/13)

Table 1. 2013 CWA Section (h) Planning/Assessment and Implementation Project Grants

Rank	FAAST Pin No.	Regional Water Board	Project Type ^{1,2}	Project Title	Applicant	Project Description	CWA Section 319 Funds Requested (\$)	Applicant Match (\$)	Total Project Cost (\$)	Cumulative CWA Section 319 Award (\$)
1	24792	2	Imp	Focused Implementation of the Fine Sediment TMDL for the Napa River Watershed using the Fish Friendly Farming Environmental Certification Program	California Land Stewardship Institute	This project works with farmers to complete a comprehensive sediment source inventory of the entire site and implement management practices to protect and improve water quality and beneficial uses through reduction of erosion, increased infiltration, reduced sediment delivery to waterways from vineyards and vineyard drainage systems, roads, landslides and creek channels. The fine sediment TMDL for the Napa River identifies the Fish Friendly Farms (FFF) program as an implementation mechanism for water quality improvements. This grant would fund the FFF program to be implemented on 20,000 acres with an estimated 60,800 tons of sediment retained, 72 miles of creeks and 120 miles of roads assessed and treated. A focused approach will address vineyard sites in ten tributary watersheds with high values for anadromous fish, high densities of vineyards and large areas of vineyard on steep slopes.	\$250,750	\$156,000	\$406,750	\$250,750
2	24771	1	Plan	Historical Ecology for Guiding TMDL Implementation in the Laguna de Santa Rosa Watershed	San Francisco Estuary Institute	This project will: (1) compile and synthesize a diverse range of historical data and classify/target historical wetland types and their spatial distribution in the Laguna de Santa Rosa (Laguna) watershed, especially as they relate to existing sources of pollutants; (2) combine modern-day GIS maps of aquatic resources, particularly depressional and riverine wetlands, with a Geographic Information System-based inventory of the historical distribution and abundance of these kinds of aquatic resources to identify restoration opportunities targeted toward increasing the assimilative capacity of the Laguna ecosystem in close proximity to major ammonia sources; and (3) provide a broad assessment of alternative strategies to increase the assimilative capacity through riparian buffer and wetland restoration. These objectives contribute to a larger assessment effort and the adaptive implementation of a variety of management measures by numerous public and private entities that have been identified as contributors of pollutants to the Laguna. Strategies will be developed to increase the assimilative capacity of the Laguna through riparian buffer and wetland restoration.	\$125,000	\$136,050	\$261,050	\$375,750

3	24698	1	Imp	Garcia River TMDL Implementation Project, Phase II	Mendocino County Resource Conservation District	This project will implement three (3) erosion control plans on about 20.3 miles of private forest roads and 370 feet of streambank. The ECP will address the goal of NPS sediment load reductions on three key properties in the Garcia watershed as described in the <i>Action Plan for the Garcia River Watershed Sediment TMDL</i> . The total acreage of the three (3) properties (7,463 acres) represents 10percent of the watershed and will prevent an estimated 17,950 cubic yards of sediment from being delivered to the stream. This project brings about 80 percent of the watershed into TMDL compliance, providing a significant contribution towards the goal of delisting the watershed. This project will implement California Department of Fish and Wildlife and North Coast Regional Water Quality Control Board approved treatments utilizing the methodologies in the Handbook for Forest and Ranch Roads (Hagans & Weaver, 1994). Treatments are designed for the 100-year storm event and employ road drainage strategies that address hydrologic connectivity by decreasing the length of connected road.	\$750,000	\$648,945	\$1,398,945	\$1,125,750
4	24799	5	Imp	Mercury on a Landscape Scale: Balancing Regional Exports with Wildlife Health	Bureau of Land Management	This project in the Cosumnes/Mokelumne subwatershed is one of four (4) Delta subareas requiring a greater than 50 percent load reduction to meet TMDL goals for Methyl Mercury (MeHg). Seasonal wetlands may be significant regional sources of MeHg and the Cosumnes River Preserve provides an ideal matrix of replicate seasonal wetlands to test a potential management practices. The project will alter hydrology in four (4) managed seasonal wetlands by building an internal check levee that separates the main wetland from a deeper, vegetation-free, "open-water" cell. With nearly equivalent water volumes as the shallower end of the wetland, extended residence times in these open-water cells are expected to reduce MeHg concentrations and thus both bioaccumulation and export by 10-70 percent, via enhanced rates of photodemethylation (solar-driven degradation) and particle settling (flocculation and gravity). With experimental and control replicates, the grantee will quantify export loads and in situ bioaccumulation along with processes of MeHg removal to improve transferability of results.	\$749,500	\$263,552	\$1,013,052	\$1,875,250
5	24821	6	Imp	Lake Forest Water Quality Improvement Project - Panorama Phase	Placer County	This project is the third and final phase of the Lake Forest Watershed Improvement Project. Previous phases completed by Placer County have included the Lake Forest Meadow Restoration (2009-10) and neighborhood storm water runoff improvements (2008 and 2012). This third phase is to reduce sediment loading and improve water quality by restoring functional wetlands/stream environment zones in the Lake Forest - Panorama neighborhood. The project includes reaches 1X and 4X of Lake Forest Creek, as well as a portion of wetlands on California State Parks Land. Implementation of this project will reduce the fine sediment loading to Lake Tahoe.	\$750,000	\$350,000	\$1,100,000	\$2,625,250

6	24754	1	Imp	Shasta River Irrigation Water Management and Watershed Stewardship Project	Shasta Valley RCD	This project will complement existing work completed and underway by the Shasta Valley Resource Conservation District (SVRCD) to reduce and manage tailwater in the Shasta River. The project will be located in areas identified as high priority in an on-going effort to improve water quality and quantity. The management of cool spring water and the reduction of warm tailwater will help address the Shasta River temperature and dissolved oxygen impairments that lead to degraded water quality for beneficial uses. The proposal consists of identified projects that will result in increased irrigation efficiency, decreased warm water inputs, and increased flows through project implementation and irrigation management training. SVRCD will work with local and regional entities in a Shasta watershed stewardship framework of adaptive management principles that includes monitoring coordination, benefit tracking and accounting, and tracking progress towards meeting TMDL compliance goals.	\$610,000	\$0	\$610,000	\$3,235,250
7	24738	2	Imp	Reducing Road-related Sediment Delivery to Stream Systems in the Wing Canyon Subwatershed, Napa River	Napa County RCD	This project will facilitate compliance with the Napa River Sediment TMDL by preventing over 5,300 cubic yards of sediment from being delivered over the next 20 years from rural roads within the Wing Canyon Creek watershed, an important watershed for steelhead recovery in the Napa River Basin. In accordance with the California Department of Fish and Wildlife Salmonid Stream Habitat Restoration Manual, Parts 9 & 10, reduction in sediment loads due to the erosion of road systems will be achieved by hydrologically disconnecting 2.22 miles of roads from the stream system. Thirty-two (32) sites with potential road-related erosion will be upgraded to prevent sediment delivery. This project directly addresses actions specified in the Napa River Sediment Reduction and Habitat Enhancement Plan (see Basin Plan Amendment) to achieve quantifiable water quality benefits through reducing road-related sediment production. The project will also provide education about sediment pollution to the community.	\$250,592	\$83,532	\$334,124	\$3,485,842
8	24755	1	Plan	Assessment and Planning Analysis for Shasta River: Dwinnell Reservoir to Parks Creek Confluence	California Trout Inc	This project will identify and assess limiting factors and prioritize opportunities to improve habitat conditions and survival of coho salmon in the reach of the Shasta River from Dwinnell Dam to the Parks Creek confluence. Once restored, this part of the river will provide important rearing habitat for coho salmon and will act as a conduit for redistribution of coho. The potential to meet this need has not been fully realized, nor is there a good strategy for this segment of the Shasta River. The primary factors to be investigated that currently degrade cold-water habitat are: (1) Dwinnell Dam releases - the water quality/quantity of releases are suspected to be inadequate with respect to supporting coho habitat at various times during the year; (2) cold water springs - to date, the full benefit of these springs to instream conditions has not been fully investigated; (3) fish passage - barriers might be limiting the migration of juvenile coho salmon; and (4) tailwater - returns from irrigated lands below Dwinnell Dam elevate stream temperatures. Two (2) prioritized tailwater projects for implementation through Pin no. 24754 will also be identified.	\$115,380	\$50,965	\$166,345	\$3,601,222

9	24814	6	Imp	Truckee River Voluntary BMP Retrofit Program	Truckee River Watershed Council	This project will implement NPS pollution control projects, also known as BMPs, on residential properties in the Middle Truckee Watershed in targeted sub watersheds identified by the TMDL as containing high levels of "controllable" sources of NPS. The goal of this program is to improve water quality and support implementation of the TMDL by assisting residential property owners in voluntarily reducing or preventing soil erosion at older and established neighborhoods in the Truckee River watershed within the Town of Truckee, Placer County (not within the Tahoe Basin).	\$750,000	\$250,000	\$1,000,000	\$4,351,222
10	24772	5	Plan	Coordination and Synthesis of Nonpoint Source Methylmercury Control Studies in the Delta	Sacramento River Watershed Program	This project will provide wetlands and irrigated agricultural land managers with a planning approach to develop prioritized and collaborative Phase 1 methylmercury control studies (Control Studies) that have been designed with consistent, technical protocols and methodologies. The proposed planning project will also provide an organizational structure to conduct outreach to the wetland and irrigated agricultural community (as well as to the broader stakeholder community), and to facilitate future coordination and collaboration during implementation of the Delta Mercury Control Program. The grantee will facilitate and coordinate compliance with Phase 1 of Delta Mercury Control Program outlined in the CV-RWQCB Delta Methylmercury TMDL and Basin Plan Amendment. This is a continuation of an existing CWA Section 319(h) grant that will end June 2013. This work is planned to continue through 2015.	\$124,963	\$48,474	\$173,437	\$4,476,185
Program Totals							4,476,185	1,987,518	6,463,703	\$4,476,185

Notes: 1. "Imp" means implementation projects.
2. "Plan" means planning-assessment projects

B. Financial Coordination and Assistance Performance Review

The Water Boards administer numerous grant and loan funding programs intended to improve water quality and implement watershed programs. Grant and loan programs from California State Propositions 13, 40, 50, 84, and Clean Water State Revolving Fund, have funded projects for watershed protection, NPS pollution MM/MP implementation, clean beaches, agricultural water quality, flood control, storm water, Areas of Special Biological Significance, dairies, and others. In addition, Water Boards address NPS pollution by leveraging resources and working with partners like CDPR and United State Department of Agriculture Natural Resources Conservation Service.

[SWRCB's Clean Water State Revolving Fund financed one project in SFY 12/13 to address NPS pollution, storm water, and estuaries](#) (Figure 8). Clean Water State Revolving Fund provided the Bay Foundation of Morro Bay, a nationally designated estuary sponsor, about \$369,000 to help the Foundation evaluate the effectiveness of ongoing estuary conservation and management efforts.

CDPR's Pest Management Research Grants Program was established to prevent unanticipated impacts of pesticide use on public health and the environment by funding development of [integrated pest management](#) (IPM) systems. Voluntary adoption of integrated pest management reduces potential impacts without the need for regulation by reducing use of high-risk pesticides.

The Natural Resources Conservation Service provides financial and technical assistance for approved conservation practices based on a current conservation plan. The [Environmental Quality Incentive Program](#), administered by the Natural Resource Conservation Service, promote agricultural production, forest management, and environmental quality as compatible goals; optimize environmental benefits; and help farmers and ranchers meet Federal, State, Tribal, and local environmental regulations.

In the next SFY, NPS Program intra-agency and inter-agency coordination will continue prioritizing projects funding. Intra-agency efforts will include coordinating with SWRCB Division of Financial Assistance (e.g., Clean Water State Revolving Fund, California State Proposition funding, and other grants), storm water and other available Water Board funding. Inter-agency efforts will include efforts to better align funding from organization such as the Department of Water Resources, Department of Fish and Wildlife, CDPR, Natural Resources Conservation and other groups that offer funding to improve or restore water quality.

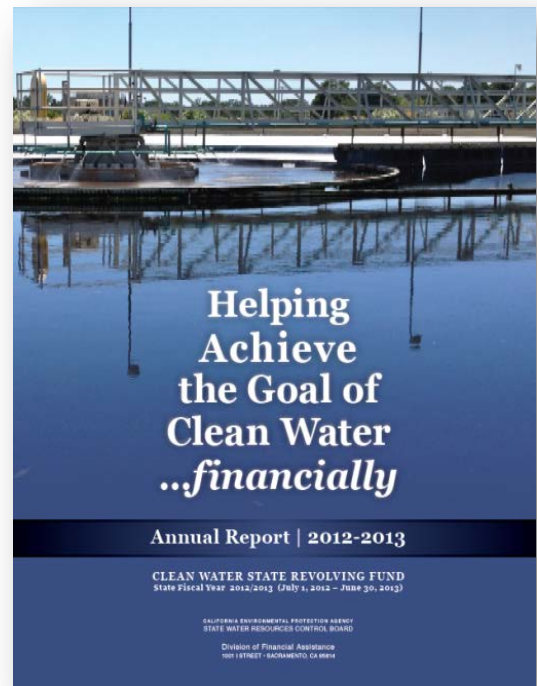


Figure 8. The Clean Water State Revolving Fund provided \$369,000 in SFY 12/13 to help Bay Foundation Morro Bay.

III. Policy Development and Support

This section focuses on the development and implementation of policies that support the clean-up and prevention of NPS pollution, and the restoration, preservation and enhancement of California's water quality. One of the difficulties in the development and implementation of these policies is maintaining a statewide framework of consistency to the greatest extent possible, while fostering recognition of the unique environments (e.g.; political, climatic, ecological) that confront each RWQCB. To this end, a number of plans and policies are currently being developed and/or implemented that will impact the California NPS Program. Plans and policies that are being developed or implemented will address the following subject areas: (1) Implementation of the NPS Implementation and Enforcement Policy; (2) State Water Plan water quality integration; (3) stream, wetland systems, and riparian areas protection; (4) climate change; and (5) atmospheric deposition.

A. NPS Implementation and Enforcement Policy

The [NPS Enforcement and Implementation Policy](#) assists all responsible and/or interested parties in understanding how the State's NPS water quality control requirements will be implemented and enforced. Individual dischargers, including both landowners and operators, continue to bear ultimate responsibility for complying with a RWQCB's water quality requirements and orders. RWQCBs must regulate all sources of NPS pollution, using the administrative permitting authorities provided by the [Porter-Cologne Water Quality Control Act](#). The permitting authorities include but are not limited to Basin Plan prohibitions, waste discharge requirements (WDRs), and waivers of WDRs. The use of WDRs and waivers of WDRs to control discharges from the agriculture (i.e., irrigated lands and grazing) and forestry land use categories has fundamentally changed the way these two land use categories are being regulated.

A.1 Irrigated Lands Regulatory Program

Many surface water bodies and groundwater basins in California have been identified as being impaired by agricultural sources. The SWRCB developed the [Irrigated Lands Regulatory Program \(ILRP\)](#) to assess and control the impact that discharges from irrigated agricultural lands have on waters of the state (Figure 9). To accomplish these objectives, the SWRCB ILRP conducts the following activities: program oversight; coordination with federal, state, and local agencies; coordination with the state legislative bodies; public outreach, information management; discharger fee development and collection; and oversight of the ILRP Roundtable.



Figure 9. The ILRP objectives are to monitor, assess, and control the impact to receiving waters caused by discharges from irrigated agricultural lands.

Below are updates on the ILRP activities of the North Coast, San Francisco, Central Coast, Los Angeles, Colorado River Basin, Santa Ana, and San Diego RWQCBs during the SFY 12/13.

- North Coast RWQCB staff members have been developing the [Agricultural Lands Program](#) for over a year now. North Coast RWQCB staff is worked on drafting the remaining key components of a general conditional waiver of WDRs for review and comment by the Stakeholder Advisory Group during 2013 summer.
- San Francisco RWQCB staff members received comments for the draft Conditional [Waiver of WDRs for Vineyards in the Napa River and Sonoma Creek Watersheds](#) during the public comment period (November 16, 2013 to February 2, 2013). San Francisco RWQCB staff members revised the draft Conditional Waiver of WDRs for Vineyard in the Napa River and Sonoma Creek Watershed as a general WDR Order.
- Central Coast RWQCB continued to provide outreach and compliance assistance during implementation of the [2012 Agricultural WDR](#). Central Coast RWQCB staff will ensure that all stakeholders have opportunities to understand how to implement and comply with the 2012 Agricultural WDR and improve water quality. Recent outreach efforts have focused on working with agricultural industry representatives to develop proposals for a cooperative groundwater monitoring programs. On March 15, 2012, the RWQCB-3 Board members adopted an updated Conditional WDR (Agricultural Order No. R3-2012-0011). On September 24, 2013, the SWRCB adopted Order WQ 2013-0101 which upheld the Agricultural WDR with modifications.
- The Nursery Growers Association Los Angeles County Irrigated Lands Group and the Ventura County Agriculture Irrigated Lands Group are the two discharger groups in the Los Angeles region that have been formed to comply with the Conditional Waiver for Irrigated Lands. Ventura County Agriculture Irrigated Lands Group submitted their [Annual Monitoring Report](#) to Los Angeles RWQCB staff members in February and March 2013.
- Central Valley RWQCB staff members circulated the [tentative WDRs](#) for individual growers not part of a third-party group for a thirty (30) day comment period, which ended April 22, 2013. Eight comment letters for the WDRs were received by the due date.
- Colorado River Basin RWQCB staff members have started implementing [Board Order R7-2012-0047](#), a Conditional Waiver of WDRs for agricultural wastewater discharges and discharges of wastes from drain operation and maintenance activities within the Palo Verde Valley and Mesa areas in Riverside and Imperial Counties. This Conditional Waiver of WDRs for Agricultural Wastewater Discharges and Discharges of Wastes affected about 120,000 acres of farmland along the Colorado River. In March 2013, Palo Verde Irrigation District filed its Coalition Group's proposed compliance program and is now beginning to implement the approved compliance program.
- Santa Ana RWQCB staff members have developed a [Conditional Waiver of WDRs for Agricultural Discharges Program Advisory Group](#) that consists of about 20 members.

- Members include agricultural farmers, local growers, industry groups, and major stakeholders. The last CWAD advisory group meeting was held on April 25, 2013.
- The San Diego RWQCB staff members have moved forward on the [Conditional Waiver of WDRs for discharges from Agricultural and Nursery operations](#). General tasks currently include, conducting inspections at randomly selected facilities to assess the level of familiarity that dischargers have with the waiver conditions, begin informal enforcement processes for noncompliance, and initiate the processes associated with renewing their Conditional Waiver of WDRs for discharges from Agricultural and Nursery operations in 2014.

During SFY 12/13, Water Board ILRP staff held quarterly meetings which included staff from the CDPR, California Department of Food and Agriculture (CDFA), USEPA, California Department of Fish and Wildlife (CDFW), and California Agricultural Commissioners working towards these objectives. The ILRP roundtables continue to provide a valuable forum for addressing water quality impacts from agriculture such as RWQCB program development and implementation, the CDPR Surface Water Regulation development, groundwater nutrient management, and food safety issues.

A.2 Grazing Regulatory Action Project

During SFY 12/13, the [Grazing Regulatory Action Project \(Grazing RAP\)](#) continued to work towards addressing impairments driven all or in part by impacts due to grazing (Figure 10). The overall goals of the Grazing RAP work team are to develop an approach that efficiently addresses water quality impairments associated with grazing operations – an approach that will help to streamline the process of addressing impairments, conserve valuable resources, and give implementing parties the clarity and consistency they deserve.


The Grazing RAP team is working to identify how to balance statewide consistency with regional autonomy, and will take into account regional differences in hydrology, grazing practices and other distinguishing factors as it develops recommendations. As the work team moves forward, it will consider public comments on draft policies and other products. Any statewide approach for complex water quality issues, such as grazing, will most certainly require careful examination, evaluation and stakeholder input during development and implementation. Water Board staff will ensure that all interested stakeholders are included in future outreach efforts. “Focused stakeholder listening sessions” are scheduled to begin in early 2014.



Figure 10. RWQCBs are addressing impairments driven by impacts due to grazing.

A.3 Forestry Activities Program

During SF 12/13, the Forest Activities Program (FAP) continued to participate in the development of regulatory solutions for both public and private forest lands in California, develop internal consistency amongst the RWQCB FAPs, and provide legislative bill analysis and reporting (Figure 11). Members of the FAP continue to participate in a statewide effort to develop a consistent approach to grazing on public lands—this effort is in the early stakeholder outreach phase. The statewide effort includes direct consultation with the US Forest Service (USFS), US Bureau of Land Management, National Park Service, and USEPA. Furthermore, SWRCB’s Division of Water Quality and the Division of Water Rights began a concerted effort to engage the USFS initiative on the use of existing water rights for in-stream flows.



FAP Program staff members from the North Coast and Central Valley RWQCBs recently culminated a multi-year effort to provide the State’s Board of Forestry (BOF) with technical and policy input for water quality protection on class II large streams. RWQCB staff members supported the adoption of a comprehensive “Road Rules” package the BOF has been developing for more than a decade. The “Road Rules” package provides guidance, through Technical Rule Addendum No. 5, to professional foresters and landowners on the practice of hydrologically disconnecting roads.

Figure 11. FAP continues to participate in the development of regulatory solutions for both public and private forest lands.

Water Board staff members submitted comments to the BOF on the need to follow up on the progress and initial implementation of the “Road Rules” and strongly recommended the Board and public trust agencies facilitate training for foresters, timber operators, and timberland owners, as well as agency staff and the public. RWQCB staff members continued to be actively involved in the implementation of “Section V projects”; which provide spatially explicit riparian management for implementing the BOF’s Anadromous Salmonid Protection rules.

Developing internal consistency amongst the RWQCB FAP through information technology is an ongoing task for the FAP. Water Board program staff members are in the process of evaluating information technology solutions to standardize business processes for FAP. The process will lead to the development of a Feasibility Study Report. The next step is to gain approval from the California Technology Agency (CTA). The CTA tracks and reports the progress of all state Information Technology projects to ensure accountability and transparency. Business needs identified thus far include consistent reporting metrics across Regions, standardized training for staff on the utilization of current systems, and implementation of data services exchange with agencies outside the Water Boards.

During the last state legislative session two bills, [Assembly Bill 744](#) and [Assembly Bill 904](#) were adopted in statute. Assembly Bill 744 seeks to address the efficacy of changes to fuel treatment permit exemptions through a five year pilot project. FAP staff members will continue to monitor fuel treatment projects on a case-by-case basis with an eye towards the results of the five-year pilot study. Assembly Bill 904 created Working Forest Management Plans (WFMP) to expand the number of acres currently allowed by Non-Industrial Timber Management Plans (NTMP). Currently, WFMP are allowed up to 15,000 acres and NTMP are allowed up to 2,500 acres. WFMPs are predicated on uneven-aged management, new five year agency review, and new erosion control plan and schedule requirements. Timberland owners are approved under the new WFMP are approved in perpetuity for future harvest, which allows timberland owners to time the market and avoid costly permitting each and every time they harvest. The SWRCB will be developing consistent permit language for the incorporation of best MP's on current and future Federal Energy Regulatory Commission relicensing conditions for projects on National Forest Lands and appurtenant roads.

In the next SFY, FAP will be actively engaged in the BOF's rule making process to ensure water quality monitoring is effectively incorporated in WFMP. The BOF has until January 2016 to develop the necessary regulation for these plans.

B. California Water Plan and Water Quality Planning

The California Water Code specifies the California Water Plan, prepared and updated by California Department of Water Resources (CDWR), as the master plan to guide the orderly and coordinated control, protection, conservation, development, management and efficient utilization of the water resources of the State. Water management activities will often have unavoidable environmental consequences, and the link between water supply management and water quality are inseparable (Figure 12).

In order to readily identify statewide and regional water quality protection requirements in considering future water supply issues, and to better inform water quality considerations about water supply issues, as part of the SWRCB Strategic Plan Update 2008-2012, the SWRCB has committed to collaborate with the CDWR to integrate the RWQCB Plans –also known as Basin Plans—and other statewide water quality control plans and policies into a comprehensive Water Quality Plan. The Water Quality Plan will comprise a key element of the California Water Plan.



Figure 12. The link between water supply management and water quality are inseparable.

The SWRCB NPS Program staff is in the process of developing a chapter for the 2013 update to the California Water Plan that defines and addresses NPS pollution prevention through existing and proposed Water Board programs. This will include, but is no limited to, discussions on status of NPS pollution prevention and associated Water Board programs and policies, NPS pollution prevention as function of land use category, major issues such as irrigated agriculture, confined

animal facilities, monitoring, and emerging issues, and estimated costs associated with NPS pollution prevention programs.

C. Watershed Planning

The Water Boards participate in several efforts to encourage and promote watershed planning. The first effort is through increased emphasis on the USEPA Strategic Plan Measures, which is directly related to watershed planning. The second is through continued involvement with RWQCB Watershed Management Initiative work group members. Water Boards will comment on legislation, perform strategic planning efforts to coordinate other SWRCB funds (e.g., California Proposition water-quality related funding and CWSRF) and other California Resource Agency funding as it pertains to watershed planning. The third effort is through increased emphasis on the USEPA watershed approach through incorporation, to the greatest extent possible of the [USEPA Nine-Key Elements of a Watershed-Based Plan](#) into the TMDL implementation plans (Figure 13).

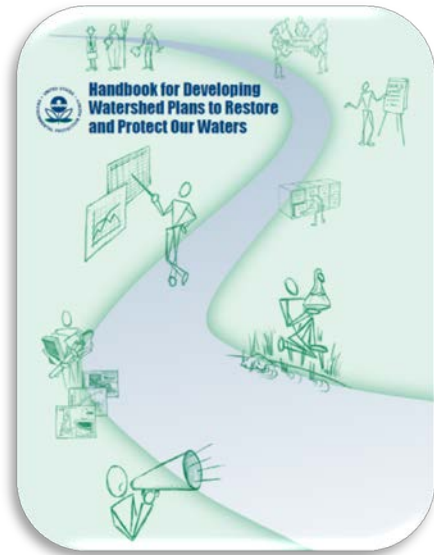


Figure 13. This handbook is intended to help communities develop and implement watershed plans to meet water quality standards.

The California NPS Program has determined that the most effective method to address NPS pollution is through the development and implementation of Nine-Key Elements of a Watershed-Based Plan. There is no consistent statewide effort to develop, approve, and implement watershed plans. To correct this deficiency, the California NPS Program will develop criteria for reviewing and approving existing watershed-based plans consistent with the Nine-Key Element approach. In addition, the California NPS Program will coordinate with other State and federal programs to develop effective methods to focus limited resources through watershed-based plan development and related implementation efforts.

In the next SFY, SWRCB NPS staff members will annually review and approve two watershed plans per RWQCB for use in the 2015 CWA Section 319(h) Implementation/ Planning Agreement Grant RFP. These watershed plans will be reflective of the watersheds RWQCB NPS staff place on their annually updated CWA Section 319(h) RFP Solicitation Program Preference Lists for funding. In addition, NPS efforts may include funding and/or co-sponsoring two workshops on watershed planning for RWQCB staff, watershed management groups, grant managers, grantees and other stakeholders, as appropriate.

D. Wetland Area Protection and Dredge and Fill Permitting Policy

The Water Boards currently do not have a single accepted definition for wetlands that would capture the rich diversity of wetland types found throughout the state. This has led to a lack of consistency in wetland regulation and management. The [Wetland Area Protection Dredge and Dredge Fill Permitting Policy \(Wetland Area Protection and Dredging Policy\)](#) will have a wetland definition for the Water Boards. A [new draft version](#) of the Wetland Area Protection and

Dredging Policy was released on January 28, 2012. In addition, SWRCB 401 staff continued informal stakeholder meetings in preparation of final revisions to the Phase I and Phase II of the Wetland Area Protection and Dredging Policy. As directed by the SWRCB in [Resolution No. 2008-0026](#), this Wetland and Riparian Area Protection Policy is being implemented in three phases that will allow for necessary infrastructure and program development (Figure 14).

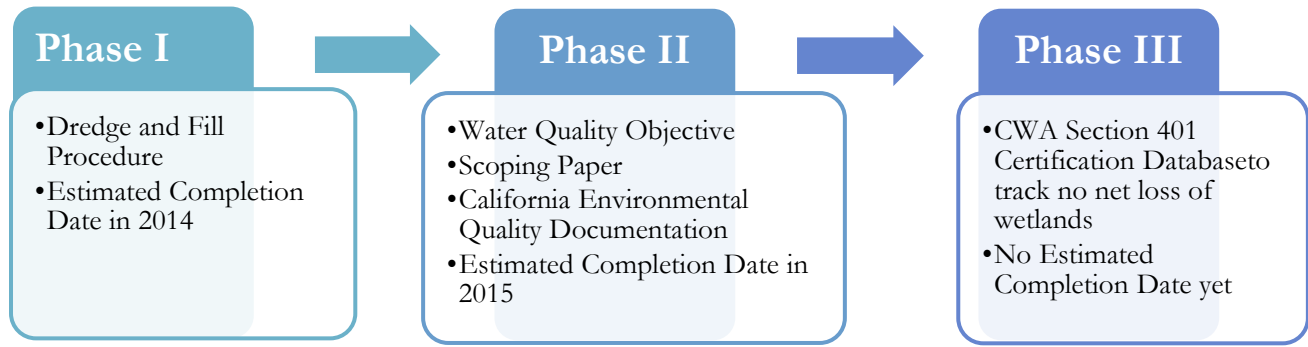


Figure 14. Three Phases of the Wetland Area Protection and Dredge or Fill Permitting Policy and Activities with estimated completion dates.

SWRCB CWA 401 staff members are moving forward with Phase II and working on the required Substitute Environmental Document. More information on the three phases is described in the 2011 [Five-Year Coordinated Work Plan for Wetlands Conservation Program Development](#). The Five-Year Coordinated Work Plan involves CA Department of Fish and Wildlife and SWRCB to carry directives regarding Wetland Conservation Program development.

The Water Boards recognize that a watershed-level approach is most effective in protecting wetlands and riparian areas and their associated water quality functions. [EcoAtlas](#), developed by San Francisco Estuary Institute, is a new online tool that can be used by multiple agencies with various responsibilities that decide where to prioritize wetland restoration (Figure 15). In addition, EcoAtlas tracks compensatory mitigation and performance of Wetland, Riparian Area Monitoring Plan.

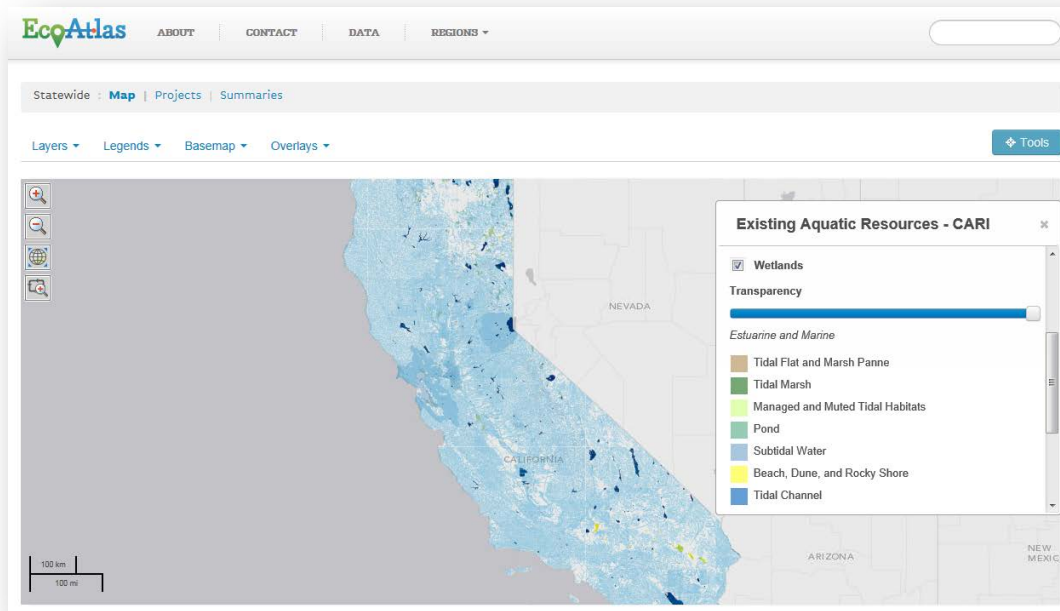


Figure 15. The California EcoAtlas provides free public access to information about the quantity and quality of California wetlands. EcoAtlas enables integration of information to provide landscape context for consideration of wetland extent and condition.

E. California Coastal Marinas Permit for Marinas and Recreational Boating

Water Board is continuing to work closely with the [CDPR](#) in its reevaluation of copper-based antifouling paints. SWRCB is temporarily suspending the release of a draft Coastal Marinas Permit. Ongoing developments will continue to be communicated and vetted to stakeholders. For more information, see the [letter issued by the Department of Water Quality dated July 2010](#).

F. Climate Change

Many state and local governments are already preparing for the impacts of climate change through "adaptation," which is planning for the changes that are expected to occur. Climate change will present new challenges to how the Water Boards manage water quality in California. The Water Boards will continue to use their regulatory authorities and programs to ensure MMs and MPs are implemented that minimize the impact of climate change on water quality. For instance, the Water Boards will increase use of irrigation efficient methodologies (i.e., agriculture and urban land use categories), promote Low Impact Development (LID) technology to encourage sub-surface infiltration consistent with predevelopment hydrology, and practice pollutant control technologies to minimize pollutant transfer to surface and ground waters increased intensity of rainfall.



Figure 16. Senate Bill 346 phases out copper from vehicle brake pads to make the state's urban waterways safer for salmon and other species.

Photo Courtesy of: suscon.org

G. Atmospheric Deposition

The Water Boards are coordinating with California Air Resources Board (CARB) and CDPR to develop more effective methods of aerial pesticide application that minimize problems associated with pesticide drift and volatilization (Figure 16). The [Brake Pad Partnership](#) has developed and published a reproducible laboratory protocol for generating brake wear debris, and carried out physical and chemical characterization tests. The Brake Pad Partnership has also collected storm water monitoring data and atmospheric deposition data in the study watershed. All of this information is used to develop and run environmental transport models that tell what contribution brake pads make to copper concentrations in the San Francisco Bay. [This collaborative research is supported by a \\$700,000 grant from the California NPS Program.](#)

H. Policy Development and Support Performance Review

During this SFY 12/13, the Water Boards continued to use WDRs and waivers of WDRs to control discharges from the agriculture, grazing lands, and forestry land use categories. The Water Boards will continue to participate and report on coordination efforts from ILRP and FAP in the next SFY.

SWRCB NPS staff continued to work with the RWQCBs and agriculture-related partner agencies (e.g.; CDFG, CDPR) as part of the SWRCB's ILRP Roundtable to ensure that the elements of the state's NPS Implementation Policy are effectively integrated into all of the RWQCB's irrigated agriculture regulatory programs. The Water Boards will continue to coordinate with CARB and CDPR to develop methodologies for determining load allocations to control atmospheric deposition sources.

SWRCB NPS staff attended State Section 401 Program/ Wetland Policy Coordinating Committee meetings during SFY 12/13. SWRCB NPS staff will continue to follow closely on the [Wetland Area Protection and Dredging Policy](#) designed to protect and enhance California's wetlands, bring consistency to regulatory efforts by the Water Boards, and to provide a common framework for monitoring and reporting water quality.

With added challenges like climate change, wildfires could have a significant role in the future. Frequent fires would mean less native vegetation to capture and reduce the velocities of surface runoff and maintain soil integrity. The Water Boards will continue to promote LID to minimize channel incision by debris-laden runoff that is detrimental to riparian communities and aquatic organisms. Climate change is projected to indirectly affect water quality due to predicted effects on increased water temperature, changes to species habitat, ecosystem and forest fire frequency.

IV. Interagency Coordination

Interagency coordination is required to effectively implement the California NPS Program, in part because the program goals are based upon the regulatory authorities of 28 state agencies. Local government agencies need to participate in NPS Program implementation since critical land use decisions occur at the local level. Informational tools developed by the state agencies and recipients of NPS grant funds need to be effectively communicated to those responsible for land use management throughout the state. Interagency coordination is also needed to help set statewide objectives for the most critical NPS issues. This section will provide updates on coordination with the CCC, C DPR, and National Resource Conservation Service (NRCS).

A. California Coastal Commission

During SFY 12/13, CCC staff members have been coordinating with staff of the Central Coast RWQCB on the development of new water quality policies that will affect land use development on the Central Coast (Figure 17). These policies include new post construction requirements for new and redevelopment projects and address the required MPs in different parts of the Central Coast RWQCB jurisdiction. Since these new water quality policies will affect land use policies, CCC staff took the opportunity to update the water quality policies that are typically recommended for use in the coastal zone and develop a new model ordinance for implementing those policies. Both the policies and the ordinance could be used by local governments to update their Local Coastal Programs (LCP).



Figure 17. CCC staff members and Central Coast RWQCB staff members have been coordinating on the development of new water quality policies that will affect land use development on the Central Coast.

LCPs are the basic planning tools used by local coastal governments to implement the California Coastal Act at the local level. Each LCP includes a land use plan that prescribes land use classifications, types and densities of allowable development, goals and policies concerning development; and zoning ordinances needed to implement the plan. Local governments prepare LCPs and submit them to the Commission for approval (Figure 18). Many LCPs were originally certified in the 1970's or 1980's and had minimal land use policies regarding the impacts of development on coastal water quality. Since 2000, CCC Water Quality Unit staff has actively worked with local governments seeking to amend their LCPs to incorporate more comprehensive policies and standards that are consistent with the state's efforts to reduce the impacts of polluted runoff. CCC staff developed the list of example policies in 2002 and have used that list to review existing LCP policies and recommend amendments where needed.

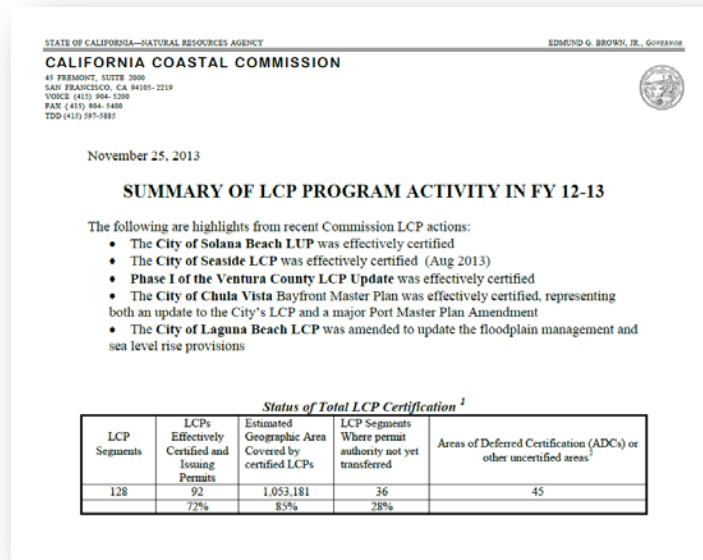


Figure 18. [Summary of LCP Program Activities in SFY 12/13](#)

CCC staff members have been updating the recommended LCP policies based on the changes made to storm water and NPS programs statewide. In addition, the CCC staff members have worked on the elements of a model water quality ordinance for use in updating LCP implementation plans. The previous Land Use Plan Water Quality Policies were rewritten and reorganized to provide clearer guidance. An effort was made to use consistent wording, provide details to terms that could be interpreted in different ways and be succinct if possible. New policies were added to address hydromodification controls, LID, preservation of existing vegetation, and storm water outfalls. CCC Water Quality Unit staff members are currently writing a model water quality ordinance for the Implementation Plan component of LCPs to ensure that LCPs contain standards that can effectively implement the recommended water quality policies. Over the next SFY, the CCC staff members will work to complete the model ordinance, get feedback from coastal land use planners and submit the models for comment and approval to the CCC.

A.1 Marinas Interagency Coordinating Committee

The [Marinas and Recreational Boating Workgroup or Marina Interagency Coordinating Committee \(Marina IACC\)](#) is a forum for government agencies and stakeholder groups to share information and identify needed resources to protect water quality (Figure 19). Marina IACC is co-led by CCC and SWRCB staff. The workgroup has been meeting two to four times per year since 2003 and some of the results include: development of statewide maps showing environmental resources for marinas; a comprehensive review of the voluntary, industry-led Clean Marinas Program in order for the program to be consistent with and supportive of state regulations; and development of another workgroup focused on water quality impacts of anti-fouling paints.



Figure 19. The growth of recreational boating, along with the growth of coastal development in general, has led to an increased awareness of the need to protect the environmental quality of our waterways.



Figure 20. California King Tides Initiative encourages members of the public to document the highest seasonal tides (or king tides) that occur along the state's coast.

Photo Courtesy of Humboldt Baykeeper

December 12, 2012 Meeting

- [Recreational and Fishing Vessels as Vectors for Marine Aquatic Invasive Species In California: Current Situation And Management Options](#): Speakers: Claire O'Reilly, Ocean Protection Council, Errin Kramer-Wilt, Ocean Science Trust; Erin Prahler,

Marina IACC has hosted speakers on marine debris, port and harbor impacts of the 2011 tsunami in Japan, the [King Tide Initiative](#) (Figure 20), underwater hull cleaning from the diver's perspective, aquatic invasive species and a green marina education and outreach program. Presentations from these talks can be found at <http://www.coastal.ca.gov/nps/nps-boating.html>. For more information see the [Marina IACC Minutes and Presentations](#), the [CCC Clean Boating Page](#), and [Changing Tide Newsletter](#).

Presentations during the SFY are listed below:

- Center for Ocean Solutions; Gail Ashton, Smithsonian Environmental Research Center
- Clean Vessel Act Program: Preventing Sewage Discharge Using Innovative Strategies
Speaker: James Muller, San Francisco Estuary Project

March 13, 2013 Meeting

- Pathogen TMDL and other Wastewater Issues in Richardson's Bay
Speaker: Bill Price, Richardson Bay Regional Agency, Marin County
- New versus Traditional Material for Docks and Pilings
Speaker: Scott Noble, P.E., D.CE, Sr. Vice President, Noble Consultants, Inc.

In the next SFY, CCC staff will invite speakers on pollution prevention while fueling boats, monitoring strategies for marinas, the progress of the Clean Marina Program, and methods to reduce pollutants in marina waters.

B. California Department of Pesticide Regulation

During SFY 12/13, Water Boards coordination and collaboration with the CDPR continued across a range of programs and activities. These interactions are fostered by the terms of the existing Management Agency Agreement established as a memorandum of agreement between CDPR and the Water Boards. The Water Board and CDPR have responsibilities to protect water quality from the potential adverse effects of pesticides. CDPR and Water Board staff members routinely interacted on activities such as scientific and regulatory document reviews, pesticide-related basin planning, and numerous forums (e.g., advisory committees, interagency coordinating committees, stakeholder workshops, and hearings).

B.1 Antifouling Strategies Workgroup



Figure 21. A staff member sanding the boat at KKMI Boatyard

Marina source surveys and boat leaching estimates show that boat antifouling paints are a major source of copper, particularly in salt water marinas during dry periods. The Water Boards, CCC, and CDPR staff have been partners in directing and managing the Antifouling Strategies (AFS) Workgroup, which is a forum for coordination and information sharing to address growing concerns of antifouling paint pollution in marinas, since 2004 (Figure 21). CDPR registers antifouling paint products since they are considered pesticides. CDPR staff has been the

lead agency of this workgroup, in order to assess the degree and geographic distribution of pollution caused by copper antifouling paint pesticides in California's aquatic environment. In SFY 12/13, CDPR staff revised their priorities and at present can no longer lead this effort. The AFS Workgroup will continue to hold meetings in conjunction with the Marinas IACC workgroup, with workgroup coordination responsibilities passing to CCC and SWRCB staff.

Over the next year, speakers will be invited to the Antifouling Strategies Workgroup to speak on alternative paint products and the interactions between invasive species and antifouling paints. The next steps for CDPR is to use data from the study "*In-situ Copper Leach Rates and Loading Associated with Cleaning of Recreational Boat Paints*" developed by the U.S. Navy to verify data from other studies and more accurately develop a mitigation approach that is focused around reformulation of paint products to meet and acceptable low copper antifouling paint leach rate limit. CDPR will consult with the Water Boards on how to address underwater hull cleaning discharges as this could impact DPR's leach rate determination.

B.2 Assembly Bill 425 Antifouling Paint Registration and Mitigation

The use of copper in antifouling paints has been targeted by many groups as contributing to adverse water conditions in certain California marinas. Existing law requires every manufacturer of, importer of, or dealer in any pesticide, except a person that sells any pesticide that has been registered by the manufacturer or wholesaler, to obtain a certificate of registration from the CDPR before the pesticide is offered for sale. California Senate Bill 623, introduced in a prior legislative session and deferred in June 2012, proposed to ban the use of copper in antifouling paint for use on pleasure craft.

On February 15, 2013, Assemblywoman Toni Atkins introduced Assembly Bill 425, legislation related to copper-based antifouling coatings. Assembly Bill 425 requires the CDPR to determine a leach rate for copper-based antifouling paint used on recreational vessels and make recommendations for appropriate mitigation measures that may be implemented to address the protection of aquatic environments from the effects of exposure to that paint if it is registered as a pesticide (Figure 22). The most current version of [Assembly Bill 425](#) requires CDPR to make recommendations on mitigation measures for copper-based antifouling paint and set a leach rate by February 01, 2014. This means the copper-based antifouling paint pesticide reevaluation will soon end and recommendations on mitigation measures must also be developed by the end of January 2014.



Figure 22. Boaters should notify hull cleaners as to what type of bottom paint was used and when the bottom was last painted.

In June 2012, [American Coating Association submitted the “In Water Hull Cleaning and Passive Leaching Study” to CDPR](#). The purpose of the study was to determine the effects of underwater hull cleaning methods on various antifouling paints and quantify the amount of copper that enters the water column from passive leaching. The study tested the antifouling paints used in Shelter Island Yacht Basin. Using this information, CDPR will develop a course of action for antifouling coatings in California and the Water Boards will assist in addressing the water quality implications.

B.3 Pesticide Regulation and Evaluation Committee

The purpose of the Pesticide Registration and Evaluation Committee (PREC) is to foster communication and understanding among the parties represented on the committee and CDPR. The PREC provides a forum for public agencies to communicate with, and provide feedback to CDPR regarding pesticide regulatory, policy, and implementation issues (Figure 23).

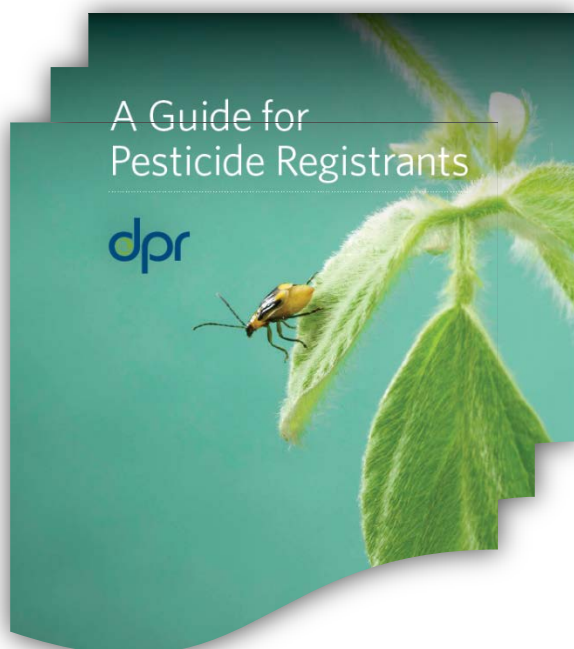


Figure 23. CDPR has a [guide](#) for pesticide registrants for stakeholders on applying pesticide product registration and amendments.

CDPR recognizes the nonagricultural use of pesticide from outdoor institutional use (i.e., office complexes and schools), outdoor industrial use (i.e., factories, water treatment plants, and retail nurseries), outdoor structural use, and outdoor residential use. The CDPR’s main focus for surface water regulation for non-agricultural pesticide use is to reduce the amount of pesticides applied and reduce exposure of pesticides to rainfall. The uses that CDPR are not proposing to regulate at this time include parks and city owned trees, cemeteries, golf courses, and rights of way.

CDPR receives input from the Water Boards to help shape the development of its evaluation process to determine whether pesticides being considered for registration may pose an unacceptable risk to surface water. Moreover, CDPR is looking to establish a more consistent and transparent scientific evaluation that is primarily based on a refined modeling approach. In

In SFY 12/13, SWRCB staff continued to attend PREC meetings and provide input as requested by CDPR. SWRCB staff continued efforts to collaborate with the CDPR to develop more effective methods of aerial pesticide application that minimizes problems associated with pesticide drift and volatilization and has participated in the development of the Air Monitoring Network (AMN). The network will sample ambient air for multiple pesticides in several communities on a regular schedule, over the next five or more years. The data gathered will be used to evaluate and improve protective measures against pesticide exposure. The goals of the AMN are to provide data that assist in assessing potential health risks, developing measures to mitigate risks, and measuring the effectiveness of regulatory requirements.

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addition, a more transparent scientific evaluation for registrant can lead to better predictions as to what additional data is needed and model robustness (i.e., improvement in the development of indicators, and decision making processes).

Overall, technical and policy coordination between CDPR and Water Boards continued to be strong in SFY 12/13. This is further bolstered by the implementation of management initiatives to improve coordination at the policy and decision-making level. In the next SFY, Water Boards and CDPR will continue to work on addressing issues related to antifouling paints and pesticides entering into surface water.

C. National Resource Conservation Service

During SFY 12/13, California's NPS Program continued to partner with stakeholders to address NPS problems in their respective watersheds. SWRCB NPS and ILRP staff has participated in the quarterly NRCS State Technical Guide Committee meetings. In partnership with and parallel to the CDPR, the CDPR-ILRP Focus Group, SWRCB staff have acted as technical liaisons to the State Technical Guide Committee supporting not only [Integrated Pest Management](#) and pesticide application technology and methods, but also other key SWRCB concerns like water quality, nutrient management, food safety, soil erosion and other NPS pollution concerns.

D. Performance Review for Interagency Coordinating Committee

Efforts in interagency coordination have benefited the NPS Program and related efforts to improve water quality. During the SFY 12/13, the Water Board staff continued to develop effective partnerships among state agencies to address NPS pollution. The Water Boards continue to work with local government to implement MMs/MPs in land use decisions such as amendments of General Plans and LCPs. Interagency coordination builds better relationships with local land use and water quality agencies to reduce the impacts of NPS. In addition, interagency coordination supports efforts to share information on protecting water quality from NPS with government agencies and others.

V. Critical Coastal Areas

The Critical Coastal Areas (CCA) Program is an innovative program to foster collaboration among local stakeholders and government agencies, to better coordinate resources and focus efforts on coastal watersheds in critical need of protection from polluted runoff. A multi-agency statewide CCA Committee identified an initial list of 101 CCAs along the coast and in San Francisco Bay. CCC staff created more detailed maps of the state's CCAs during SFY 12/13 (Figure 24). These are land areas that drain into coastal waters that need special protections either because they have been designated as an Area of Special Biological Significance (ASBS) or they have another designation for resource protection (e.g., a marine reserve) and are impacted by state designated impaired waters.

A. Critical Coastal Area Program

The maps of the CCAs were initially created in a simple digital format in 2003 and at that time it was expected that regional groups would refine the boundaries of the CCAs. Without dedicated funding, the regional planning process was not completed. As geographic information systems have improved and many online mapping resources have become available, an effort to improve the mapped area of the CCAs has been revived.

In addition to mapping the existing CCAs, CCC staff has begun to map areas of land that drain to the state's new system of Marine Protected Areas (MPAs) (Figure 25). Some of these areas existed at the start of the CCA program and were used to identify CCAs, but many are new and probably should be used to designate new CCAs. The state's Marine Life Protection Act, passed by the California State Legislature in 1999, required the (CDFW) to redesign its system of MPAs to increase its coherence and effectiveness at protecting the state's marine life, habitats, and ecosystems. For the purposes of the Act planning, a public-private partnership commonly referred to as the Marine Life Protection Act Initiative was established, and the state was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own Marine Life Protection Act planning process. All four coastal regions have completed these individual planning processes. As a result the coastal portion of California's Marine Life Protection Act network is now in effect statewide.

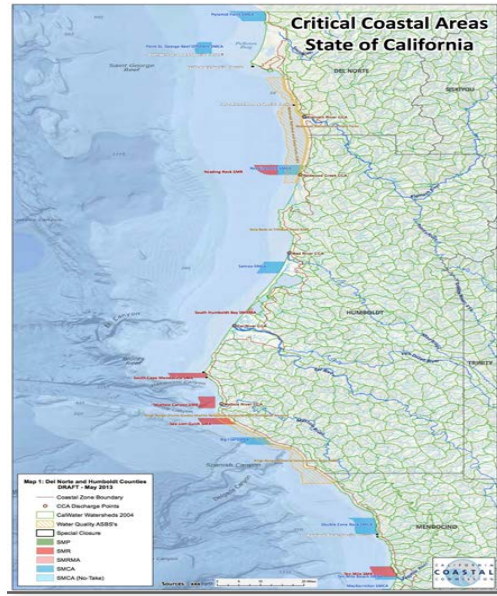


Figure 24. Draft CCA maps with new marine protected areas 2013

B. Performance Review for Critical Coastal Areas

Over the next five years, the CCC staff members plan to continue the mapping of existing and potential CCAs as time allows. In addition, CCC staff members plan to investigate and report on the existing local land use policies and potential for development in CCAs that can adversely impact coastal water quality. In consultation with SWRCB staff members, the CCC staff members will recommend statewide priorities for instituting management measures to better protect these waters.

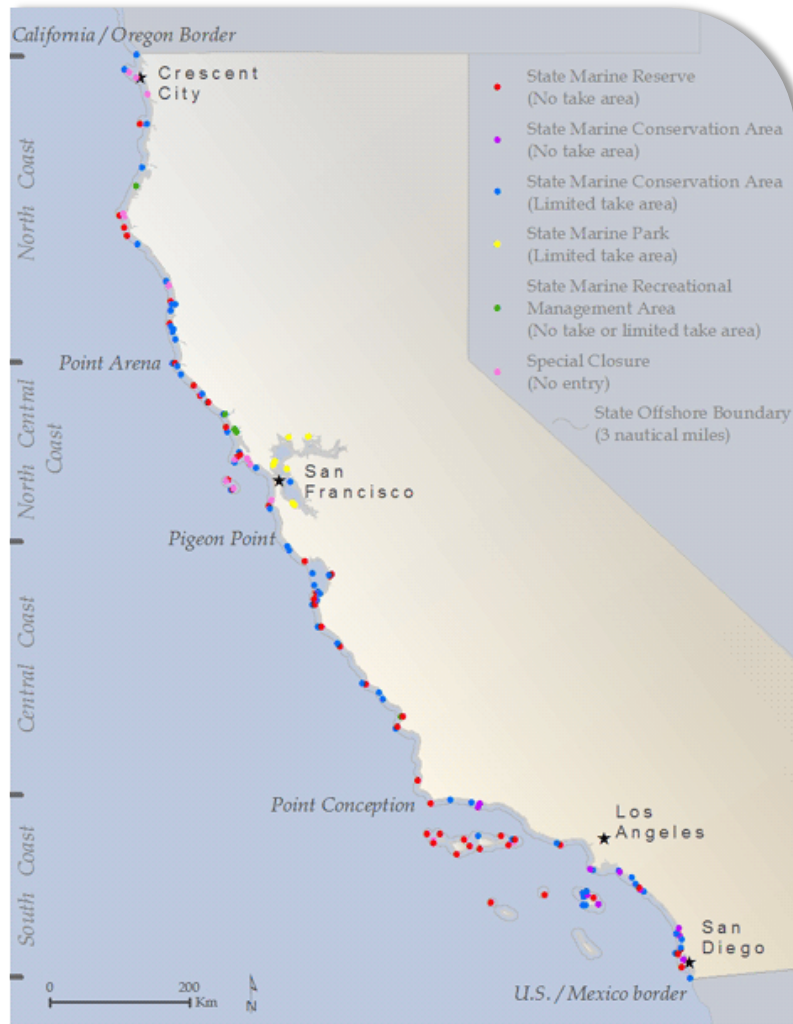


Figure 25. In 1999, the Marine Life Protection Act required the California Department of Fish and Wildlife to redesign its system of marine protected areas to increase its coherence and effectiveness at protecting the state's marine life habitats and ecosystems.

VI. Monitoring

This section focuses on water quality monitoring activities for the California NPS Program. The activities are designed to enhance information needed for implementation at many levels (e.g., from local watershed organizations to state and federal agencies and the private sector) and among various programs. The monitoring activities of the NPS Program will be coordinated with the Water Boards' Surface Water Assessment and Ambient Monitoring Program (SWAMP) and other related efforts. They address the biological, chemical, physical and ecosystem aspects of tracking and monitoring, including surface and ground waters, freshwaters, estuarine, and marine environments in California. Therefore, these activities will encourage comprehensive, watershed-based and cross-programmatic monitoring. Improved monitoring is essential to identify

NPS sources of pollution, provide a further understanding of their impacts, guide control efforts, and ultimately determine the value of the control measures.

A. Surface Water Ambient Monitoring Program



Figure 26. SWAMP is tasked with assessing water quality in all of California's surface waters.

Photo courtesy of SWAMP.

from many programs can be used in integrated assessments that answer critical management questions.

The [\(SWAMP\)](#) was created to fulfill the State Legislature's mandate for a unifying program that would coordinate all water quality monitoring conducted by the Water Boards (Figure 26). For over a decade, Water Board staff members have worked to build a high quality, well respected, and widely recognized surface water monitoring and assessment program. In addition, SWAMP promotes collaboration with other entities by proposing conventions related to monitoring design, measurement indicators, data management, quality assurance, and assessment strategies, so that data

SWAMP works with partners to coordinate monitoring efforts among many groups and agencies, and to facilitate the use of data from many sources in statewide assessments. [SWAMP Coordination Efforts in 2012](#) include:

State Efforts

- [Stream Pollution Trends Monitoring Program](#) continued long-term monitoring at 100 established "integrator" sites. The Stream Pollution Trend program surveys are funded by SWAMP and USEPA (Figure 27)
- A two-year study ([Survey of Mercury Exposure and Risk in Wildlife in California Lakes and Reservoirs](#)) to collect data on mercury concentrations and fish in 24 California lakes and reservoirs.

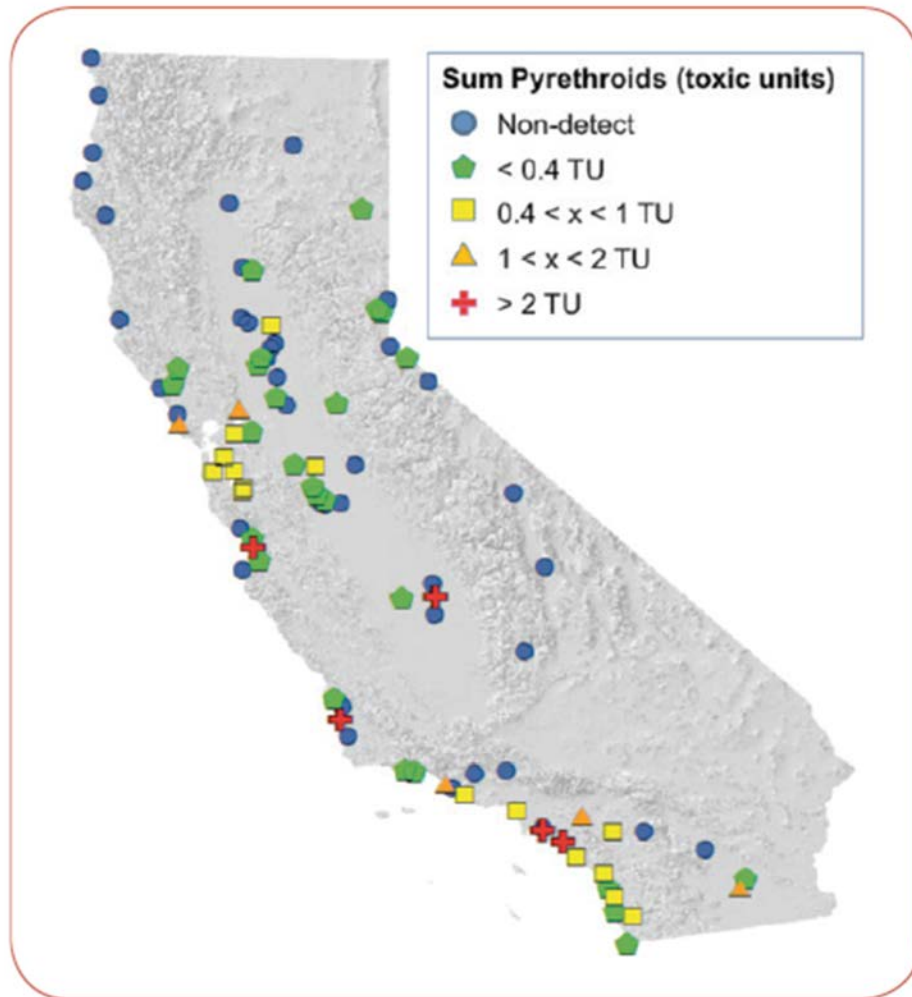


Figure 27. Concentrations of pyrethroid pesticides measures in sediment from streams draining large watersheds throughout California. Each symbol represents concentrations of the eight different pyrethroid pesticides measures at each site, with the concentrations converted to toxic units and then added together to give an estimate of their cumulative potential impact on aquatic organisms.

Regional Efforts

- [Freshwater Beaches Monitoring Program](#) (North Coast Region) – An ongoing monitoring program that measures bacteria concentrations in local freshwater beaches. This program was expanded in 2012 to include recreational beaches in the South Fork Eel watershed.
- [North Coast Trend Monitoring](#) (North Coast Region) – An ongoing rotational monitoring program conducted to determine whether water quality is improving in the Region, and whether beneficial use designations are being met. In 2012, the program monitored the Coastal River watersheds.
- [CCAMP Activities](#) (Central Coast Region) – The Central Coast Ambient Monitoring Program rotates monitoring activities among the five major watersheds in the Central Coast Region by conducting monitoring in one watershed each year. In 2012, the

- program covered an area that included the Salinas River and Estrella River Hydrologic Units.
- [Cyanotoxin Screening Study in Different Water Bodies of the San Diego Region](#) (San Diego Region) – A study designed to identify the extent of cyanotoxins in water bodies in the San Diego Region and to characterize the impact on beneficial uses of waters. In 2012, the program monitored streams and depressional wetlands. The program will monitor coastal estuaries, reservoirs, and lakes in 2013.
- [Municipal Non-Storm water Nutrients Study](#) (San Diego Region) – In 2012, the San Diego Regional Water Board trained staff to conduct inspections of non-storm water discharges from storm drains. The study identified several non-storm water discharges that exceeded nutrient pollution objectives and identified the potential sources of this impairment.

One of the ways SWAMP coordinates monitoring is through participation in the California Water Quality Monitoring Council. A new web portal was developed to bring drinking water information to decision makers and the public. SWAMP manages the content for two of the Council's [My Water Quality](#) web portals that provide information about whether it is safe to eat fish and shellfish from California's lakes, rivers, and coastal waters and whether California's stream and river ecosystems are healthy. These web portals not only inform the public about the condition of California's waterways, but they also foster an opportunity and incentive for multi-agency collaboration. These collaborative efforts increase efficiency and improve the quality of our assessments by combining data from multiple monitoring efforts. In this time of diminishing resources, we cannot afford not to collaborate and coordinate.

SWAMP also maintains a robust quality assurance program to ensure that decisions are based on quality, scientifically defensible data. SWAMP data management program ensures that those data are transparent and available to the public via the [California Environmental Data Exchange Network \(CEDEN\)](#) (Figure 28). SWAMP has developed guidelines and tools for SWAMP-funded projects for entities who are interested in being [SWAMP-comparable](#). Comparability is an especially important consideration with SWAMP data, which represents a wide variety of objectives, organizations and procedures over many years, both governmental and non-governmental. In order for a program to be SWAMP-comparable it must be designed to meet the requirements of the [SWAMP Quality Assurance Program Plan](#) and the [SWAMP Data Management Plan](#).

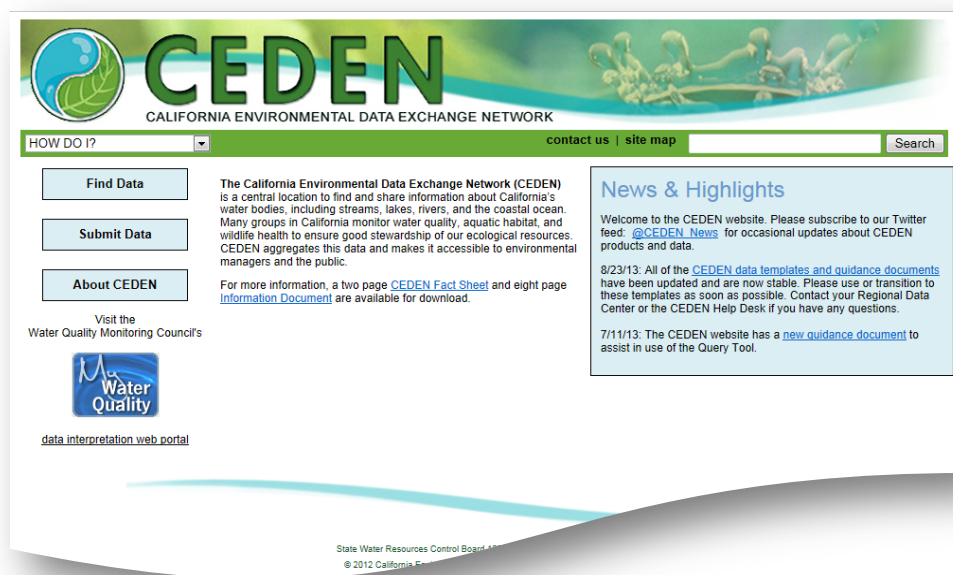


Figure 28 CEDEN is a central location to find and share information about California's water bodies, including streams, lakes, rivers, and the coastal ocean.

In the next SFY, SWAMP will be putting together a CEDEN user group work team to work on different aspects of CEDEN data extraction and data users. In the coming years, SWAMP will continue to support NPS program priorities by informing the Water Boards about management decisions, and coordinating with NPS staff to ensure that the data collected will assist with making decisions about where NPS efforts should be targeted. SWAMP cannot monitor and assess everything everywhere; the importance of coordinating efforts should be emphasized within the Water Boards as well as with other agencies and entities that monitor California's water resources.

B. Synthesis, Assessment, and Management Project

The [Synthesis, Assessment, and Management Project \(SAM Project\)](#) facilitates region-wide water quality monitoring coordination, data management, and data analysis for addressing the sources, status, and trends of NPS pollution on the Central Coast via technical, scientific, and programmatic activities. Key goals of the project include enhancement of the regional water quality monitoring network and improving access to information to be used for managing coastal watersheds and near shore marine systems. Primary funding for this study was provided by the California NPS Program with CWA Section 319(h). The SAM Project collected all useable data on the Central Coast to assess water quality conditions, identify data gaps, and address NPS questions.

The SAM Project activities are directed by a Technical Advisory Committee of scientists and resource managers from across the State that represents universities, research institutes, government agencies, and private firms. Analysis of Water Board data revealed that nearly all of the water body impairments on the Central Coast are due to NPS. The greatest number of

impaired water bodies is due to unknown or agricultural NPS. Bacterial pathogen indicators are the most prevalent causes for water body impairment and threat. Nutrient problems such as ammonia, nitrate, and orthophosphate are the second most common, followed by pesticides and sediments (Figure 29).

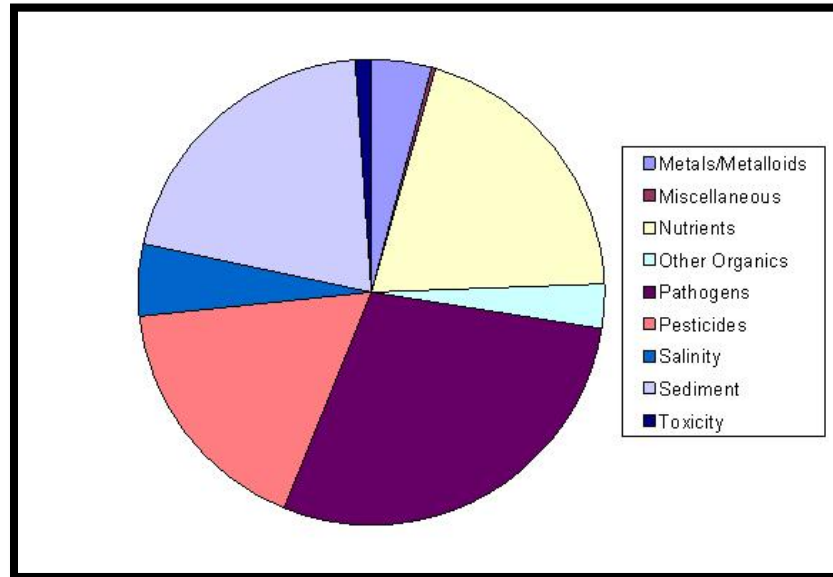


Figure 29. [The graph shows the different types of NPS pollution in the Central Coast.](#)

The recommendations to address key information gaps from the SAM Project include:

- A system should be created for automatic, seamless data integration that is based on the SWAMP formats and facilitates upward data flow toward a central location in CEDEN;
- Regularly updated clearinghouse of information on all the existing programs; and
- Annual water quality conferences in the region to disseminate information and highlight the value of monitoring coordination efforts.

There is great potential for the SAM effort to coalesce into a regional hub for water quality science on the Central Coast given adequate level of interest and support from partner and funding organizations. The SAM Project has been continually directed by an outstanding committee of technical advisors from across the state and informed by regional stakeholders. Committee members will continue to meet as their schedules allow and input from regional stakeholders will be opportunistically solicited as activities move forward. New partnerships will be actively sought that help to build a culture of collaboration amongst water quality investigators on the Central Coast. Effort of the SAM project has continued for SFY 12/13 by Technical Advisory Committee of scientists and resource managers from across the State that represents universities, research institutes, government agencies, and private firms.

C. Klamath Basin Monitoring Program

The [Klamath Basin Monitoring Program](#) (KBMP) coordinates and collaborates with many diverse and discrete parties—including state and federal agencies, tribal entities, Pacific Corp, and watershed groups—on water quality monitoring and research throughout the Klamath Basin (Figure 30). KBMP monitoring activities focus on characterizing sources of impairment through the study of ecosystem elements, including water quality, fish populations and health, flows, benthos, and aquatic plant communities. KBMP monitoring framework provides watershed context, allows ability to evaluate progress towards basin-wide water quality goals and enables linkage between project specific actions and reach watershed scale effect.

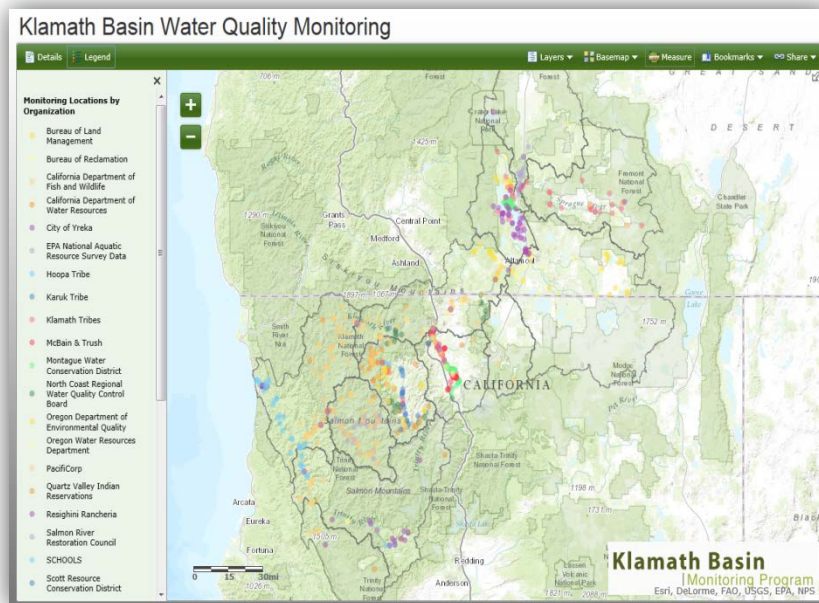


Figure 30. KBMP strives to implement, coordinate and collaborate on water quality monitoring and research throughout the Klamath Basin.

During SFY 12/13, SWRCB NPS staff attended semi-annual in-person meetings with the KBMP and continued to be involved as a Steering Committee Member. CWA Section 319(h) funds were provided to support the initial efforts in the development of a coordinated regional monitoring program in the Klamath Basin. KBMP staff members continued working on a [Blue Green Algae Tracker](#), which is getting positive feedback based on tracking the website hits. The Blue Green Algae Tracker was built to inform the public and research community regarding river conditions. The Blue Green Algae Tracker utilizes current information to track and map the blue-green algae blooms throughout the Klamath Basin.

D. Monitoring Program Performance Review

Overall, monitoring programs have been on task for the SFY 12/13. SWAMP, SAM Project, and Klamath Basin Monitoring will continue to coordinate with different agencies to better track water quality in different watersheds. Currently, Klamath Tracking and Accounting Program (Klamath TAP) is looking to identify KBMP's long-term role in Klamath TAP. The Klamath TAP is being developed by a group of stakeholders to track individual and cumulative effects of conservation/restoration actions and measure progress towards achieving basin-wide water quality goals, including the implementation of the Oregon and California Klamath TMDLs. Klamath TAP is looking for pilot projects to address nutrient and temperature related issues. Klamath TAP and KBMP will interface by evaluating each other through tracking, which includes estimates for reporting success and for applying adaptive management.

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Regional Water Board Initiatives

RWQCBs implement performance-based NPS programs to create healthy, functioning watersheds, coastal ocean environments, and groundwater basins through leveraged efforts to generate on-the-ground change. Through documentation of program implementation and analysis of environmental change, RWQCBs strive to evaluate NPS water quality priorities. Performance measurement is a way to continuously monitor and report a program's progress and accomplishments, using pre-selected performance measures. In this section, RWQCBs will discuss their Initiatives in the 2008-2013 Five-Year Implementation Plan and provide a performance review.

North Coast Regional Water Quality Control Board (RWQCB-1)

The North Coast Regional Water Quality Control Board (RWQCB-1) has organized its NPS Program Initiatives as a function of the six land-use categories identified in the NPS Program Plan. These land-use categories are: (1) agriculture; (2) forestry (silviculture); (3) urban areas; (4) marinas and recreational boating; (5) wetlands, riparian areas, and vegetated treatment systems; and (6) hydromodification. Within each land-use category the RWQCB has identified the focus and methods of their implementation efforts and where appropriate identified their priorities for the five-year implementation planning period.

Initiative 1.1: Agriculture

Initiative 1.1.a: Shasta and Scott River Watersheds

In SFY 12/13, RWQCB-1 staff members continued to implement the Shasta River and Scott River TMDLs. On August 9, 2006, RWQCB-1 adopted Order No. R1-2006-0081, the Conditional Waiver for Discharges Related to Specific Land Management Activities in the Scott River Watershed North Coast Region. Waste discharges associated with agricultural sources in the Scott River watershed will be incorporated in the region-wide agricultural discharge control program currently under development. On October 4, 2012, the RWQCB-1 adopted two Orders, Order No. R1-2012-0084, "Scott River TMDL Conditional Waiver of WDRs" and, Order No. R1-2012-0083, "Shasta River TMDL Conditional Waiver of WDRs".



Figure 31. In the months since adoption of the Dairy Program, RWQCB-1 staff has engaged with the dairy community and worked with a wide range of specialists from the Resource Conservation Districts, Natural Resource Conservation Service, California Dairy Quality Assurance.

Photo courtesy of Cherie Blatt.

Both of the above TMDL Waivers waive the need for WDRs for discharges of pollutants for all activities not already regulated through an existing program. Activities already regulated through existing programs include: timber harvest, dredge and fill and other in-stream activities, construction activities disturbing more than an acre, county road maintenance, operations, CA Department of Transportation (CalTrans) operations, and wastewater management. Conditions must be met to qualify for the waiver. The waivers require enrollees to employ land stewardship practices and activities that minimize, control and preferably prevent discharges of fine sediment, nutrients (including animal waste), other oxygen consuming materials, and elevated solar radiation loads (including loss of riparian vegetation) from affecting waters of the Shasta and Scott Rivers and their tributaries.

Initiative 1.1.b: Dairies

On January 19, 2012, the RWQCB-1 adopted a three-tier permitting program for dairies, to address the range of potential threats to water quality from existing dairy and Confined Animal Feeding Operation facilities in the north coast. The three tiers of the dairy regulatory program are: Order No. R1-2012-0001, General NPDES; Order No. R1-2012-0002, General WDRs; and Order No. R1-2012-0003, Conditional WDRs.

Monitoring and reporting are required under all three permits. All dairies in the region are now enrolled with 123 dairies under the Conditional Waiver of WDRs and 3 dairies under the General WDRs (Figure 32). Surface water quality monitoring has taken place during the last rainy season, and analytical results have been submitted for the majority of the sites. Any exceedances are addressed immediately by requiring the dairy to review its practices and implement or adjust the MPs as appropriate. Surface water monitoring is ongoing during the wet season. Additionally, ground water sampling is underway and laboratory analytical results are due to be submitted November 30, 2013.



Figure 32. To date, 100 percent of the cow dairies in our region are enrolled in the North Coast dairy program.

Photo courtesy of Cherie Blatt.

Initiative 1.1.c: Specific Grazing Operations with Confirmed Water Quality Concerns

Pursuant to the NPS Implementation Plan, RWQCB-1 has targeted specific grazing operations with confirmed water quality concerns. In the Shasta River, targeted grazing operations (Emerson Ranch and the Big Springs Ranch) have been inspected and as a result have developed or are currently developing ranching plans (following San Francisco RWQCB

Tomales Bay Ranch Plan model). Grazing in the Elk River watershed has led to public concerns about impacts to drinking water. Water quality monitoring and consultation with the University of California Extension grazing experts were both undertaken although to date no significant impacts have been identified.

Initiative 1.1.d: Laguna de Santa Rosa

RWQCB-1 staff members are developing TMDLs for the Laguna de Santa Rosa to address nitrogen, phosphorus, dissolved oxygen, temperature and sediment impairments. Fieldwork to gather sampling data as well as analyses of these data are ongoing. A “Water Quality Credit Trading” program is in development in cooperation with the Sonoma Resource Conservation District that will implement activities that reduce these pollutants and provide “Credits” that may be used as mitigation for projects impacting waters of the state. Many of the pollutants that cause the impairments come from NPS pollution and fall under RWQCB-1 NPS program, storm water, and wastewater programs. The RWQCB-1 dairy program, CWA Section 401 permit/certification for the Sonoma County Water Agency Stream maintenance program, implementation of LID storm water treatment and infiltration techniques within CWA Section 401 Certifications, and storm water programs are examples of mechanisms to reduce the discharge of nutrients to the Laguna de Santa Rosa.

Initiative 1.2: Forestry (Silviculture)

The RWQCB-1 adopted Order No. 2010-0029 “Waiver of WDRs For NPS Discharges Related to Certain Federal Land Management Activities on National Forest System Lands”, which brought over half of the RWQCB-1 land base under NPS Implementation Policy compliance (Figure 33). Additionally, Order No. R1-2013-0005 “General WDR for Discharges for Timber Operations on Non-Industrial Timber Management Plans (NTMPs) in the North Coast Region” was adopted on May 2, 2013, and implements a tiered approach that allows landowners with NTMPs two options for coverage: a) identify and treat all controllable sediment discharge sites within an area covered by a Notice of Timber Operations (NTO) that have the potential to adversely impact the beneficial uses of water, concurrent with operations under the NTO; or b) prepare an Erosion Control Plan for the entire NTMP area and treat sediment discharge sites according to an implementation schedule proposed by the landowner. RWQCB-1 staff members have enrolled about 50 projects under this order since adoption and expect more to enroll; administration of these regulatory programs continues.

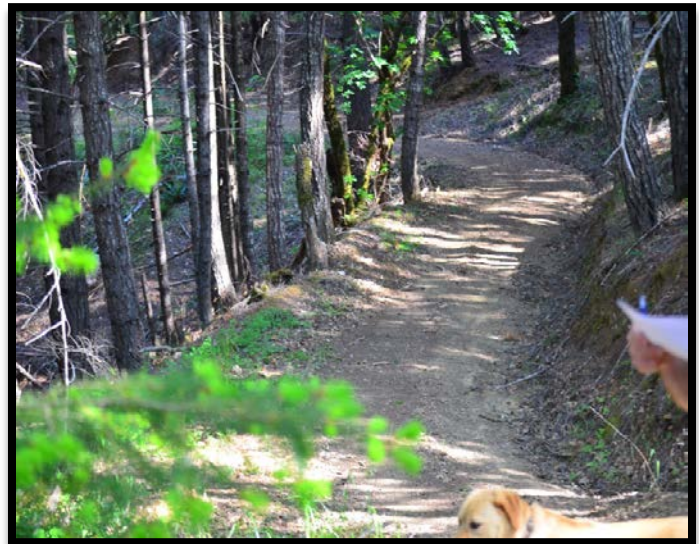


Figure 33. Roads are a source of existing and potential sediment delivery from: 1) increased surface erosion and fine sediment production and delivery; and 2) an increased potential for stream diversions (stream channel capture), rill and gully erosion, and shallow-seated landslides with corresponding increases in sediment production and delivery.

Photo courtesy of Stephen Bargsten

Initiative 1.3: Marinas and Recreational Boating Facilities

RWQCB-1 staff members will continue to participate in Marina IACC and Recreational Boating Workgroup. RWQCB-1 staff members will follow the ongoing statewide General Marina Permit development. Due to other high priorities in the region and a low number of marinas, this will remain the lowest priority of the six NPS categories, due to the lack of documentation of any significant water quality impacts.

Initiative 1.4: Urban Runoff

RWQCB-1 storm water staff members continued to administer the Municipal Separate Storm Sewer System (MS4) permit for Sonoma County. The permit was adopted by the Board in July 2009 and has incorporated Phase II cities which includes better storm water controls than were previously required. The MS4 permit encompasses urban runoff and roads discharges in the Laguna de Santa Rosa watershed. Additionally, under the SWRCB Order No. 2013-0001-DWQ, “WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems” are covered in the new cities and requires storm water controls be implemented to better protect water quality.

RWQCB-1 NPS staff members completed work towards certification of the [Five County Salmonid Restoration Program](#) as a third-party program to ensure TMDL compliance for sedimentation caused primarily by rural roads in five north coast counties. Order No. R1-2013-0004 “Waiver of Waste Discharge Requirements and General Water Quality Certification for County Road Management and Activities Conducted Under the Five Counties Salmonid Conservation Program In the Counties of Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity, In the North Coast Region” was adopted on May 2, 2013. Since adoption RWQCB-1 staff members have enrolled 3 projects under this waiver with several other projects pending.



Figure 34. CRAM is a tool that informs staff of the condition of the subject water of the state and allows a qualitative comparison with proposed mitigation sites.

Initiative 1.5: Wetlands, Riparian Areas, and Vegetated Treatment Systems

RWQCB-1 staff members have been trained in the California Rapid Assessment Method (CRAM) as well as wetland delineation and reviews projects that have been assessed with these techniques. CRAM is a tool that informs staff of the condition of the subject water of the state and allows a qualitative comparison with proposed mitigation sites (Figure 34). This assessment method has been used extensively on the Willits Bypass project as well as in the Laguna de Santa Rosa TMDL assessment. RWQCB-1 staff members also keeps up to date on the wetland and riparian area policy currently being formulated by SWRCB CWA 401 staff members and will continue to be involved in this effort.

Initiative 1.6: Hydromodification

RWQCB-1 staff members regulate hydromodification impacts through the CWA 401 Water Quality Certification program, as well as the Construction and Municipal storm water programs. Regulated hydromodification impacts include: creek and river bank stabilization and restoration projects; installation of aquatic habitat structures, such as large wood and boulder structures; upgrades to culvert and bridge crossings to improve hydraulics, fish and aquatic creature passage; installation of LID features in new developments to reduce peak storm flow and to infiltrate and recharge groundwater at the site; and regulation of region-wide road development projects.

RWQCB-1 Performance Review

The RWQCB-1's main focus for the past year was to continue applying the NPS Implementation Policy through implementation of a dairy permitting program, certifying the North Coast counties of Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity Program or 5C Counties Program and implementing the General Waiver for the five counties' road systems, and implementing the Scott River, Shasta River, Klamath River, and Garcia River TMDLs. RWQCB-1 staff members continued to administer "Waiver of WDRs for NPS Discharges Related to Certain Federal Land Management Activities on National Forest System Lands", which brought over half of the North Coast Region land base under NPS Implementation Policy compliance.

San Francisco Bay Regional Water Quality Control Board (RWQCB-2)

NPS pollution impairments in the San Francisco Bay Regional Water Quality Control Board (RWQCB-2) can be broadly attributed to activities associated with stream hydromodification, agriculture, legacy mercury mining, and urban storm water runoff and represent high priorities for NPS regulation for the Region. While urban storm water runoff is primarily addressed through permits issued through the NPDES program (i.e., MS4 Phase I and Phase II permits), the remaining activities represent NPS pollution control high priority initiatives and include (1) Stream and Wetland System Protection Policy; (2) Conditional Waiver of WDRs for Grazing Lands; (3) WDRs for Vineyards; and (4) TMDL Implementation.

Initiative: 2.1 Stream and Wetland System Protection Policy

Current stream and wetland conditions in California and in the San Francisco Bay Region differ significantly from their historic, pre-development conditions. Although there are gaps in our current knowledge of streams and wetlands, it is clear from the available data that a large majority of stream and wetland resources have been lost or degraded as a result of human land use activities that have modified the natural environment. Current observed degradation of stream and wetland resources also provides a necessary context for proposing increased protection and restoration of these resources. During the SFY 12/13, RWQCB-2 staff members in the CWA 401 Program worked with SWRCB and other RWQCBs staff members on the SWRCB's proposed [Wetland Area Protection and Dredging Policy](#).

Initiative 2.2: Conditional Waivers of Waste Discharge Requirements for Grazing Lands

2.2a: Tomales Bay Watershed

The goals of the Tomales Bay Grazing Waiver (TB Grazing Waiver) are to reduce the amounts of sediment, nutrients, pathogens, and mercury flowing into Tomales Bay from ranches that drain to upstream tributaries (Figure 35). The Waiver requires landowners and operators of grazing operations to implement appropriate MPs on grazing lands to control storm-runoff from their property and to control and limit cattle access to streams and wetlands.



Figure 35. Hillsides east of Tomales Bay are grazed by cows belonging to local dairies. There is also grazing land west of the bay, on farms and ranches leased from Point Reyes National Seashore.

The TB Grazing Waiver requires permittees to develop a comprehensive Ranch Water Quality Plans (Ranch Plans) for their ranch facility and grazing operation. The purpose of these Plans is to guide the permittee towards the identification of water-quality impacts from their grazing operations and to lay out a strategy and timeline for taking any necessary interventions to protect water quality. Required Ranch Plan elements include a ranch facility map, an inventory of resources based on visual observations and/or existing

reports, an assessment of the ranch facility conditions, the identification of controllable discharge points (i.e., pathogens, nutrients, sediment, and mercury), identification of sediment legacy discharge points, and a description of the Ranch Plans' objectives.

To gain a broader understanding of the overall performance of the TB Grazing Waiver Program, RWQCB-2 staff members developed a series of geographical information system (GIS)-based maps for site identification, facility inspection, and enforcement. In SFY 12/13, RWQCB-2 staff members used these maps to cross-check Program enrollment and participation against our database and to plot surface water quality data collected pre- and post-Grazing Waiver adoption. RWQCB-2 staff members plan to use this integrated dataset to inform facility inspections, assess program effectiveness, and continue outreach efforts in the watershed with local partner agencies and organizations. RWQCB-2 staff members revised a Ranch Water Quality Plan template which was created for the Napa/Sonoma Grazing Waiver for use in the Tomales Bay watershed to assist in ranch planning, ranch inventory assessment, and compliance.

Other TB Grazing Waiver implementation actions include management of several, existing CWA Section 319(h) NPS grants related to implementation. These include:

- A \$880,000 grant (Conserving our Watersheds Phase II) with the Marin Resource Conservation District (RCD) to develop and implement a program to improve water quality on grazing lands. This grant puts in place, workshops, on-site farm planning, site visits, and the reporting and monitoring needed for Grazing Waiver compliance.
- A \$453,664 grant with the Point Reyes National Seashore to implement a series of pathogen MPs (including riparian fencing and revegetation, upland water development and controlled stream crossings) at select locations on agricultural lands within the Tomales Bay Watershed.
- A grant with the Marin RCD, Conserving our Watersheds Phase III, for \$625,092 for additional ranch practices and MP implementation in the Tomales Bay Watershed. The grant provides ranchers and producers with permitting assistance, technical and engineering expertise, and construction contractors to implement selected MPs.

In spring 2013, RWQCB-2 staff members began the process of renewing the TB Grazing Waiver. This includes updating the Order to incorporate an additional program performance metric, the measurement, recording, and reporting of [residual dry matter \(RDM\)](#), thus making the TB Grazing Waiver consistent with the RDM performance metric contained in the Napa River/Sonoma Creek Grazing Waiver.

2.2b: Napa River and Sonoma Creek Watersheds

As with the [TB Grazing Program](#), ranchers located in the Napa River and Sonoma Creek watersheds that have grazing operations that meet the eligibility criteria of the permit are required to enroll in the Program. Ranchers must prepare a Ranch Plan, or amend an existing plan, and provide an implementation schedule for the management practices identified in the plan. The Napa River/Sonoma Creek (N/S) Grazing Waiver differs from the TB Grazing Waiver in that the measurement, recording, and reporting of RDM, is required on an annual basis. Residual dry matter is the old plant material left standing, or on the ground, at the beginning of a new growing season. Properly managed RDM can be expected to provide a high degree of protection from soil erosion and prove efficient in trapping sediment, nutrients, and pathogens.

Other activities related to implementation of the N/S Creek Grazing Waiver include:

- Management of a Proposition 50 grant related to implementation of grazing waiver MPs;
- Management of a \$500,000 grant to the California Land Stewardship Institute for implementing the Fish Friendly Farming Program on rangeland in Napa County;
- Participation in the Grazing RAP to evaluate how best, in a regulatory framework, to efficiently address and resolve water quality impairments that are attributable to grazing operations.

RWQCB-2 staff members believe the Grazing Waiver Program (Tomales Bay, Napa River, and Sonoma Creek, collectively) has been well supported by the regulated community. RWQCB-2 staff members continue to work on more efficient ways to identify and reach out to ranchers, with the goal of making the reporting process as simple as possible. Success may be attributed to strong local relationships established with ranchers, and other local agencies and organizations; the substantial amount of technical assistance provided to ranchers by RWQCB-2 and partners; and the success of watershed partners to date, in obtaining grant funding.

Initiative 2.3: Waste Discharge Requirements Waiver for Vineyards

Vineyards in the Napa River and Sonoma Creek watersheds have been identified as land use activity that exhibits the potential to impact receiving waters through increases in site runoff and increases in sediment delivery (Figure 36). These effects have the potential to cause off-site gully erosion and/or shallow landslide failures, especially in locations where vineyards are built on hill-slopes and on soil types that are inherently soft and easily eroded. Following many months of stakeholder outreach, RWQCB-2 staff members publicly noticed a [draft Conditional Waiver for vineyards](#) properties located in the Napa River and Sonoma Creek watersheds for a 75-day public review period during the SFY. Concurrently, RWQCB-2 staff members circulated a Mitigated Negative Declaration in support of the draft Conditional Waiver for vineyards.



Figure 36. The Napa River and its tributaries are listed as impaired because of too much sediment.

Due to the comments received and current staff resource limitations, the RWQCB-2 will not proceed with the draft Conditional Waiver for Vineyards in the Napa River and Sonoma Creek watersheds (Vineyard Waiver) and associated MND. The Vineyard Waiver has been withdrawn from RWQCB Board consideration. RWQCB-2 staff members decided to consider development of a general WDRs Order and expand the environmental assessment to an Environmental Impact Review level of analysis.

RWQCB-2 staff members anticipate that many of the requirements of the general WDRs will remain the same and include control the discharge of sediment and nutrients, protect stream and riparian areas, and encourage re-establishment of riparian areas.

Initiative 2.4: Other TMDL Implementation Activities

A major focus of the RWQCB-2's 2008-2013 NPS Implementation Plan is on [implementing TMDLs](#), through Waivers of WDRs as noted above, as well as other implementation activities, partnering with local governments, RCDs and other stakeholders. The highest priority TMDLs for the NPS Five-Year Work plan implementation include Napa River pathogens and sediment, Sonoma Creek pathogens and sediment, Tomales Bay pathogens, Walker Creek mercury, and Guadalupe River mercury. The TMDL Implementation plan for each respective TMDL lays out the specified actions for each source category that will be undertaken to address the water quality impairments.

Implementation of the sediment TMDLs for Napa River and Sonoma Creek remained focused on land use activities that contribute to sediment in creeks, namely farming (including vineyards), grazing, and rural road erosion, with the goal of reducing current sedimentation rates by 50 percent within the next 10 to 20 years. Included in the TMDLs are habitat enhancement goals, to improve stream and fishery habitats through water management and restoration activities. This includes grant funding of restoration plans and implementing projects in specific tributaries and other actions as specified in the TMDL implementation plans.

The Walker Creek mercury TMDL addresses mercury in Walker Creek and SoulaJoule Reservoir in Marin County. The TMDL allocations and implementation plan are designed to control the amount of mercury discharged to Walker Creek and from SoulaJule Reservoir and prescribe and promote actions to minimize the potential for mercury to be present in the toxic and bioavailable form of methylmercury. Implementation actions include implementing the TB Grazing Waiver, monitoring, mine site remediation, reservoir management to control mercury methylation, and erosion control.

In 2011, the RWQCB adopted the Tomales Bay Mercury TMDL which indicated that the sediment near the terminus of Walker Creek shows measureable reductions in mercury attributable to the Gambonini mercury mine cleanup, control of storm water discharged from the remediated mercury mine, implementation of the TB Grazing Waiver, and natural attenuation and burial of mercury-laden sediment by cleaner, non-mine site dominated, sedimentary deposits.

The Guadalupe River Watershed Mercury TMDL addresses mercury in the Guadalupe River, Lake Almaden, Alamos Creek, and four reservoirs within the watershed. Implementation actions include effective source control measures for mining waste (i.e., erosion control, riparian restoration, and bank stabilization), mercury and methylmercury monitoring in reservoirs and lakes, and storm water controls and monitoring activities. These implementation actions have a 20-year timeline, with activities having begun on January 1, 2009 (Figure 37). The first 10 year phase of implementation includes erosion control at mines, methylmercury controls at reservoirs, and assessment of Alamos Creek with development of a plan for remediation and creek restoration. The Association of Bay Area Governments is managing a 2008 CWA Section 319(h) grant to cap and stabilize eroding mercury-contaminated sediments along a tributary to the Guadalupe River as an initial TMDL implementation action.



Figure 37. In 2009, the Midpeninsula Regional Open Space District was awarded a \$315,000 Clean Water Act section 319(h) grant to clean up mercury mining waste. The District owns land in the New Almaden mercury mining district, which produced the most mercury in North America. This cleanup project helps to implement the Guadalupe River Watershed Mercury TMDL, which the San Francisco Bay Regional Water Board adopted in October 2008. The project consists of stabilizing a creek bank of mercury mining waste to prevent its discharge to Guadalupe Creek, which is impaired by mercury.

The common denominator to the implementation actions identified above involves RWQCB-2 staff member coordination with local stakeholders to enhance their ongoing efforts to secure grant funding and to provide technical assistance.

RWQCB-2 Performance Review

RWQCB-2's milestones for SFY 12/13 include: implementing the TB and N/S Grazing Waivers (i.e., updating our Grazing Program database); implementing of MPs through continued support and management of CWA Section 319(h) and Proposition 50 grants; responding to landowner requests to determine if their operation is eligible for coverage under the Grazing Program; and beginning the regulatory process to renew and update the 2008 TB Grazing Waiver for another five-year term. Challenges remain in identifying and locating the suspected non-filers in the Napa River/Sonoma Creek watersheds and, to a lesser extent, the Tomales Bay watershed. By using RWQCB-2 GIS tools in tandem with RWQCB-2 Grazing Waiver database, RWQCB-2 staff members plan to focus on program compliance audits and locating the non-filers.

Water Board milestones and outcomes for SFY 12/13 included: preparation of a tentative waiver of WDRs for vineyards; preparation of a mitigated negative declaration to support the Vineyard Waiver; public notice of the tentative Vineyard Waiver and mitigated negative declaration; stakeholder outreach; promotion of the creation of additional third-party technical assistance

groups; and continued implementation of watershed-based plans, TMDLs, etc. through grant management, grant selections, and grant project reviews.

RWQCB-2 expects to refocus our efforts in 2013-14 towards preparing tentative WDRs for vineyard operations and amend or expand the environmental analysis in support of the WDRs, as necessary.

Central Coast Regional Water Quality Control Board (RWQCB-3)

Consistent with the statewide NPS Program, the overall goals of the Central Coast Water Quality Control Board (RWQCB-3) NPS Program are to restore waters impacted by NPS pollution and protect unimpaired water bodies. Three RWQCB-3's initiatives have been identified in the 2008-2013 Five-Year Implementation Plan that should result in measurable water quality improvements within the next five years. The focus on these areas does not preclude work on other sources of NPS pollution. These initiatives are: (1) Irrigated Agriculture; (2) Water Quality Monitoring; and (3) TMDL Implementation.

Initiative 3.1: Irrigated Agriculture

In SFY 12/13, RWQCB-3 devoted about 70 percent of its CWA Section 319(h) resources toward implementing the [Agricultural Regulatory Program](#). On March 15, 2012, the RWQCB-3 adopted an updated Conditional Waiver of WDR (Agricultural Order No. R3-2012-0011). The revised Agricultural Order places farms in three tiers based on threat to water quality and includes significant new monitoring and reporting requirements for farms that are considered higher risk.

Growers continue to enroll in the Agricultural Order using the electronic-Notice of Intent (eNOI) in the RWQCB-3's GeoTracker data management system. Table 2 below includes enrollment statistics for the Agricultural Order as of July 30, 2013. This represents a net increase in enrollment since 2011-12.

Table 2. Agricultural Order Enrollment Statistics as of June 30, 2013

RWQCB-3 Irrigated Agriculture Total Estimated Acreage	435,000 acres
Agricultural Order Total Enrolled Acreage	421,416 acres
Total eNOI Submittals	1754 eNOI Submittals or 4,271 farms/ranches

RWQCB-3 staff members have initiated development of compliance assistance resources and tools related to backflow prevention devices, photo monitoring, and groundwater monitoring and reporting requirements and completed an Annual Compliance Form and added it to the eNOI so Tier 2 and Tier 3 growers could electronically submit the annual reporting information that the Agricultural Order required by October 2012.

The Agricultural Order requires growers who are doing individual monitoring to sample specific groundwater wells twice in the first year (Figure 38). RWQCB-3 staff members have worked to ensure that growers could successfully conduct groundwater sampling and upload the required groundwater monitoring information into GeoTracker. In July 2012, RWQCB-3 staff members held a workshop specifically for laboratories and technical assistance providers to present information on the groundwater monitoring requirements and how to format and upload analytical data into GeoTracker.



Figure 38. The Agricultural Order requires growers who are doing individual monitoring to sample specific groundwater wells twice in the first year.

RWQCB-3 staff members also established a grant project that provided funds for free groundwater sampling and laboratory analytical services for growers, focusing on small and/or economically disadvantaged growers who qualify as “Limited Resource Farmers/Ranchers or Socially Disadvantaged Operators” as defined by the United States Department of Agriculture. Funds for this program were provided through Pacific Gas and Electric Settlement Funds. Grant funds provided free sampling and analysis for more than 70 groundwater wells.

RWQCB-3 staff members have initiated formation of the Technical Advisory Committee to review and recommend third-party, cooperative water quality improvement and monitoring projects to the Executive Officer for approval, as required by the Agricultural Order. As specified in the Agricultural Order, the committee is to be comprised of two academics or researchers with expertise in agricultural practices and/or water quality, one farm advisor, one grower representative, one environmental representative, one environmental justice or environmental health representative and one RWQCB-3 staff member.

RWQCB-3 staff members completed prioritization of farming operations for the three highest priority watersheds (Salinas, Pajaro and Santa Maria), reviewed individual groundwater data, and issued 22 notices to operations whose groundwater nitrate levels exceeded the drinking water standard (22 total letters, including 14 letters in Santa Maria, 6 letters in Pajaro and 2 letters in Salinas). Additionally, RWQCB-3 staff members prepared and the Board adopted a Cleanup and Abatement Order to a farming operation requiring provision of replacement water for a small community in the Salinas watershed.

Initiative 3.2: Water Quality Monitoring

The [Central Coast Ambient Monitoring Program](#) (CCAMP) is the RWQCB-3’s regionally scaled water quality monitoring and assessment program (Figure 39). The CCAMP mission is to collect, assess and disseminate scientifically based water quality information to aid decision makers and the public in maintaining, restoring and enhancing water quality and associated beneficial uses. This includes integrating data from various RWQCB-3 programs as well as other data collection efforts (citizen monitoring, grants, and others).

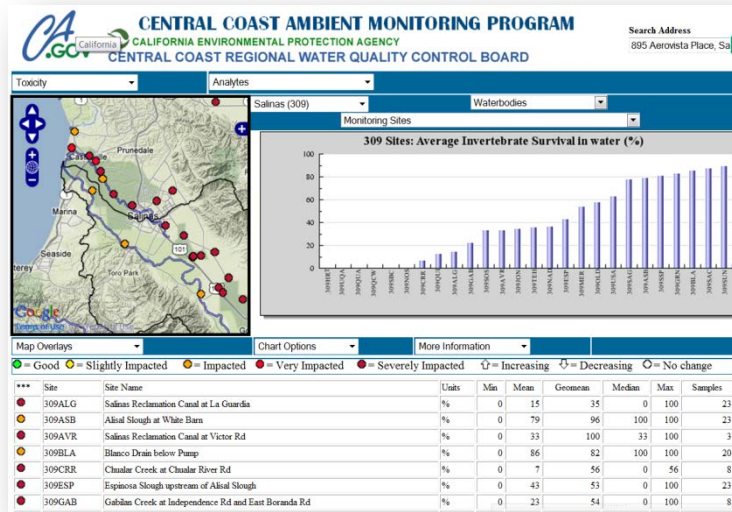


Figure 39. CCAMP is primarily funded by the State Water Board's Surface Water Ambient Monitoring Program and by a private endowment held with the Bay Foundation of Morro Bay.

The RWQCB-3 is divided into five watershed rotation areas, with one area assessed each year, so that all watershed areas are monitored over a five-year cycle. Watershed rotation area sites are selected to include an “accumulator site” or coastal confluence site at the bottom end of the watershed, and a number of sites along the main stem and at major tributary inputs. This tributary-based design is intended to aid in efficient identification of the general source areas of pollutant problems. In each watershed area, monthly samples are analyzed for conventional parameters (e.g. nutrients, pH, pathogen indicators) and flow. Due to funding restrictions, not all sites which are sampled for conventional water quality can be sampled for other parameters. Sites that are selected that best characterize watershed sub-areas, such as two major tributaries where they come together to form the main stem.

In SFY 12/13, CCAMP efforts were focused in the Salinas River and Estrella River Hydrologic Units (July through December of 2012) and the Santa Maria Hydrologic Unit (January through July of 2013) as well as at coastal confluence sites (at 33 coastal creek mouths in Santa Cruz, Monterey, San Luis Obispo and Santa Barbara Counties within the Central Coast Region). Monitoring included the following monitoring types:

- Monthly monitoring for conventional pollutants at all watershed rotation area sites and at 33 coastal creek mouths throughout the region. Monthly monitoring focuses on nutrients, salts, metals, dissolved and suspended solids, bacteria indicators and onsite measurements including flow, pH, dissolved oxygen, salinity and turbidity.
- Bioassessment for benthic macro-invertebrates, diatoms and soft-bodied algae at a subset of watershed rotation sites, targeting upper watershed locations.
- Water column toxicity samples collected in both wet and dry season flows and tested using invertebrate, fish and algae test organisms at a subset of watershed rotation sites, targeting lower watershed sites. Each of these samples was also analyzed for concentrations of a suite of organophosphate pesticides.
- Sediment toxicity samples collected in spring in the Santa Maria watershed from a subset of watershed rotation sites, targeting lower watershed sites. Each of these samples was also analyzed for concentrations of a suite of pyrethroid pesticides, total organic carbon and grain size.
- In follow up to high levels of contaminants in fish tissue samples collected during the State-wide Lake study, additional tissue samples collected and analyzed for mercury at two lakes in the Salinas watershed area.

The Central Coast Region is also working on a Healthy Watersheds Project in close coordination with the San Diego Region's Environmental Report Card Project and the State's Healthy Watersheds initiative. The goal of Healthy Watersheds Project is to broadly assess the health of watersheds to address the three Central Coast Regional goals of healthy aquatic habitat, proper land management and clean groundwater. Healthy Watersheds Project is developing a scoring approach for multiple measures of health, including chemistry, biology and physical habitat data, which will result in color coded report cards for Central Coast watersheds. The first phase of this project, being undertaken next SFY, will be an assessment of the coastal confluence monitoring sites.

In 2012, CCAMP staff developed templates for growers who are required to implement individual monitoring of their agricultural discharges. The templates have been reviewed by quality assurance officers for both the SWRCB and the SWAMP programs. The templates were designed to reduce the effort and cost on the part of the growers, and to provide as much information as possible on content and format to ensure that the end products are of high quality and meet the data requirements of the Central Coast's Agricultural Order. RWQCB-3 staff members have received and reviewed 16 Quality Assurance Project Plans, for which all have utilized the template to date.

Initiatives 3.3: TMDL Implementation

During SFY 12/13, RWQCB-3 staff members continued TMDL watershed implementation for Nutrient Management Requirements and Drinking Water Protection, Toxicity and Pesticide Management, and Agricultural Regulatory Programs. For Nutrient Management Requirements and Drinking Water Protection, RWQCB-3 staff members evaluated compliance and conducted appropriate follow up for enforcement actions to assess drinking water protection (i.e., nitrate well sampling) and implementation of practices (i.e., total nitrogen applied reporting) for priority growers in most impaired areas. Drinking water notification letters have been sent to 22 farming operations region-wide whose wells exceeded 45 mg/L nitrate (14 letters in Santa Maria River watershed, 6 letters in Pajaro River watershed, and 2 letters in Salinas River watershed).

For Toxicity and Pesticide Management, RWQCB-3 staff members have taken enforcement actions by watershed for discharging monitoring and implementation of toxicity/pesticide management practices. Pursuant to the Agricultural Order Monitoring and Reporting Program Requirements, dischargers have submitted 20 Sampling and Analysis Plans out of the about 42 ranches required to do so. Three of these Sampling and Analysis Plans have been approved. RWQCB-3 staff members expect additional submittals by October 1, 2013, from those who delayed submittal in response to the SWRCB issuing a Draft Petition Order in June 2013 because it proposed changes to individual discharge monitoring requirements. Additionally, on behalf of dischargers, the Cooperative Monitoring Program submitted the annual report of receiving water monitoring results.

RWQCB-3 Performance Review

In SFY 12/13, RWQCB-3 staff members sent notification letters to interested parties, made presentations at six major agricultural conferences, updated the eNOI, prioritized 100 percent of farming operations in the priority watersheds, evaluated compliance and issued 22 letters of notification for groundwater nitrate exceedances. The percent of irrigated acres enrolled has exceeded the target of 80 percent and currently is about 94 percent of estimated acreage.

During SFY 12/13, RWQCB-3 staff members prioritized the following:

- Compliance assistance for the new order, including developing compliance tools such as a master calendar of reporting deadlines, a revised eNOI and Annual Compliance form, and guidance for photo-monitoring;
- Review of cooperative groundwater monitoring proposals;
- Review of groundwater data review; and
- Enforcement actions related to drinking water protection

The RWQCB-3's revised Irrigated Agriculture Order includes new requirements for groundwater monitoring to protect drinking water from nitrates. In addition, the Irrigated Agriculture Order includes new reporting requirements based on threat to water quality.

Los Angeles Regional Water Quality Control Board (RWQCB-4)

NPS pollution is a critical threat to water quality in the Los Angeles Regional Water Quality Control Board (RWQCB-4). Many of the impaired water bodies identified on RWQCB-4's CWA 303(d) list identify the potential source of the pollutant as having a NPS origin. In order to fulfill our mission to protect, restore, and enhance water quality, reducing NPS pollution is a priority. The initiatives discussed below, reflect the NPS priorities of RWQCB-4 for 2008-2013: (1) irrigated agriculture, (2) trash, and (3) atmospheric deposition.

Initiative 4.1: Irrigated Agriculture

The Nursery Growers Association Los Angeles County Irrigated Lands Group (NGA-ILG) and the Ventura County Agriculture Irrigated Lands Group (VCAILG) are the two discharger groups in the Los Angeles Region that have formed to comply with the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Irrigated Lands Waiver). During SFY 12/13, RWQCB-4 staff members continued cooperative efforts with discharger groups to increase enrollment and assist in grower implementation of the Irrigated Lands Waiver. In addition, RWQCB-4 staff members continued to update the GIS database of monitoring and MP data. Finally, the RWQCB-4 staff members participated in and approved education classes to ensure that growers are on track to completing all of their education credit requirements.



Figure 40. Increasing the percentage of enrollees remains a priority for the RWQCB-4.

About 86 percent of the irrigated acreage within the RWQCB-4 region is enrolled in the Irrigated Lands Waiver (Figure 40). On January 16, 2013, 650 notices to enroll were sent to growers in Los Angeles County. Several Notices of Violation were sent in April, June, and August of 2013 to growers in Los Angeles and Ventura Counties to further encourage enrollment. These efforts have increased enrollment by about 200 members in Ventura and Los Angeles Counties.

RWQCB-4 staff members are currently involved in discussions with the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE) to enroll the nursery growers leasing property in their right-of-way. In December 2012, staff at LADWP sent a letter to growers to gather information on the nature of their operations to determine whether or not they should be enrolled in the Irrigated Lands Waiver. RWQCB-4 staff members are continuing to coordinate with LADWP to enroll these growers. In September 2013, SCE sent a letter to its leasees directing them to enroll in the Irrigated Lands Waiver as a requirement of their lease agreements. These efforts are expected to increase enrollment even further.

The annual monitoring reports submitted by NGA-ILG and VCAILG reveal many water quality impairments. To address these impairments, BMPs must be implemented by growers. VCAILG and NGA-ILG have submitted water quality management plans (WQMPs), which identify MPs that must be implemented by their members. To assist in these efforts, the RWQCB-4 staff members are overseeing grants and coordinating the acquisition of federal funding for growers. The grants include a Proposition 84 grant for a mobile irrigation laboratory to improve irrigation efficiency on farms in Ventura County, a CWA Section 319(h) grant executed for the purpose of identifying the contribution of and reducing metal loadings from nurseries and other irrigated agricultural lands in the San Gabriel River Watershed, and a CWA Section 319(h) grant for grower education and outreach to implement MPs in the Calleguas Creek and Santa Clara River watersheds.

RWQCB-4 staff members also coordinated with the NRCS and State Board to campaign for National Water Quality Initiative (NWQI) funds to be available for growers in the Calleguas Creek Watershed (Figure 41 – DO WE HAVE A BETTER MAP?). As a result of these efforts, \$500,000 was allocated in 2012 and \$1,000,000 was allocated in 2013 to growers in certain sub-watersheds of Calleguas Creek. To make the NWQI successful, RWQCB-4 staff members are working closely with the Natural Resource Conservation Service and VCAILG to inform growers about the funding opportunities through notices, Farm Bureau newsletters, and targeted letters. With the baseline data already collected from the area by VCAILG through the ILRP, staff will be able to demonstrate water quality improvements with knowledge of the approximate location of NWQI funded sites.

To track MPs implemented under the Irrigated Lands Waiver, RWQCB-4 staff members have developed a GIS database. The MPs implemented under the CWA Section 319(h) grant in the Calleguas Creek and Santa Clara River watersheds were the first set of MPs to be tracked in the GIS database. More MPs will be added to the GIS database as they are implemented by other programs, such as the NWQI.

The Conditional Waiver requires growers to complete 8 hours of educational courses, and since the 2010 Waiver was adopted, over 40 classes have been offered by Coalition Groups and about 60 percent of enrollees have fulfilled this requirement. Outreach to growers, which has always been a priority for RWQCB-4 have continued in 2012 and 2013 in the form of pamphlets, handouts, and presentations.



Figure 41. The red areas indicated National Water Quality Initiatives 2013 priority watersheds

Other ongoing activities that will achieve the objectives of the Irrigated Lands Waiver program, include monitoring the water quality impacts from irrigated agriculture discharges and mitigating those impacts as necessary. RWQCB-4 staff members will continue to review monitoring reports and water quality management plans to ensure that the water quality management plans (WQMPs) are revised as necessary to reflect the results of monitoring. In addition, RWQCB-4 staff members will oversee the implementation of WQMPs to ensure that MPs are employed at all sites that contribute to benchmark exceedances. RWQCB-4 staff members also plan to continue enforcement actions, as necessary, to ensure the integrity and success of the Conditional Waiver program.

Initiative 4.2: Trash

In order to address NPS trash pollution, the RWQCB-4 developed and is implementing a Minimum Frequency of Assessment and Collection (MFAC) program in conjunction with Best Management Practices (MFAC/BMP program). The MFAC/BMP program is implemented for water bodies that have adopted Trash TMDLs. “Trash” is defined as man-made litter, as defined in California Government Code Section 68055.1(g) (Figure 42). The MFAC/BMP program includes an assessment of trash on the surface or shoreline of the water body of concern, collection of all visible trash that accumulates on the surface or shoreline of the water body, and implementation of MPs 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 MFAC/BMP program, is used to determine baseline trash amounts.

During SFY 12/13, the RWQCB-4 continued to oversee implementation of MFAC/BMP programs for previously adopted trash TMDLs with NPS load allocations. The RWQCB-4 also began work developing waiver renewals to continue implementation of the MFAC/BMP program. RWQCB-4 staff members met with stakeholders to discuss their proposed revisions to the MFAC/BMP program in the Ventura River Estuary and went on a site visit to identify alternative monitoring locations.



Figure 42. Litter means all improperly discarded waste material, including convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state.

Initiative 4.3.: Atmospheric Deposition

The work on this initiative is coming to a close. In May 2007, RWQCB-4 issued California Water Code section (CWC) 13267 letters to the largest stationary sources of toxic metals in the region. RWQCB-4 staff members reviewed the reports submitted by the air emissions facilities to assess the degree of their contribution to water pollution. RWQCB-4 staff members tracked the number of air emissions facilities investigated, the quantity of pollutants emitted, and made findings. RWQCB-4 NPS staff members completed a draft analysis of air emitter facility data and submitted it to TMDL staff in March 2010. The RWQCB-4 NPS and RWQCB-4 TMDL programs then coordinated to incorporate the findings into the Los Angeles and Long Beach Harbors TMDL and in SFY 12/13, the RWQCB-4 adopted Los Angeles and Long Beach Harbors Toxicity and Metals TMDL on May 5, 2011. The TMDL uses a similar approach for dealing with air deposition that has been used in several previous TMDLs. This approach includes load allocations for direct air deposition to the water body based on monitored air deposition rates multiplied by the percent area of the water body relative to the watershed area.

RWQCB-4 staff members have and will continue to participate in internal and local working groups to develop approaches to reduce NPS pollutant loading due to atmospheric deposition as required in several recently adopted TMDLs.

Initiative 4.4.: Implementation of Total Maximum Daily Loads*4.4a: Calleguas Creek Chlorpyrifos, Diazinon, and Toxicity TMDL*

The load allocations of this TMDL are being implemented through the Irrigated Lands Waiver. The VCAILG WQMP has identified priority sub-watersheds in the Calleguas Creek watershed where MPs must be implemented. The RWQCB-4 oversees grants, participates in educational workshops, and reviews annual updates to the VCAILG WQMP, to ensure that MPs are prioritized to attain load allocations by the implementation deadline of March 24, 2016.

4.4b: Calleguas Creek Organochlorine Pesticides and PCBs TMDL

The load allocations of this TMDL are being implemented through the Irrigated Lands Waiver. The VCAILG WQMP has identified priority sub-watersheds in the Calleguas Creek watershed where MPs must be implemented. The RWQCB-4 oversees grants, participates in educational workshops, and reviews annual updates to the VCAILG WQMP, to ensure that MPs are prioritized to attain load allocations by the implementation deadline of March 24, 2026.

4.4c: Calleguas Creek Nitrogen TMDL

The load allocations of this TMDL are being implemented through the Irrigated Lands Waiver. The VCAILG WQMP has identified priority subwatersheds in the Calleguas Creek watershed where MPs must be implemented. The RWQCB-4 oversees grants, participates in educational workshops, and reviews annual updates to the VCAILG WQMP, to ensure that MPs are prioritized to attain load allocations. The implementation deadline was July 16, 2010, but load allocations are not yet attained.

4.4d: Santa Clara River Nutrient TMDL

The load allocations of this TMDL are being implemented through the Irrigated Lands Waiver. The VCAILG WQMP has identified priority subwatersheds in the Santa Clara River watershed where MPs must be implemented. The RWQCB-4 oversees grants, participates in educational workshops, and reviews annual updates to the VCAILG WQMP, to ensure that MPs are prioritized to attain load allocations. The implementation deadline was March 23, 2012, but load allocations are not yet attained.

4.4e: Revlon Slough and Beardsly Wash Trash TMDL

The load allocation for this TMDL will be implemented through the MFAC/BMP Program. The Trash Monitoring and Reporting Plan has been approved for implementation of this TMDL. The MFAC/BMP Program can now be implemented and ongoing tracking will be performed by the RWQCB-4 to ensure that load allocations are attained.

RWQCB-4 Performance Review

The primary focus for SFY 2012–13 was implementing the Irrigated Lands Waiver by increasing enrollment, grower outreach, and MP tracking. To that end, the RWQCB-4 issued enforcement and non-enforcement letters, and as a result, the number of growers enrolled increased. RWQCB-4 also continued to improve NPS program coordination. RWQCB-4 worked with stakeholders to increase the number of applications for CWA Section 319(h) grants. RWQCB-4 finished managing a CWA Section 319(h) grant for grower outreach in the Calleguas Creek and Santa Clara River watersheds. In the next SFY, the RWQCB will continue overseeing implementation of a Proposition 84 grant to improve irrigation efficiencies at farms in Ventura County and a MP pilot project to improve runoff from nurseries in Los Angeles County. The main objective for next year is to focus on linking NPS MMs to impaired water bodies and TMDL implementation.

RWQCB-4 will consider new waivers or other regulatory approaches to address NPS pollution such as horse stables and grazing. The RWQCB-4 also intends to increase and improve MP tracking under the ILRP to include more site visits and MP field verification. Nonpoint sources of selenium due to geologic sources, such as those in the upper reaches of the Los Angeles River watershed, may also be addressed. Finally, the RWQCB-4 will implement the load allocations assigned to in-lake sediments in the McGrath Lake Pesticides and Poly-Chlorinated Biphenyls TMDL, the Machado Lake Pesticides and Poly-Chlorinated Biphenyl TMDL, the Machado Lake Nutrients TMDL, and the Marina del Rey Toxic Pollutants TMDL through memorandums of agreement (MOA) with responsible parties. Once the MOAs are executed, RWQCB-4 staff members will review water quality management plans, work with stakeholders to secure funding, and oversee implementation milestones to remediate the sediments and attain load allocations.

Central Valley Regional Water Board (RWQCB-5)

Consistent with the statewide NPS Program, the overall goals of the Central Valley Regional Water Quality Control Board's (RWQCB-5) NPS Program are to restore waters impacted by NPS pollution and protect unimpaired water bodies. Five RWQCB-5's initiatives have been identified that should result in measurable water quality improvements within the next five years. The focus on these areas does not preclude work on other sources of NPS pollution. These initiatives are: (1) San Francisco Bay-Delta; (2) Central Valley Salinity CV-SALTS; (3) dairies; (4) Irrigated Lands Regulatory Program; and (5) watershed work.

Initiative 5.1: San Francisco Bay – Delta Initiative

This initiative overlaps multiple NPS initiatives including irrigated lands, salinity management, and TMDLs. The Delta is called out specifically because of its importance to the Water Boards. The Delta and the San Francisco Bay, called the Bay-Delta, is the largest estuary on the west coast of North America. Three rivers, the Sacramento, San Joaquin, and Mokelumne, feed the Bay-Delta with a combined average unimpaired flow of about twenty-two million acre-feet per year. Beneficial uses of Delta water are freshwater aquatic habitat, water contact recreation, irrigation water, and municipal and domestic supply. The Delta is home to over 280 species of birds and more than 50 species of fish, making it one of the most ecologically important aquatic habitats in the state. Over half of the drinking water for California is pumped from the Delta. Protecting Delta beneficial uses is one of the RWQCB-5's highest priorities.

Water quality impairments in the Delta result primarily from contamination being carried into the Estuary by tributaries or from in-Delta land use and water MPs. The most significant surface water quality problems in the Delta are bioaccumulative substances, pesticides, salinity, low dissolved oxygen, urban storm water runoff, and toxicity. In all cases, NPS contribute significantly to the loads of these pollutants to the Delta.

During SFY 12/13, RWQCB-5 staff members coordinated with other agencies to implement studies and evaluate study results on the potential impacts of contaminants on the Delta ecosystem. RWQCB-5 staff members participated in various Delta workshops where scientists came together to discuss the potential impact of nutrients, pesticides, water management, and survey methods on Delta aquatic life. RWQCB-5 staff members also participated in the California Water Quality Monitoring Council's Estuaries Workgroup to help develop a portal with readily available and coordinated monitoring information for a broad audience. Through the Interagency Ecological Program (IEP), RWQCB-5 staff members helped comment, develop, and review proposals that will make up the 2014 (IEP) work plan.

A Delta Regional Monitoring Program continues to develop into a more sustainable long-term program. A governance structure with a defined steering committee has been established. Guiding principles which include a mission statement, goals, objectives, management questions, and the roles and responsibilities of committee members have been finalized. Priority monitoring constituents and formal permit amendments are expected in the next SFY. The second Pulse of the Delta report was published in the fall of 2012 as part of the Delta Regional Monitoring Program effort. The Pulse featured status updates on nutrients and pyrethroids as well as feature

articles about wetland management and methylmercury, IEP’s cooperative investigations, and various trend analyses.

Initiative 5.2: Central Valley Salinity

The Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) initiative is a stakeholder-led process to develop a Salt and Nitrate Management Plan (SNMP) for the Central Valley as well as basin plan amendment recommendations to support its implementation (Figure 43). The initiative was formally recognized under a signed MOA between the SWRCB, RWQCB-5, and Central Valley Salinity Coalition (a non-profit stakeholder group) in March 2010. Several committees and subcommittees have been formed to work on both policy and technical issues with meetings held on a monthly basis. The Executive Committee is the primary decision making body and is comprised of members of the stakeholder coalition as well as state and federal agencies and members of disadvantaged communities.



Figure 43. The salinity problem is complex and multi-faceted, so a broad coalition of agriculture, cities, industry, and regulatory agencies have joined together to develop a vision and plan for managing salts and nutrients. The CV-SALTS is a collaborative effort initiated in 2006 to find solutions to the salt problem in the Central Valley.

During SFY 12/13, CV-SALTS initiated and continued several tasks required for the development of a scientifically sound SNMP. Stakeholders presented their annual report to the SWRCB on December 4, 2012 (Figure 44). The report included a summary of work to date and a request for the release of the remaining \$1.8 million of the original \$5 million of Clean up and Abatement Account funds allocated to the effort based on sufficient progress toward completing the SNMP. The SWRCB approved the release of funding based on progress.

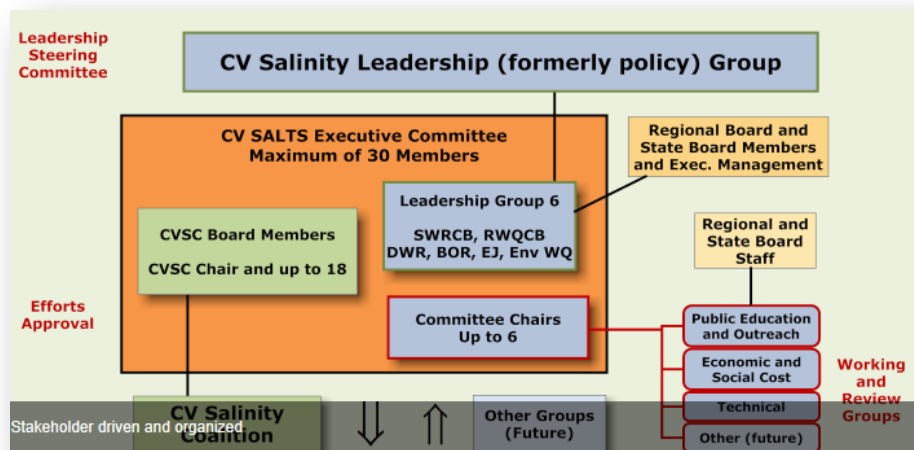


Figure 44. These technical and policy determinations will be documented in the Salt and Nutrient Management Plan, similar to that required by the State Recycled Water Policy. The Salt and Nitrate Management Plan will provide the elements of Policy and Science that are required as the basis of the Basin Plan Amendment for CV-SALTS.

Technical work to support a Central Valley SNMP completed during SFY 12/13 included: (1) a final report on salinity and nitrate criteria to protect stock watering; (2) a draft technical report on salinity criteria to protect aquatic life; (3) proposed initial cropping zones for utilization in developing area specific interpretations of the narrative salinity water quality objective to protect agricultural supply; (4) compilation of available surface and groundwater quality on salt and nitrate with initial evaluations of salt source, transport and loading for 23-analysis zones within the Central Valley floor; (5) proposed processes for determining assimilative capacity and general water quality trends in associated groundwater zones; and (6) more detailed analyses on source, fate and load in two areas (Modesto and Lower Kings River). The Strategic Salt Accumulation Land and Transportation Study workplan which will evaluate viable salt disposal alternatives was approved by the Executive Committee with initial evaluations conducted in 12-areas within the Central Valley. The second phase of the project which includes a sustainability analysis will commence in late 2013.

The Lower San Joaquin River Committee continued to develop salt and boron water quality objectives for the stretch of river between the Merced River and Vernalis. Technical work to support the effort was subcontracted with initial efforts focused on characterizing the current water quality and loading throughout the basin and evaluating achievability of a range of potential water quality objectives. As part of the review of implementation alternatives, staff members from the United States Bureau of Reclamation have been providing straw proposals for the development of a Real-Time Management Program to utilize the assimilative capacity of the Lower San Joaquin River to transport salt out of the basin while meeting water quality objectives.

An informational item on policy discussions occurring within CV-SALTS was provided at a RWQCB-5 public meeting in July 2013. An additional informational item on the technical projects, updated work plan, timeline and budget is scheduled for the December 2013 RWQCB-5 public meeting with the SWRCB annual update the following January 2014.

Initiative 5.3: Dairy Initiative

Animal wastes may produce significant amounts of pathogens, nutrients, and salt contamination. Runoff from confined animal facilities (e.g., feedlots, dairies, poultry ranches) can impair both surface and ground water beneficial uses. Uncontrolled runoff can also cause nuisance conditions. The greatest potential for surface water quality problems has historically stemmed from the overloading of the facilities' waste containment ponds during the rainy season. Surface and groundwater problems can also stem from inappropriate application of waste water and manure. When land and capacity is exceeded, the excessive salts and nutrients can runoff into surface water or be leached to the underlying ground water.



Figure 45. RWQCB-5 staff members will continue to inspect the about 1300 dairies within the RWQCB-5 region on a regular three-year basis.

About 550 dairies in the Region had not been inspected since the Dairy General Order was adopted in 2007. RWQCB-5 staff members committed to eliminate this backlog of dairy inspections by the end of the SFY 12/13 (Figure 45). As a result, that goal was achieved, and the backlog of dairy inspections has been eliminated. Dairies that have had compliance issues may be inspected more frequently. The results of the increased inspections indicated that most backlogged dairies were at a comparable level of compliance with the Dairy

General Order as the rest of the dairy population. Compliance issues include minor record-keeping or maintenance issues, as well as problems with lack of documentation that nutrient management plans are being fully implemented.

In August 2012, RWQCB-5 staff members issued Notices of Violation to about 70 dairy facilities covered under the Dairy General Order that failed to submit the 2011 Annual Report, which was due by 1 July 2012. However, 98 percent of the 1,350 dairies submitted the 2011 Annual Report. The Report is to include a description of any changes to the facility, a summary of the wastes produced, a summary of waste applications and any off-site storm water or tailwater discharges, and water quality monitoring data.

The Dairy Representative Monitoring Program conducted an evaluation to document that the wells for Phases I and II are representative of the range of environmental and hydrogeological conditions throughout the region and the range of dairy management practices being utilized throughout the region.

Initiative 5.4.: Irrigated Lands Regulatory Program Initiative

The ILRP was established in 2002 in response to amendments to the CWC 13269, which required the termination of a waiver of WDRs that had applied to irrigated land discharges for decades. The ILRP currently addresses surface water quality issues in irrigation and storm water runoff from about five million acres of irrigated lands, from near-desert to temperate rainforest climates, hundreds of crop types, and tens of thousands of individual farming operations. Following Regional Board direction, RWQCB-5 staff members began to develop geographic and

commodity-based general WDRs to regulate both discharges to groundwater and surface water. Once completed, these WDRs will address over seven million acres of irrigated agriculture.

In December 2012, the Regional Board adopted its first of the series of WDRs to address surface and groundwater quality for the Eastern San Joaquin River watershed. Over 150,000 acres of additional irrigated lands in the watershed received regulatory coverage for the first time. Tentative waste discharge requirements were released for the Tulare Lake Basin (covering nearly 3 million irrigated acres). The Eastern San Joaquin River watershed and Tulare Lake Basin WDRs will apply to growers who are members of an approved third-party group. The third-party group (or Coalition) conducts monitoring, collects information from members, provides reports to the Regional Board, and conducts education and outreach to its members. Tentative WDRs for growers who are not part of a third-party group were also released, as were administrative draft WDRs for the Western San Joaquin River watershed and the Western Tulare Lake Basin for growers who are members of a third-party group.

RWQCB-5 staff members in the program attended multiple grower meetings and conferences to discuss the new requirements and get feedback, and held numerous stakeholder advisory workgroup meetings to discuss issues related to the development and implementation of the long-term ILRP. In addition, RWQCB-5 staff members had multiple meetings with C DPR and CDFA to coordinate long-term ILRP efforts.

RWQCB-5 staff members also continued a vigorous compliance and enforcement effort, with a focus on growers requiring regulatory coverage in the Eastern San Joaquin River Watershed. Staff identified non-participating irrigated parcels using GIS tools and created a mailing list of over 5,000 landowners. The landowners received at least one letter (larger parcels received two) describing the requirements and opportunity to enroll directly with the Coalition. RWQCB-5 staff members also conducted hundreds of field inspections of non-participating growers, which have led to the issuance of over 100 orders to landowners requiring them to get regulatory coverage. In addition, a number of enforcement orders, including administrative civil liability complaints were issued for water quality violations. One complaint went to a Regional Board hearing and the Board upheld the staff recommended penalty for sediment discharges into the San Joaquin River.

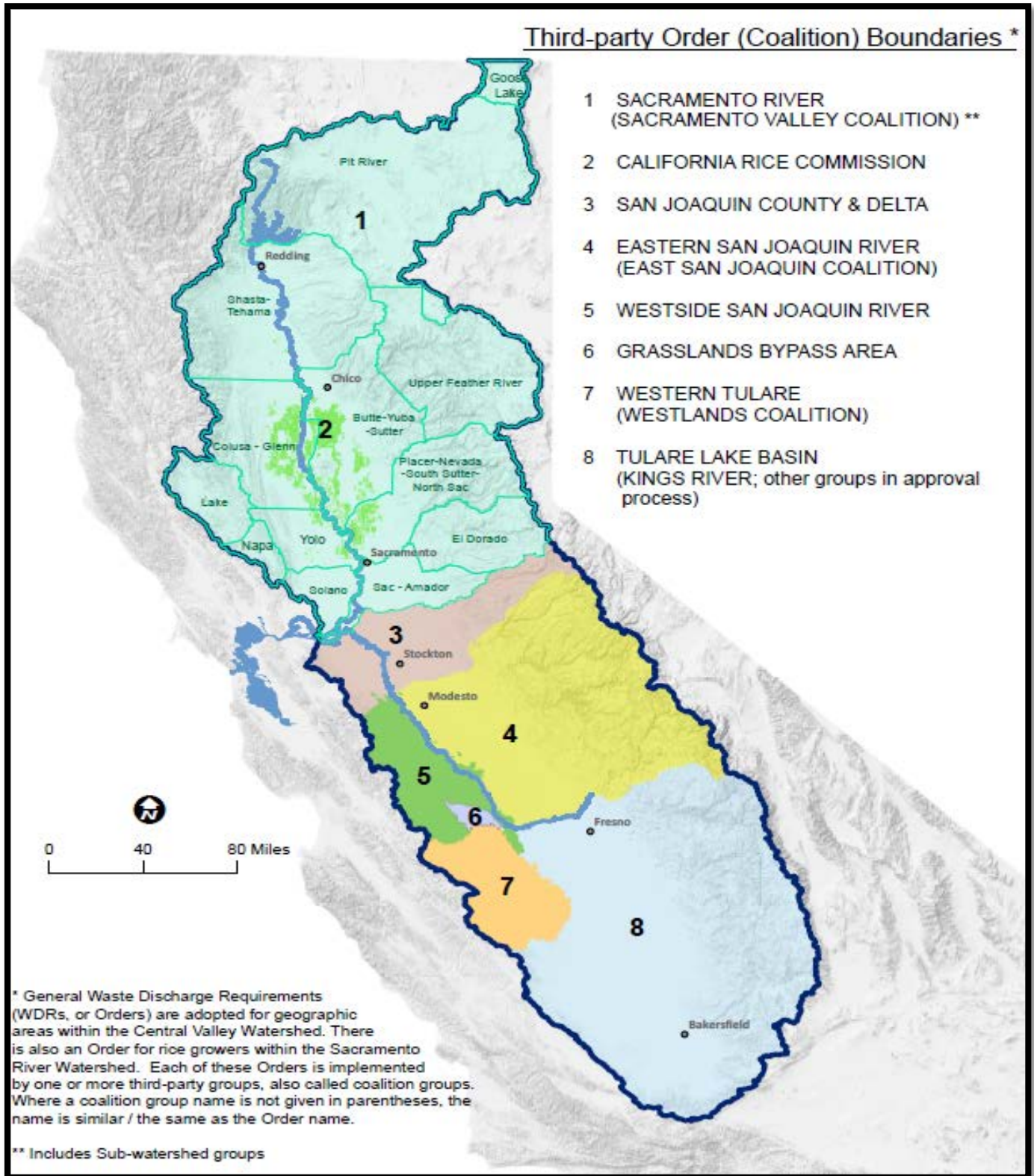


Figure 46. Third-party Order (Coalition) Boundaries in RWQCB-5

Initiative 5.5: Watershed Program

State and federal agencies in partnership with numerous local non-profit groups and local agencies, including resource conservation districts provide expertise and resources to implement projects in water conservation; watershed stewardship and restoration enhance watershed conditions that provide beneficial uses of water and other resources. These federal, state and local partnerships can be viewed as a mutually beneficial watershed program comprised of many local programs. Local programs have achieved wetland restorations, improved water quality and habitat, improved land management practices, and provided public education regarding watershed health and threats.

Within the Central Valley Region there are about 20 locally directed watershed management programs that conduct assessments, watershed management, restorations, water quality and conservation projects, invasive plant control, fire risk reduction, and numerous other watershed activities that are beyond the capacity of state water agencies. In addition, local watershed programs can help implement state water programs such as irrigated lands, TMDL, and integrated regional water planning. RWQCB-5 staff members work with local watershed groups to provide guidance and technical support for activities that meet our mission to protect and enhance water quality. In this role, RWQCB-5 staff members attend watershed group, resource conservation districts, and community meetings, participate on technical advisory committees, review projects, review grant proposals, and issue permits for restoration work.

Although funding for watershed groups has recently become more difficult, for the most part watershed groups are implementing projects, and remain the local stewardship experts and conservation representatives of their respective watersheds. The following watershed issues have received increased attention:

- Water conservation
- Risk of catastrophic fire (fuel reduction and education)
- Invasive riparian and aquatic plants
- Irrigated land runoff water quality
- Grazing lands runoff water quality
- Integrated Regional Water Management
- Central Valley Salt
- Fish passage and habitat
- Climate change
- Cumulative impacts in forestlands
- Off highway vehicles
- Local ground-water management
- Dirt road MPs

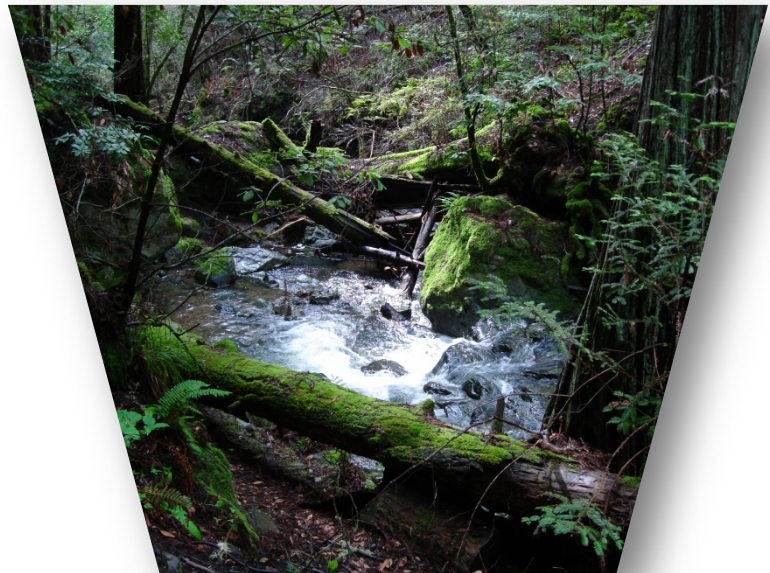


Figure 47. Watershed partnerships successfully communicate, educate, and carry out projects with local residents who are sometimes resistant to state and federal regulatory agencies. With appropriate local outreach activities, residents can be more receptive to the benefits of better practices and watershed conditions.

RWQCB-5 Performance Reviews

RWQCB-5 NPS tasks were generally on track for SFY 12/13. The NPS coordinator and other staff completed the semi-annual progress report for January through June 2011, attended all monthly phone calls and NPS Roundtable meetings. RWQCB-5 staff members have been in contact with responsible parties to assess what implementation actions they have employed to meet the TMDL requirements.

RWQCB-5 staff members will continue to implement the adopted diazinon and chlorpyrifos, dissolved oxygen, and salinity TMDLs in the Delta and its tributaries. An update was presented to the Regional Board in September 2012. Local watershed programs continue to operate despite the reduction in available grants. Numerous restoration projects and planning efforts were undertaken including the following in the northern region: Stony Creek Restoration Plan, Lower Feather River Assessment, Tehama East Assessment, and restoration projects in Butte, Tehama, Shasta, Siskiyou, Lassen and Plumas counties. In next SFY, RWQCB-5 staff members will continue to work on a multi-regional effort to develop a statewide waiver or policy that would address water quality impacts due to grazing activities.

Lahontan Regional Water Board (RWQCB-6) Initiatives

The overall goals of the Lahontan RWQCB (RWQCB-6) NPS Program are to restore waters impacted by NPS pollution and protect unimpaired water bodies. Five initiatives exemplify the RWQCB-6's NPS Program for the 2008-2013 NPS FIP. The focus on these initiatives does not preclude important work on other sources of NPS pollution in the Lahontan Region. These five initiatives are: (1) Lake Tahoe TMDL Development and Implementation; (2) Grazing Management; (3) Fuels Management/Timber; (4) Leviathan Mine; and (5) NPS TMDL Implementation.

Initiative 6.1 Lake Tahoe TMDL Development and Implementation

The RWQCB-6 and Nevada Division of Environmental Protection jointly created a phased Lake Tahoe TMDL Program in 2001 to determine how to restore Lake Tahoe's historic clarity. The first phase was planned to identify the quantity and sources of pollutants and determine how those pollutant inputs affect lake clarity. The second phase focuses on evaluating pollutant reduction opportunities and packaging a plan to implement the pollution reduction strategies. The third phase will involve implementation, monitoring, and adaptive management. The first phase has been completed and is documented in the Tahoe TMDL Technical Report (September 2007.) The second phase is now underway. One of the second phase products, *The Pollution Reduction Opportunity Report*, Version 2 (March 2008) has been completed.

The Lake Tahoe TMDL implementation plan emphasizes ongoing implementation of known technologies while encouraging more advanced and innovative operations, maintenance, and

capital improvement efforts to address urban storm water pollution. Ongoing land management practices and policies are expected to achieve necessary fine sediment particle, nitrogen, and phosphorus load reductions from forested areas. The RWQCB-6 and Nevada Division of Environmental Protection (NDEP) conducted extensive research and numeric modeling to estimate nutrient and fine sediment particle loads to Lake Tahoe. The sources contributing the largest annual pollutant loads that affect the deep water transparency are runoff from upland areas (both urbanized and undeveloped), atmospheric deposition, and stream channel erosion. Table 3 presents the pollutant load estimates for all of the identified fine sediment particle, total nitrogen, and total phosphorus sources, including groundwater and shoreline erosion inputs.

Table 3. Pollutant Loading Estimates by Pollutant Source Category. Table adapted from Lake Tahoe TMDL Basin Plan Amendment.

Source Category		Total Nitrogen (metric tons/year)	Total Phosphorus (metric tons/year)	Number of Fine Sediment Particles (x10 ¹⁸)
Upland Runoff	Urban (Developed)	63	18	348
	Forest (Undeveloped)	62	12	41
Atmospheric Deposition	(wet + dry)	218	7	75
Stream Channel Erosion		2	<1	17
Groundwater		50	7	0
Shoreline Erosion		2	2	1
TOTAL		397	46	481

During SFY 12/13, RWQCB-6 staff worked with and USEPA to develop a comprehensive adaptive management program for the Lake Tahoe TMDL program. The project, funded by the Southern Nevada Public Lands Management Act, will provide a formal process for periodically gathering, synthesizing, and making use of new information related to the TMDL effort. The process will include regular public reporting of TMDL implementation progress and a transparent approach for assessing the need for policy adjustments based on updated research and monitoring findings and other relevant information.

The Lake Tahoe management system project team is crafting a guidebook to provide RWQCB-6 and NDEP staff members with standardized protocols for compiling relevant TMDL implementation information, including Lake Clarity Crediting details, non-urban pollutant load activity tracking reports, research and monitoring reports, and preparing periodic TMDL progress reports. The progress reports will provide the opportunity for stakeholders to make recommendations for possible policy adjustments. The management system will also include an internet-based public reporting platform to share TMDL implementation progress details. The project team is working to establish adaptive management roles and responsibilities for NDEP, the Water Boards, and USEPA.

During SFY 12/13, the USFS Lake Tahoe Basin Management Unit have initiated a discussion among forest land managers about how best to track and report TMDL-related projects and activities. Water Board and NDEP staff members participated in the preliminary discussions and are working with Lake Tahoe Basin Management Unit and the management system project team to align those efforts. Water Board and NDEP staff members will be meeting with forest implementation partners to continue collaborating on forest activity tracking measures.

Initiative 6.2: Grazing

Ranching is the primary agricultural industry in the Lahontan region. Related grazing agricultural operations may impair drinking water beneficial uses, as indicated by the number of CWA 303(d)-listed impaired water bodies in the Lahontan Region. Livestock grazing operations are the likely source of discharges of pathogens (e.g., fecal coliform) to surface waters in these streams, though in some cases, other sources such as rural septic systems or wildlife may be significant contributors.

RWQCB-6 staff member, Cindy Wise, is serving as the lead on the Grazing Regulatory Action Project (Grazing RAP), which is a statewide project to identify, memorialize, and implement efficiencies in addressing impairments driven all or in part by impacts due to grazing. The Grazing RAP is working on four tier implementation proposal to identify where the impaired waters are. The next step is to divide into a smaller working team to decide what to do – Grazing RAP members are working on a timeline and proposal structure. Currently, Cindy Wise is looking into searching on type of tier programs/permits that would be suitable for grazing lands. One of the challenges of the Grazing RAP is defining what grazing land is. Originally, Grazing RAP was looking into managing private lands, but now they are expanding efforts to public land.

A draft factsheet for the Grazing RAP is being developed by Water Boards staff members and stakeholders. In the next SFY, focused listening group will be formed for Water Boards to seek input in defining the purpose of Grazing RAP. Five stakeholder groups identified for the focused listening session are: 1) Public lands: State, Federal, Municipalities; 2) Tribal; 3) Livestock Industry interests; 4) Environmental groups and 5) Other Interested Parties. These listening sessions will be the first of many opportunities for stakeholder participation. Based upon feedback at the focused listening sessions, the GRAP team will prepare an initial proposal for a grazing regulatory strategy consistent with the NPS Policy.

Initiative 6.3: Fuels Management/Timber

Federal and non-federal forested lands are found throughout the Lahontan Region and are managed by timber harvests, fuels reduction, fire suppression, prescribed burns, pesticide/herbicides, reforestation and other activities. Silviculture/timber harvest activities include commercial thinning, clearcutting, and salvaging of dead or dying trees. Harvesting operations can involve equipment such as chainsaws, tractor skidders, dozers, logging trucks and road watering trucks. Logging activities can include road construction and improvement, log landings, watercourse crossing construction and end lining. These activities can result in 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.

During SFY 12/13, RWQCB-6 staff members reviewed semi-annual implementation monitoring reports for all projects enrolled under the timber waiver. RWQCB-6 reviewed quarterly USFS Schedule of Proposed Action reports to identify high priority harvests that require comments. RWQCB-6 staff members identified deficiencies and requested modifications to improve water quality, and notified agencies that failure to comply with the timber waiver (including failures to submit an application). In addition, RWQCB-6 staff members conducted inspections of sites with the greatest potential to affect water quality (Figure 48).



Figure 48. Inspections are tracked on the California Integrated Water Quality Systems using the module developed for the timber waiver.

Initiative 6.4: Leviathan Mine

Leviathan Mine is an inactive sulfur mine that the State of California acquired in 1984. The State acquired the site in order to cleanup and abate water quality problems caused by historic mining. Jurisdiction over the site rests with the SWRCB, which in turn has delegated jurisdiction over pollution abatement activities to the RWQCB-6. The location of the mine is in Alpine County, California, about five miles east of Markleeville.

Historical mining activities at Leviathan Mine included underground and open pit extraction of sulfur-rich ore. Consequently, the exposure of naturally occurring sulfide minerals to air and water triggered a series of chemical reactions that caused local groundwater to become acidic and metal-rich. The acidic groundwater discharges from an old mine tunnel as well as seeps at several locations within the Leviathan Mine site. When this acid mine drainage enters local surface water bodies, it adversely affects water quality, which, in turn, affects algae, insect, and fish growth, and damages the in-stream habitat through deposition of metal-rich precipitates.

The Water Board has implemented several projects to abate acid mine drainage from entering local surface water bodies. During this SFY 12/13, no acid mine drainage was routed directly from the flow control structure to Leviathan Creek. The 2012 acid mine drainage treatment and associated activities included sludge removal from the pit clarifier in June and acid mine drainage treatment at the plant in July. For more information on the Leviathan Mine and Water Board staff member activities, see the [Year-End Report for the Field Season at Leviathan Mine](#) that is generated by the Water Board for USEPA.

Initiative 6.5: TMDL Implementation

RWQCB-6 staff members planned for the second Tahoe Basin Watershed Education Summit – an outreach and education activity for the Blackwood Creek TMDL. RWQCB-6 staff members conducted two field inspections during June of the California Tahoe Conservancy stream restoration and stabilization project on Blackwood Creek, final site grading was completed and revegetation of disturbed areas will be ongoing.

For the Tahoe TMDL, RWQCB-6 staff members completed permitting (National Pollutant Discharge Elimination System and CWA Section 401 Water Quality Certification) of the USFS Lake Tahoe Basin Management Unit Upper Truckee River Reach 5 Restoration Project and the project broke ground in June 2013 with project completion estimated for 2016. RWQCB-6 staff members provided comments to the California Tahoe Conservancy on the Draft Environmental Impact Report/Environmental Impact Statement for the Upper Truckee River Marsh Restoration Project. RWQCB-6 staff members prepared California Environmental Quality Act document to allow permitting of additional Angora Fire Restoration activities. RWQCB-6 staff members also participated in a two day multi-agency workshop with an external expert panel to evaluate the efficacy and timing of multiple stream reach restoration projects on the Upper Truckee River.

RWQCB-6 Performance Review

RWQCB-6 staff members completed necessary NPS program coordination tasks and continued to manage NPS grants. Tasks performed by the RWQCB-6 staff members during SFY 12/13 include: conducting inspections; notifying agencies when dischargers fail to comply with waiver requirements; and reviewing management plans. Over the next SFY, RWQCB-6 staff members will continue to work on grazing and timber tasks. RWQCB-6 staff members will work with ranchers to implement and track success of grazing MPs required under the new waiver.

Colorado River Regional Water Board (RWQCB-7)

The overall goals of the Colorado River RWQCB (RWQCB-7) NPS Program are to restore waters impacted by NPS pollution and protect unimpaired water bodies. Two initiatives exemplify the RWQCB-7's NPS Program for the current five-year planning period. These two initiatives are: (1) Technical Assistance to Irrigated Agriculture; and (2) TMDL Implementation. The focus on these initiatives does not preclude important work on other sources of NPS pollution in the region.

Initiative 7.1: 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. RWQCB-7 staff members regularly meet with Imperial County Farm Bureau (ICFB) staff and Imperial Irrigation District (IID) staff to coordinate Sediment TMDL implementation (Figure 49).

Over 98 percent of farmers are enrolled in the ICFB Voluntary TMDL 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 2014. 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 TMDL compliance program. Some key performance indicators include: About 25,000 MPs implemented on over 5,000 Imperial Valley farm fields (478,000 acres of farmland in the Imperial Valley are covered by program). Over 5,000 farm plans were submitted to the program during SFY 12/13. Eight outreach and education seminars were held in May and June 2013.

Activities commenced in June 2010 on a \$900,000 Proposition 50/84 grant funded project titled Precision Drain Cleaning MP Plan and it is planned to proceed till March 2014. The purpose of the project is to reduce the impacts of IID's dredging and maintenance operations throughout the drainage system by implementing a drain improvement program. The project includes funding for a Global Positioning System-guided drain cleaning program and implementation of a program to utilize vegetation as drain erosion inhibitor. RWQCB-7 staff members continued to provide technical assistance to IID during the implementation of this grant. In SFY 12/13, Imperial Irrigation District has: (1) employed Global Positioning System-guided drain cleaning as an integral component of a system-wide drain maintenance program; (2) implemented a program to utilize vegetation (i.e., salt grass) as a drain erosion inhibitor; and (3) implemented the Drain Water Quality Improvement Plan.

A CWA 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 grant agreement for the project was signed in April 2013. The monitoring plan, Quality Assurance Project Plan and Project Assessment and Evaluation Plan have been submitted to the RWQCB-7 sub-grant manager.



Figure 49. Imperial Irrigation District and its farmers continuously invest money and resources to rehabilitate and modernize their irrigation and delivery systems in an effort to improve water management and to conserve water.

Photo courtesy of Imperial Irrigated District

Initiative 7.2: TMDL Implementation

The RWQCB-7's NPS Program focuses on TMDL implementation in the Salton Sea watershed, our Priority Watershed. RWQCB-7 staff members are currently implementing the following USEPA approved TMDLs: Alamo River Silt TMDL, New River Silt TMDL, Imperial Valley Silt TMDL, New River Pathogen TMDL, New River Trash TMDL, Coachella Valley Stormwater Channel Bacteria Indicators TMDL, and the New River Dissolved Oxygen TMDL .

Currently, RWQCB-7 is addressing impairments regarding current use and legacy pesticides by actions other than TMDLs, or TMDLs. This initiative seeks to address 25 CWA Section 303(d) listings of pollutant/water body combinations in RWQCB-7 through existing regulatory actions such as waivers, prohibitions, certification of regulatory and non-regulatory programs, or TMDLs, if necessary. Therefore, RWQCB-7 is modifying 21 CWA Section 303(d) listings for legacy organochlorine compounds impairing RWQCB-7 waters (e.g.; Alamo and New Rivers, and Imperial Valley Drains) from the Category 5a requiring TMDLs to the category 5c of being addressed by actions other than TMDLs. Also, RWQCB-7 is modifying four CWA 303(d) listings for 2) current-use pesticides in Alamo and New rivers from the Category 5a requiring TMDLs to the category 5c of being addressed by actions other than TMDLs. Current use and legacy pesticides are being addressed by ICFB TMDL Compliance Program.

RWQCB-7 Performance Review

The primary focus for SFY 12/13 was development and adoption of Conditional Waivers of WDRs for Agricultural Wastewater Discharges in the main agricultural areas within the RWQCB-7 Region. In September 2012, the RWQCB-7 adopted a Conditional Waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Palo Verde Valley and Palo Verde Mesa, Riverside and Imperial Counties. In January 2013 the Regional Board adopted a Conditional Waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and

maintenance activities originating within the Board Unit of the Reservation Division, Imperial County. RWQCB-7 staff members are also working on developing an agricultural waiver for the Coachella Valley, Riverside County, and another for the Imperial Valley, Imperial County.

During SFY 12/13, RWQCB-7 staff members took the RWQCB-7 agricultural waiver for the Coachella Valley and Imperial Valley to the RWQCB-7 Board members for consideration of adoption, and participated in the Drainshed Coalitions for Agricultural Waivers.,.

Santa Ana Regional Water Quality Control Board (RWQCB-8)

The primary Santa Ana River Regional Water Quality Control Board (RWQCB-8) NPS efforts are focused on developing and carrying out programs necessary to implement TMDLs, and to implement MMs/MPs leading to improved water quality. Consistent with the statewide NPS Program, the overall goals of the RWQCB-8's NPS Program are to restore waters impacted by NPS pollution and protect unimpaired waterbodies. Three RWQCB-8 initiatives have been identified that should result in measurable water quality improvements within the current five year planning period. The focus on these areas does not preclude work on other sources of NPS pollution. These initiatives are: (1) Management of Pollutant Loads from Agricultural Operations; (2) Controlling of NPS Discharges in Marinas; and (3) Management of NPS Pollutant Loads from Forested Areas.

Initiative 8.1: Management of Pollutant Loads from Agricultural Operations



Figure 50. Agricultural runoff discharges are also associated with loss of aquatic habitat and wildlife habitat.

Pollutant loadings carried by runoff discharges from agricultural operations contribute to the impairments of waters in the Region, including waters for which TMDLs have been promulgated and other CWA 303(d)-listed waters. Water quality pollutants associated with agricultural runoff discharges include bacteria, nutrients, sediment and pesticides (Figure 50). RWQCB-8 staff is developing a program of conditional waivers of WDRs, known as the “CWAD” (Conditional Waiver of WDRs for Agricultural Discharges) program, through which it is expected to acquire watershed management area-specific information about discharges from agricultural operations. The information will be used to develop and implement NPS control strategies

which could range from raising awareness and voluntary installation of MMs, to regulatory actions such as continuing with a program of WDR waivers, or issuing general or individual

WDRs requiring MM implementation, operation and maintenance, and reporting, to enforcement measures compelling compliance.

The design of the CWAD for the San Jacinto River watershed is intended to influence the behavior of agricultural operators to reduce NPS agricultural related pollutant discharges from their irrigated and non-irrigated (i.e., dry farming) operations, and may include compliance offering incentives, reduced TMDL fees proportionate to load reductions achieved and opting out of the program once effective management plans are in place (Figure 51). Agricultural operators and absentee owners of agricultural land in the San Jacinto River watershed tributary will be required to enroll in the CWAD program under a mandatory filing of a NOI.



Figure 51. The CWAD program will expand region-wide into other watershed management areas with TMDLs that involve management of NPS pollutant discharges from agricultural operations, including nutrients, sediment and pesticides.

Waste discharges from dairy Confined Animal Feeding Operations are already regulated by the RWQCB's dairy program general permit (Order No. R8-2007-0001, NPDES No. CAG018001), which was revised in June 2013, and may be exempted from participating in the CWAD program. Agricultural operations in the San Jacinto River watershed that may be covered by the CWAD include irrigated farming of row and field crops, orchards and grove operations, wholesale and retail plant nurseries, turf farms, and poultry and horse ranching, and other livestock operations.

All of the agricultural operators have been identified by the Lake Elsinore/Canyon Lake TMDL working group, and a thresh-hold of 20 acres and above will be used in enrolling such operators into the CWAD program. All potential San Jacinto River watershed CWAD enrollees have been surveyed to provide information about the agricultural MPs they use. This survey is part of a

CWA Section 319(h) grant project. A CWAD Program Advisory Group now meets on a quarterly basis and feedback from local agricultural growers and major stakeholders is being regularly provided during the development phase of the CWAD program.

Through a CWA 106 assistance program, RWQCB-8 staff has requested contractor assistance from USEPA to identify agricultural operators and owners of irrigated lands in these watersheds. Lessons learned from development and implementation of the San Jacinto River watershed CWAD program should make the process of crafting subsequent CWAD programs more effective and efficient in other watershed management areas of the Region.

Initiative 8.2: Controlling NPS Discharges in Marinas

General Order No. 2004-0017-DWQ was adopted by the SWRCB on November 18, 2004 at the request of the RWQCB-8 to provide leverage to enforce the federal No Discharge Zone designations and implement the Newport Bay fecal coliform TMDL. This Order requires owners and operators of specified vessel terminals located at Newport Bay and Huntington Harbour to install, maintain, and operate pump-out facilities and dump stations where necessary to protect water quality. Following adoption of the General Order, Region 8 staff members found that all marinas listed in the Order had either fully complied or had taken steps that would result in their timely compliance.

A follow-up marina inspection program in City of Newport Beach and City of Huntington Beach Marinas was conducted in coordination with Orange County CoastKeeper in 2008 and 2009, and some operational and maintenance deficiencies, including proper signage, oversight requirements, spill control measures, repair follow-up, and reporting procedures, were found. Marina operators were contacted, and needed corrective measures were promptly taken. No formal enforcement actions were necessary. A regular program of inspections and monitoring

would help to assure that the objectives and requirements of the General Order continue to be met. Resource constraints have restricted RWQCB-8 staff member's ability to carry out such an inspection program at this time.

RWQCB staff has quantified the problem in Newport Bay as they develop an implementation plan to address the pollution. Discharges result when copper leaches from the coatings, as well as when treated boat hulls are scrubbed clean at their moorings (Figure 52). Studies show that on average anti-foulant-coated hulls from Newport Bay discharge about over 50,000 pounds of copper



Figure 52. NPS discharges of copper from paints and coatings applied to boat hulls to inhibit growth of marine organisms are a significant water quality problem in crowded, coastal small-craft harbors.

per year. These copper discharges have caused or threaten to cause impairment of beneficial uses of Newport Bay.

A CWA Section 319(h) grant was awarded to the Orange County Coastkeeper (OCCK) for a project to implement alternatives to copper-based anti-foulant coatings. The project includes an education component that encourages the use of nontoxic alternatives to copper-based anti-foulant coatings in Newport Bay. As a result of the CWA Section 319 Project in Newport Bay, 10 boats were successfully converted to non-toxic coatings. In support of the grant agreement (June 8, 2010), the City of Newport Beach adopted an Ordinance to ban the use of copper-based paints and to encourage the use of nontoxic coatings on boats in Newport Bay. RWQCB-8 staff continued to coordinate with the City of Newport Beach, OCCK and SWRCB staff members in various activities related to this grant project. RWQCB 8 staff actively participated in the Marina and Boating workgroup and among other activities, encouraged active review of and input on, toxic-based antifouling boat paints. RWQCB-8 staff members also participated in the Copper Workgroup to coordinate on feasible activities and MMs.

Initiative 8.3: Management of NPS Pollutant Loads from Forested Areas

Forested areas of RWQCB-8 are a source of NPS pollutants that contribute to sediment, nutrient, and other impairments in the watersheds of Big Bear Lake, the San Jacinto River, and Lake Elsinore. While some of these forested lands are in private ownership, the majority are national forests under the control of the USFS. In addition to managing national forests as open space, the USFAS manages a number of leases of forest land for various uses, most notably ski resorts in the Big Bear watershed areas. Activities in these areas and uses of the Region's national forests that have the potential to contribute large NPS pollutant loads to receiving waters include ski resorts, operation of unpaved USFS roads, authorized and unauthorized recreational off road vehicle use, forestry activities and authorized grazing.

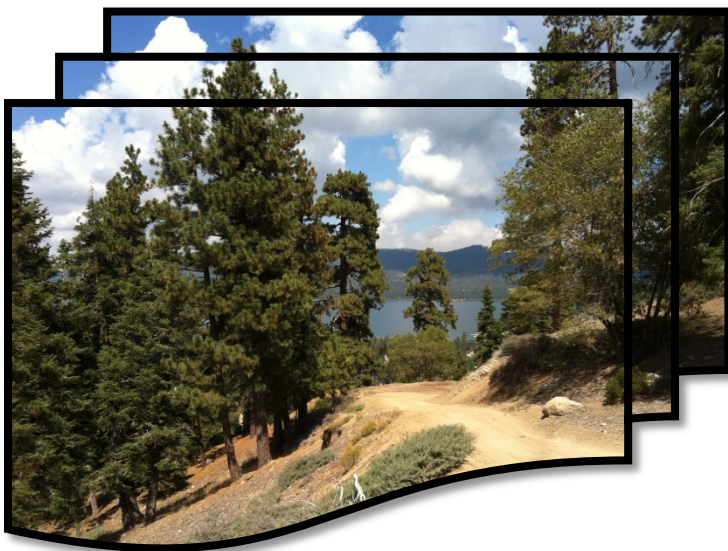


Figure 53. There are several communities on Big Bear Lake bordered by national forest.

Streams that originate in the national forest areas carry excessive loadings of sediment and nutrients through these communities into Big Bear Lake (Figure 53). The excessive loadings appear to originate in both developed areas as well as the open space, public-use areas under USFS management. While many forestry activities are well managed, NPS sediment discharges from leaseholds, USFS forest roads and unauthorized off road vehicle use on unauthorized roads within areas subject to USFS control remains an ongoing concern. USFS areas affected by wild fires and hydromodification have been and remain a high priority for implementing sediment control MMs.

RWQCB-8 Performance Review

The primary RWQCB-8 NPS efforts are focused on developing and carrying out programs necessary to implement TMDLs, and to implement MMs/MPs leading to improved water quality. NPS program priorities include: (a) create and implement a regulatory program for management of pollutant loads from agricultural operations, including both irrigated and non-irrigated (dry-farmed) operations (Conditional Waiver of WDRs for Agricultural Dischargers Program or “CWAD”); (b) manage CWA Section 319(h) grants for projects in the Region; (c), oversight of programs to control NPS discharges in marinas throughout the Region; and (d) management of NPS pollutant loads from forested areas of the Region, principally in the watershed of Big Bear Lake.

Obstacles to addressing these priorities during the past SFY include reduced NPS allocations compared to prior SFYs, the impact of mandatory furloughs, and overall increased level of work load for NPS staff, resulting in delays in completing some program commitments. Environmental benefits include reduction of NPS loads by managing implementation grants aimed at load reductions, maintaining a high level of awareness of regional NPS issues, encouraging voluntary actions to reduce NPS discharges in the face of pending regulatory actions, and timely reporting and follow up on program activities.

San Diego Regional Water Quality Control Board (RWQCB-9)

The primary San Diego Regional Water Quality Control Board (RWQCB-9) NPS efforts are focused on developing and carrying out programs necessary to implement TMDLs and to implement MMs/MPs leading to improved water quality. One RWQCB-9 initiative was identified that should result in measurable water quality improvements within the current five-year planning period. The RWQCB-9 initiative is Protection and Restoration of Wetlands and Riparian Areas, which includes strengthening policies and standards, improving protection and mitigation, removing obstacles to restoration and reviewing regulations.

Initiative 9.1: Protection and Restoration of Wetlands and Riparian Areas

The RWQCB plans to devote most of its NPS Program staff resources to protection and restoration of wetlands and riparian areas. This work can be categorized as follows: strengthening policies and standards; improving protection and mitigation; removing obstacles to restoration; and regulation.

Activity 9.1: Strengthening Policies and Standards

Existing policy and standards in support of protecting wetlands and riparian areas are not comprehensive. The proposed SWRCB statewide “[Wetland and Riparian Area Protection Policy](#)” has the potential to significantly strengthen state policy for protecting wetlands and riparian areas. RWQCB-9 staff members participated in the development of the Wetland and Riparian Area Protection Policy with the goal of ensuring that it would be effective in helping to protect wetlands and riparian areas in the San Diego region (Figure 54).

Activity 9.1b: Improving Protection and Mitigation

Several reports in recent years have made a number of recommendations for significant changes in the CWA Section 401 certification program in the San Diego Region and elsewhere in California. RWQCB-9 staff will review these recommendations and determine which are applicable to the San Diego Region.

Activity 9.1c.: Removing obstacles to restoration

Regional stakeholders involved in the restoration of wetlands and riparian areas have expressed concern that regulatory requirements, including those associated with the CWA Section 401 certification program, can be a significant impediment to such restoration. RWQCB-9 staff members worked with individuals and groups that have these concerns, identified problematic procedures and requirements of the RWQCB CWA Section 401 certification program, and, where possible and appropriate, revised such procedures and requirements to minimize impediments to the restoration of wetlands and riparian areas.

Activity 9.1d: Regulation

During SFY 12/213, the CWA Section 401 staff members issued over 38 certifications. In the next SFY, RWQCB-9 staff members will continue to conduct routine CWA 401 certification program regulatory work, including CEQA document review, pre-application meetings, application processing, compliance inspections, and enforcement.

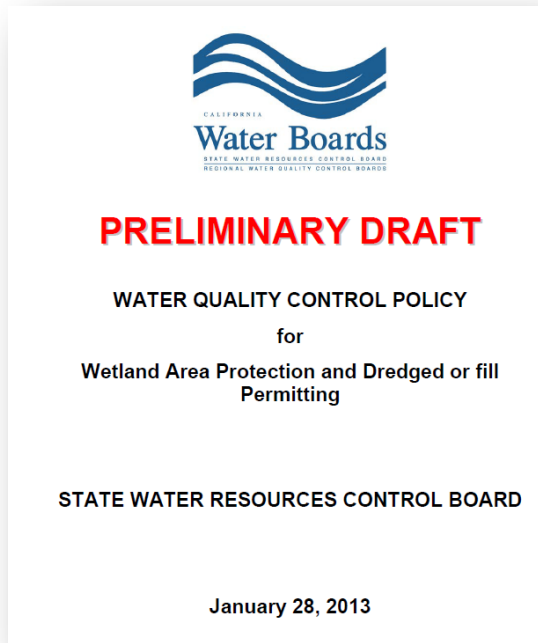


Figure 54. The Water Boards have the responsibility to preserve, enhance, and restore the quality of California's aquatic resources, including wetlands, for present and future generations.

RWQCB-9 Performance Review

During SFY 12/13, RWQCB-9 staff member managed a CWA Section 319 grant project called "Shelter Island Yacht Basin Copper Hull Conversion Project" (grant project). The grant project helps reduce the level of copper in Shelter Island Yacht Basin by encouraging boaters to voluntarily switch from copper to non-biocide hull paint. To date, 30 boats have converted to non-biocide hull paints. However, wetlands, riparian areas and hydromodification were the major areas of focus for SFY 12/13.

The RWQCB-9 staff members reviewed its progress and plans activities and direction on an ongoing basis. Quarterly reports on CWA Section 401 certification program are provided to members of the Board in Executive Officer Summary reports that are included in board meeting agenda packages. In the next SFY, RWQCB-9 will be coordinating with the SWRCB and USEPA to develop a strategy to provide adequate funding for NPS activities.

Index of Abbreviations and Acronyms

AFS	Anti-fouling Strategies
AMN	Air Monitoring Network
ASBS	Areas of Special Biological Significance
BOF	Board of Forestry
CalTrans	California Department of Transportation
CARB	California Air Resources Board
CCAMP	Central Coast Ambient Monitoring Program
CCAs	Critical Coastal Areas
CCC	California Coastal Commission
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Pesticide Regulation
CDWR	California Department of Water Resources
CEDEN	California Environmental Data Exchange Network
CRAM	California Rapid Assessment Method
CTA	California Technology Agency
CV-SALTS	Central Valley-Salinity Alternatives for Long-term Sustainability
CWA	Clean Water Act
CWC	California Water Code
CWAD	Conditional Waiver of Agriculture Waste Discharge Requirements
CZARA	Coastal Zone Act Reauthorization Amendment
eNOI	Electronic Notice of Intent
EIR	Environmental Impact Report
FAP	Forestry Activities Program
FFF	Fish Friendly Farming
GIS	Geographical Information System
Grazing RAP	Grazing Regulatory Action Project
GRTS	Grants Reporting and Tracking System
IACC	Interagency Coordinating Committee
ICFB	Imperial County Farm Bureau
IEP	Interagency Ecological Program
IID	Imperial Irrigation District
IPM	Integrated Pest Management
IRLP	Irrigated Lands Regulatory Program
KBMP	Klamath Basin Monitoring Program
KTAP	Klamath Tracking and Accounting Program

LADWP	Los Angeles Department of Water and Power
LCP	Local Coastal Plans
MeHG	Methyl Mercury
MFAC	Minimum Frequency of Assessment and Collection
MMs	Management Measures
MPA	Marine Protected Area
MOA	Memorandum of Agreement
MPs	Management Practices
MPs	Management Practices
MPA	Marine Protected Areas
MLPA	Marine Life Protection Act
NDEP	Nevada Division of Environmental Protection
NGA-LAILG	Nursery Growers Association - Los Angeles County Irrigated Lands Group
NOI	Notice of Intent to Discharge
NPS	Nonpoint Source
NRCS	Natural Resource Conservation Service
NTMP	Non-Industrial Timber Harvest Plan
NWQI	National Water Quality Initiative
PREC	Pesticide Registration and Evaluation Committee
RCD	Resource Conservation District
RDM	Residual Dry Matter
RFP	Request For Proposal
RWQCB	Regional Water Quality Control Boards
SAM Project	Synthesis, Assessment, and Management Project
SCE	Southern California Edison
SFY	State Fiscal Year
SNMP	Salt and Nutrient Management Plan
SP-12	Measure Ws
SVRCD	Shasta Valley Resource Conservation District
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
VCAILG	Ventura County Agricultural Irrigated Lands Group
WDR	Waste Discharge Requirement
WFMP	Working Forest Management Plan
WQMP	Water Quality Management Plan
WQ-12	Success Stories