California Nonpoint Source Program – Annual Report

July 1, 2008- June 30, 2009

State Water Resources Control Board
Regional Water Quality Control Boards
California Coastal Commission

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The State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) (Water Boards) together with the California Coastal Commission (CCC) are the lead State agencies for implementing the Nonpoint Source (NPS) Program through the *Plan for California's Nonpoint Source Pollution Control Program* (NPS Program Plan). 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 is impaired by that pollution. Our efforts are focused on promoting the following:

- Active implementation of the "Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program" (NPS Implementation Policy) by the Regional Boards, particularly through the agricultural waiver of waste discharge requirements (WDRs);
- Concentrating NPS pollution cleanup resources on total maximum daily load (TMDL) implementation priorities;
- Focusing overall efforts and resources on high priority watersheds and problems, as defined by priority TMDLs and other region-specific problems; and
- Acknowledging the balancing act required by programs to both clean up waters polluted by nonpoint sources, and preserve clean waters.

The 2008-09 Nonpoint Source (NPS) Program Annual Report (NPS Annual Report) reflects the priorities established in the State's most recent long-term planning effort the 2008-13 NPS Program Five-Year Implementation Plan (NPS Implementation Plan). As such, the State is again focusing its annual reporting of NPS pollution control efforts in several major areas that the "core agencies" (e.g.; State Water Board; Regional Water Boards ; and the CCC have focused their efforts this past year. 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.

Statewide Nonpoint Source Program Initiatives

The purpose of this section is to delineate these six (6) focus areas and the responsibilities of each of the "core agencies". These six (6) focus areas are: (1) education, outreach, and technical assistance; (2) financial 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 those goals during the implementation planning period from July 1, 2008 – June 30, 2009 and the methods used to assess the performance of the NPS Program in achieving the focus area goals.

A. Education, Outreach and Technical Assistance

This section addresses education, outreach, and technical assistance activities for the California NPS Program. Funding from the United States Environmental Protection Agency (USEPA), various State programs, and bond funds have been used to support technical assistance activities to the Regional Boards, and watershed and other groups who compete for these

interested parties. Funds and other technical assistance are also provided to other State, and local programs, irrigated agriculture coalitions, and discharger groups. The NPS Program coordinates this assistance with the State Board's Clean Water Act (CWA) 404/401 Program, the National Pollutant Discharge Elimination System (NPDES) Storm Water Program, the Regional Board's irrigated agriculture waiver programs, University of California Cooperative Extension, California Water Board's Training Academy, and others.

1. Management Practice Miner and NPS Encyclopedia

During the last year, State Board proposed the reprogramming of the existing Management Practice Miner (MP Miner) so that it can be used as an online tool for dischargers selecting MPs to address specific NPS pollution problems. The State Board made a determination that investing additional funding (~$54,000) to achieve this goal was necessary. The State Board initiated negotiations with US EPA requesting that they contract with Tetra Tech (the original designers/creators of the database program) to make a number of upgrades, changes and necessary corrections to the existing system. State Board and USEPA are in the final stages of contract negotiations with an estimated start date for Tetra Tech being November/December of 2009 and a final completion date of March/April of 2010.

State Board staff originally anticipated that 200 MP information sources (e.g.: studies, project results, etc.) would be evaluated and entered into the MP Miner each year. There have been approximately 110 MPs entered into the database to date. These MPs are scheduled to be approved and available for dischargers to view upon Tetra Tech's completion of the system upgrades in early Spring 2010. MPs have been, and will continually be, reviewed and entered into the database. Due to State mandated furlough hours, MP Miner programming and system issues and changes in State Board staff resources (loss of student workers) the estimated annual 200 proposed study benchmark has not been met and may have been somewhat overestimated.

Numerous new MP studies are now being copy written and cannot be added to the database without permission from the author(s). This has been resolved by creating a State Board form letter which requests use permission from the author(s). The addition of this step will require additional resources and may result in fewer studies entered into the database each year. As such, a more realistic number of information sources to be entered into the MP Miner annually would be approximately 100.

Additionally, State Board staff has begun coordination with other programs and agencies (Confined Animal Feeding Operations [CAFOs], Forestry, Grazing, total maximum daily loads (TMDLs), California Department of Pesticide Regulation [CDPR]) to expand the usefulness of the information to sources other than agriculture, which has been the current focus.

One meeting with a Central Valley Coalition group director was scheduled to demonstrate the MP Miner, however during the presentation instability of the supporting server for the database was experienced and the MP Miner was not able to be accessed. As this instability continued periodically throughout the year, the scheduling of these meetings and demonstrations was postponed until the upgrades and necessary corrections to the MP Miner are completed in early Spring of 2010. State Board staff has numerous verbal commitments with discharger groups to provide demonstrations in the next fiscal year and

The modernization of the NPS Encyclopedia by providing hyperlinks that give the user quick access to essential information from a variety of sources available on the World Wide Web (www) has been accomplished during the 2008-09 year. For quick access to essential information from a variety of sources, the NPS Encyclopedia is now available to the public via the World Wide Web at: www.waterboards.ca.gov/water_issues/programs/nps/encyclopedia.thml.

The links for both of these tools will be provided to commodity and grower groups to be included in their newsletters (e.g.; Watershed Coalition News North and South) with presentations at growers meetings as a follow up. During the coming year, the NPS Encyclopedia and MP Miner will also be demonstrated to the State and Regional Board TMDL programs during the TMDL Roundtable meetings and other State and Regional Board Regulatory Program Roundtables (irrigated lands regulatory program [ILRP], etc.)

2. Sponsor Technical Outreach Workshops

Efforts towards the achievement of this activity included the sponsoring technical outreach workshops in collaboration with the SWRCB Training Academy on innovative technologies, such as landform grading techniques; renovating concrete flood control structures to naturalize river systems in highly modified and hydrologically constricted watersheds in a semi-arid climate; and daylighting culverts and alternatives to heavily armored flood control structures for Northern California, with a special focus on removing fish passage barriers centered on the development of a workshop and tour in Region 6S, Lahontan. At least ten planning committee meetings were facilitated by State Board NPS staff. The State Board helped with logistics and coordination as well as developing consensus and identifying "the bigger picture" so that lessons learned in one Regional Board could benefit other Regions.

The following describes the workshop and tour called, *Using Green Infrastructure to Address Hydromodification in the Arid West* that was held in Victorville and Apple Valley in the Lahontan Region. On March 9, 2009, the State Water Board Training Academy sponsored a half-day tour of the Mojave River watershed.

The tour was attended by 65 individuals from the State and Regional Water Boards, California Department of Fish and Game (CDFG), local municipalities, regional city planners, US Army Corps of Engineers (Army Corps), California Department of Transportation (CalTrans), local flood control agencies, consultants, educational institutions, and interested community members.

The tour included views and discussions on the effects of urban development using traditional flood control infrastructure. Unfortunately we did not have any positive development projects to showcase, other than a wetland mitigation project at the Lewis Center.

Photo 1) Oro Grande Wash, upstream of an improperly sized box culvert

Photo 2) Oro Grande Wash as a concrete channel

Photo 3) Desert Knolls, flood protection and stream hardening project

On March 10, 2009, SWRCB Training Academy sponsored a one-day workshop that took place at the Victor Valley Community College. In attendance were 81 individuals from State and Regional Water Boards, CDFG, local municipalities, regional city planners, Army Corps, CalTrans, local flood control agencies, consultants, educational institutions, and interested community members.

Speakers discussed challenges and opportunities facing the rapidly urbanizing Mojave River watershed. Speakers provided the audience with an overview of the hydrology and geomorphology of ephemeral streams and washes; technical data and tools to determine streamflow frequency, infiltration, and recharge from intermittent streams in the western Mojave Desert; regulatory solutions for multi-objective flood damage reduction and bank stabilization projects; and low impact development (LID) solutions for the Arid West.

Several case studies and collaborative processes were highlighted; those topics included the Alluvial Fan Task Force and the sustainable development tool, an educational program called the Mojave Sustainability Project: A community approach to education in ecosystem restoration and natural resource management, and the conservation of ephemeral streams and washes including the species that inhabit them. Over 97% of the attendees felt that the level of material presented to the class was appropriate.

The workshop content and instruction were both very well received. Information, including presentations and other course materials, is available at the Training Academy website - scroll down to the course materials section to this workshop, the presentation documents can be downloaded by hyperlinks placed on the course agenda.

State Board staff also managed and closed out the CWA 319(h) grant (05-250-311-1) that initiated the Non Point Source Water Pollution Outreach and Educational Program through the UC Davis Extension called the Center for Water and Land Use. The purpose of this grant was to conduct outreach, education and develop tools and techniques to address NPS water pollution from land use development. The desired outcome was to train and educate interested professionals and government officials on policy and implementation of urban storm water pollution control practices that can be integrated into neighborhood site design. The Center's interventions ranged from helping to draft and edit guidelines for State bond money distribution from storm water quality management projects to working with local jurisdictions on using the LID sizing calculator to writing and facilitating policies on future land development in a county. The "on the ground" results from education and consultation

stimulated significant interest in alternative approaches to storm water management that seek to improve NPS pollution control.

The National Nonpoint Source (NNPS) meeting for State and USEPA Program managers was held at the Catamaran Hotel in San Diego, California on February 24-26, 2009. The NNPS meeting was hosted by the Environmental Protection Agency (EPA) Headquarters and Region 9, along with the California Water Boards. The purpose of this meeting was to bring together State and EPA NPS Program Managers to share approaches and solutions to controlling and managing polluted runoff on a watershed basis and to discuss future directions for the NPS Program. It was an excellent opportunity for California State Water Board NPS staff to network with other State and Federal Program Managers and to discuss the challenges we all face. The outcome from this meeting was an increased understanding of the different approaches used to achieve watershed restoration.

The California Department of Pesticide Regulation (CDPR) is the lead agency for regulating the registration, sales and use of pesticides in California. The State Water Board and Regional Water Boards (Waterboards) are the lead agencies for coordinating and controlling water quality in California. A training class is currently being developed in cooperation with the CDPR that will provide an overview of their: regulatory authorities; registration processes; environmental monitoring; licensing; pesticide use reporting; and enforcement responsibilities. Emphasis will be put on the integration of CDPR's and Waterboard's water quality protection programs. The target audience is DPR and State and Regional Board staff that deal with water quality and pesticide issues. State and Regional Water Board staff and members of the following groups that can benefit from this course include: irrigated lands regulatory program; NPS Program; total maximum daily load program; watershed program; basin planning program; and other water quality protection programs. Staff from various programs within Waterboards; CDPR; County Agricultural Commissioners and other agricultural agencies will be the instructors and presenters. This training should be available in Spring 2010.

Performance Review: As in all efforts concerning technical assistance, education, and outreach efforts, the evaluation of their benefits as it relates to water quality improvement are difficult to measure. The NPS Program did, for the most part, accomplish its primary activities as delineated: (1) continuing to update the MP Miner and NPS Encyclopedia and making them more effective tools for disseminating practical information on MM and MP implementation; (2) sponsoring technical outreach workshops concerning hydromodification issues; (3) holding the National NPS Coordinator's Conference; and (4) working with CDPR in the planning and holding of a "CDPR/SWRCB 101" class for various outreach groups. An increase of proposed presentations of these tools and classes using "face to face" opportunities with agricultural coalition dischargers in the Central Valley Region and through State and Regional Board roundtables is planned for the coming year. This will provide expanded opportunities for assessing the impact of these presentations on actual "on the ground implementation" of the MMs and MPs.

B. Financial Assistance

This section 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.

California have been inadequate to address the full measure of the task. Funds have been made available from both the federal and State government. In addition to the $4 – 5 million CWA Section 319 funds directed annually towards restoring impaired waters, the State has also received funding through bond measures. State Revolving Fund (SRF) loans, and opportunities to leverage compliance penalties or settlement funds, such as Supplemental Environmental Projects (SEPs) have also been available. As the need for additional funding to address NPS pollution sources increases with our understanding of the problem, and funds remain stagnant or begin to decline, our need to better tap and leverage these resources also increases.

The State and Regional Boards normally administer numerous grants and loan funding programs intended to improve water quality and implement watershed programs. Grant and loan programs from Propositions 13, 40, 50, and 84 for projects for watershed protection, NPS pollution MM/MP implementation, clean beaches, agricultural water quality, flood control, storm water, Areas of Special Biological Significance (ASBS), dairies, and others. However, in December of 2008 many, if not all, of these were put on hold as a result of the Governor's Executive Order to stop work on bond-funded contracts. Although some of these projects have been re-started with a bond sale, not enough funds were raised and only grants that were completed, or near completion could be re-started. When additional funding is made available, others will be re-started or efforts maybe made to fund these through other available funding sources.

The following activities were identified to achieve the goals for this focus area by strategically targeting personnel and financial resources of the NPS Program to achieve measurable NPS pollutant load reductions and water quality improvements. These include 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:

1. Coordinating with Partner Agencies

This activity proposed working with partner agencies to ensure that the state's NPS pollution program objectives are supported in grant, or "assistance agreement", solicitations and contracts. State Board NPS and Irrigated Lands Regulatory Program (ILRP) staff have participated in the quarterly National Resource Conservation Service (NRCS) State Technical Guide Committee (STGC) meetings. In partnership with and parallel to the California Department of Pesticide Regulations (CDPR)-ILRP Focus Group, State Board staff have acted as technical liaisons to the STGC supporting not only Integrated Pest Management (IPM) and pesticide application technology and methods, but also other key State Board concerns like nutrient management, food safety, soil erosion and other NPS pollution concerns.

Also, the State Board staff has been involved with NRCS over the last year to gain an understanding of the Farm Bill and the process used to rank and fund agricultural projects with interest in promoting the ILRP and identifying links between the NRCS and the ILRP. Toward this end State Board staff has been participating in the NRCS' State Technical Advisory Committee (STAC) and Local Working Groups. Through this increased involvement State Board staff was able to lobby for a couple of ILRP related projects in the Central Valley and Central Coast that were funded by NRCS under the Agricultural Water Enhancement Program (AWEP). It is anticipated that as the ILRP evolves, additional projects will be identified and ranked through the NRCS process, specifically under AWEP

implement agricultural water enhancement activities on agricultural land for the purposes of conserving surface and ground water and improving water quality. As part of the Environmental Quality Incentives Program (EQIP), AWEP operates through program contracts with producers to plan and implement conservation practices in project areas established through partnership agreements. Under AWEP, the NRCS enters into partnership agreements with eligible entities that want to promote ground and surface water conservation or improve water quality on agricultural lands. In 2009, 15 partner groups were selected to work with NRCS California toward mutual natural resource goals. The goals of the AWEP program dovetail very nicely with the goals of the ILRP.

2. Management of Annual Solicitation of CWA 319 Implementation Project Funds

The management of the annual project solicitation to fund NPS pollution implementation projects was specifically targeted towards the restoration of impaired waterbodies or watersheds. There was an estimated $11 million annual amount, of which $6.7 million was dedicated to project funding during the 2008-09 year (CWA 319 Grants $4.78 with a $1.93 million match).

The State Board's two phase solicitation process began in October 2008 with the receipt of 41 concept proposals requesting $28.8 million in grant funds and ended with the consideration of 19 full proposals requesting $12.7 million. On April 22, 2009 the State Water Board adopted the recommendation to fund 8 projects. The following projects address NPS pollutant loads from the following land use categories: irrigated agriculture (2), grazing (2), forestry (2), mining (1) and urban residential (1) (see Table 1).

3. Expanding the Use of State Revolving Funds for NPS Implementation Projects

This activity seeks to expand the use of the State Revolving Fund (SRF) in California to include NPS MM implementation projects by providing outreach and education to the NPS pollution community to explain and encourage the use of SRF as a possible funding source. Although SRF has been limited to large infrastructure loans, NPS pollution implementation projects are eligible. The NPS Program will work with stakeholders to encourage innovative uses of the SRF for projects by providing information about SRF Expanded Use Loans (Estuary, Stormwater and NPS) known as Principal Forgiveness Loans (PFLs). These PFLs are a possible NPS funding source, as the loan amounts are 'forgivable' when certain agreed upon circumstances and terms are met by the applicant. In the past, many of the NPS projects could not be funded under the SRF program due to the applicant's inability to qualify for repayment of the loans. This potential drawback to funding will be examined and potential solutions will be sought by staff during the next year. Additionally, it is also a possibility that some NPS projects could be funded through the Disadvantaged Communities funds. NPS staff will provide this information via outreach and education to the NPS pollution community and will continue to work with key SRF management over the next four (4) years in an effort to have priority NPS pollution implementation projects included on the SRF project lists.

Table 1: 2008-09 Clean Water Act 319[h] Implementation Project Grants

Region	Project Name	TMDL Implemented	Grant Cost ($)	Match ($)	Project Description
1	Shasta River Watershed Tail Water Reduction Project (Phase 2)	Shasta River Temperature and Dissolved Oxygen	751,442	56,000	Tasks include education and outreach, monitoring and implementation of tail water reduction and re-use projects to improve in-stream water quality and habitat in the Shasta River Watershed. • Tail water reduction projects and monitoring on irrigated lands • Reduce 10 cfs of tail water use through water efficiency projects • In-stream continuous monitoring of DO and temperature Public workshops on net water use for efficiency projects
1	Estero Americano Watershed Sediment Reduction Project (Phase 2)	Estero Americano Watershed Sediment	450,000	330,000	Implements comprehensive watershed plan to reduce sediment loads. Tasks include restoration of five actively eroding gullies and education and outreach to reduce the impacts of livestock grazing in the watershed. ▪ 6,200 cubic yards sediment load reduction from restoration of eroding gullies ▪ Demonstration projects, workshops and manual to train land-owners to identify, prevent, and treat small-scale erosion sites and minimize impacts of grazing
1	Scott River Riparian Restoration Project	Scott River Sediment and Temperature	344,777	153,500	Tasks include geomorphic assessment, hydraulic analysis, riparian planting and streambed restoration, maintenance and monitoring in the Scott River watershed. ▪ Restore 800 feet of actively eroding streambank ▪ Re-vegetate 15-20 acres of riparian corridor and restore shade potential on 7 acres

Region	Project Name	TMDL Implemented	Grant Cost ($)	Match ($)	Project Description
1	Garcia River Headwaters TMDL Implementation	Garcia River Sediment	806,822	444,775	Tasks include road improvements to reduce sediment loads, education and outreach, technical assistance and monitoring. ▪ Reduce road related sediment in 61% of the Garcia River headwaters ▪ ~ 28,941 cubic yards sediment load reduction ▪ Upgrade 18-20 miles of unimproved ranch roads ▪ Revise road handbook to include maintenance of BMPs, Spanish translation
2	Conserving Our Watershed II: Grazing Waiver Compliance	Tomales Bay Pathogen	800,000	308,400	Tasks include land management planning, technical assistance and BMP implementation to comply with RB2's Conditional Waiver for Grazing Lands in Tomales Bay. ▪ Implement water quality BMPs on 151 parcels of grazing lands ▪ Reduce pathogen and nutrient loads by 60-95% at each site ▪ Reduce fine sediment loads by 75-95% at each site from headcut, gully, and bank repairs, riparian fencing, and re-vegetation ▪ Increase native riparian tree and shrub cover by 65% at each site ▪ Increase woody plant species richness in the riparian zone by 50%
2	Hicks Flat Mercury Waste Remediation, Santa Clara County	Guadalupe River Mercury TMDL	315,000	105,000	Tasks include remediation and stabilization of mining waste rock and monitoring. ▪ Remediate 2,700 cubic yards of mercury mining waste rock to achieve a 600 pound mercury load reduction for Guadalupe Creek ▪ Eliminate erosion and sediment delivery to Cherry Springs Creek (tributary of Guadalupe Creek)

Region	Project Name	TMDL Implemented	Grant Cost ($)	Match ($)	Project Description
5	Sustainable Cotton Project	San Joaquin River Diazinon and Chlorpyrifos TMDLs	834,046	375,000	Tasks include education and outreach, monitoring and implementation of IPM and other BMPs to reduce pesticide loads in the Grasslands watershed. ▪ Implement BMPs on 3-5,000 acres each year ▪ 50% decrease growers' use of diazinon and chloropyrifos ▪ 11% reduction of diazinon and chloropyrifos from total acreage of the three crops. ▪ Educate non-enrolled growers on benefits reduced pesticide use.
6	Reducing Sediment Loads through Residential BMPs	Middle Truckee River Sediment TMDL	485,000	161,667	Tasks include public outreach, education, assessment, demonstration projects and BMPs implementation to reduce sediment loads from residential stormwater runoff in the Truckee watershed. ▪ Implement 20-25 clustered residential demonstration BMP projects ▪ Educate 2,500 residents on BMPs and stormwater infiltration ▪ Enroll 30 homes in the BMP retrofit program and install BMPs ▪ ~25 tons sediment load reduction
		TOTAL	4,787,087	1,934,342	

4. Coordination with Integrated Regional Water Management Program

The California Department of Water Resources (CA DWR) is currently administering $1 billion through its Integrated Regional Water Management (IRWM) program for both water quality and supply projects, which resulted in approximately 46 Regional Acceptance Process (RAP) interviews statewide. NPS Regional Board staff participated in the review process and meetings with CA DWR for projects within their Regional boundaries, in an effort to coordinate funding sources that could be used to implement NPS projects. State Board NPS staff was not able to attend meetings or participate in these reviews during this year due to time and travel constraints, however, does anticipate increased participation in this process over the next four (4) years. Angela Schroeter was the primary contact for IRWM in Regional Board 3. She has attended all Central Coast IRWM planning meetings (approximately 3-4 this fiscal year) and participated in all the Regional Acceptance Process interviews for Region Board 3 (approximately 6). Regional Board staff also worked informally to comment on IRWM plans and specific projects to maximize alignment with our priorities. Regional Board staff intends to continue coordinating with IRWM projects in the future with another staff person (to be determined).

Regional Board 5 staff participated in 22 RAPs. The IRWM process is an important tool for water quality issues to be addressed; therefore, staff participated in technical reviews of all 22 RAP applications. The Executive Officer, or an Assistant Executive Officer, along with staff reviewers participated in 20 of the RAP interviews. More specifically, the IRWMP regional groups that Regional Board 5 staff has been working with in the Sacramento River Watershed are the Cosumnes American Bear Yuba (CABY) - Attended Planning Committee meeting on October 7, 2008, Yuba - Attended Planning Committee meeting on September 16, 2008, American River Basin (ARB) - Attended Planning Committee meeting on September 9, 2008.

There are regional groups that have yet to be met with, although contact has been made with the different watershed groups within these regions: Westside, Sacramento Valley and Four Counties, and Sutter County. A coordinated effort between Regional Board 5 Sacramento and Redding staff has been made with the Four Counties and Sutter County.

Regional Board 5 staff in Redding is currently overseeing two additional groups in the upper Sacramento River Watershed (Pit River and McCloud). Regional Board 5 Fresno staff has been responsible for coordinating efforts with the San Joaquin River Watershed regional IRWM groups.

Three Regional Board 8 staff have participated in the on-going development of the Santa Ana Watershed Project Authority-led "One Water, One Watershed" (OWOW) plan, an IRWM plan for the entire Santa Ana Region. Altogether, staff has attended about 15 OWOW-related meetings. In addition, staff have attended about 15 meetings for subregional IRWM plans (Coastal and Central Orange County; Northern Orange County; San Jacinto River Watershed). Staff plans to continue to attend these meetings, as time and resources allow. However, because there are no resources for this work at this time, attendance at IRWM meetings is not a priority.

5. Establishing Criteria for CWA 319 Implementation Grant Projects to Address NPS Program Goals and Objectives

State Board NPS staff did participate in the setting of criteria for grant programs and the selection of project grants to ensure NPS source pollution goals and objectives are supported during this year. State Board staff requested that each Regional Board provide a preference list of TMDLs for their specific regions. These preference lists will be used as one of the determining factors/criteria for selecting the 2010 CWA 319h projects for funding and for future funding processes. These lists can and will be updated annually by the Regional Boards, as priorities in those areas change.

Performance Review: For the most part the goals of the financial assistance aspects of the NPS Program for the NPS Implementation Plan were met either directly or the ground work for the goal was formulated. Continued support was provided directly through the funding of eight (8) projects totaling over $6,721,000 through CWA 319 funds. New and innovative ways of acquiring additional funding for NPS projects was initiated through coordination efforts with other state and federal agencies (e.g.; SRF, IRWM) at the "grass roots" level through interagency cooperation. And the first steps in focusing the next CWA 319 RFP on projects for the implementation of specific TMDLs in preferential watersheds was initiated through a coordinated effort between the State Water Board's TMDL and NPS Programs.

C. 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.

The CA NPS Program's priorities focus on strategies for achieving environmental outcomes associated with protecting the State's surface waters and ground waters from NPS pollution and promoting sustainable water supplies. An integral part of this effort lies in the development and support of innovative and effective policies to meet these priorities. In addition, a challenge in the development and implementation of these policies is to maintain 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 Regional Water Board. To this end, a number of plans and policies need to be or are currently being developed and/or implemented that will impact the CA NPS Program and need to be addressed over the next five years. These policies address the following subject areas: (1) implementation of the NPS Implementation and Enforcement Policy (NPS Implementation Policy); (2) State Water Plan water quality integration; (3) stream, wetland systems, and riparian areas protection; (4) climate change; and (5) atmospheric deposition.

1. NPS Implementation and Enforcement Policy

The use of waste discharge requirements (WDRs) and waivers of WDRs to control discharges from the agriculture and forestry land use categories has fundamentally changed the way these two land use categories are being regulated. This enhanced regulation of NPS discharges can be attributed to more rigorous application of the requirements specified in the NPS Implementation Policy. It is anticipated that during the next four years, application of the NPS Implementation Policy by the Regional Water Boards will continue to expand with the use of more sophisticated tools for tracking MM/MP implementation and

resulting water quality improvements. It is not anticipated that the NPS Implementation Policy will be revised during the next four years other than to reflect any relevant amendments to the Porter-Cologne Water Quality Control Act (California Water Code). As such, the CA NPS Program needs to be involved in promoting its use by the Regional Water Boards through active participation in related interagency and intra-agency committees and the development of relevant regulatory and enforcement tools.

California-Coastal Marinas Permit for Marinas and Recreational Boating

A current activity that State Board staff is focusing on, which was not included in the Non Point Source Program Five-Year Plan (2008 –2013), is the Development of a California-Coastal Marinas Permit for Marinas and Recreational Boating. Due to increasing impairment of coastal marinas from petroleum hydrocarbon discharges, trash and loading from copper-based Anti-Fouling Paints (AFPs) from boat hulls, the State Board NPS staff is in the process of developing WDRs for marinas (General Coastal Permit).

Significant progress has been made in developing regulatory solutions to effectively manage NPS-pollution from marina related activities. A number of the approximately 220 coastal marinas with 10 or more docking or mooring facilities are located in water bodies that are included on the state's 2006 CWA Section 303 (d) list due to impairments for bacteria and pathogens, copper, zinc or toxicity.

In some cases, marinas are listed as potential contributing sources. Copper AFPs are a significant source of copper in salt and brackish marina waters during periods of dry weather (Department of Pesticide Regulations Memorandum dated December 3, 2007). Elevated copper levels in marinas may be attributed to a number of factors such as the high densities of boats coated with copper-based AFP, year-round mooring of boats, and low hydrologic flushing found at most marinas. Taken together, these factors contribute to significant water quality problems, including increased pollutants, such as dissolved copper, in the water column, sediments and tissues of aquatic organisms.

A General Waste Discharge Requirement (Order) for coastal marinas in saline and brackish waters has been developed. The State Board intends, through this Order, to regulate waste discharges from marinas with 10 or more slips or moorings in the coastal regions of the state. The general waste discharge requirements of the Order will require marina owners or operators to develop and implement Best Management Practices (BMPs) and to conduct monitoring. To minimize potential impacts from waste discharges associated with marina activities, the Order requires that marina owners or operators develop and implement a Marina Pollution Prevention Plan (MPPP) to minimize potential water quality impacts. The MPPP is a plan developed for an individual marina that contains BMPs to prevent or reduce the discharge of waste from marina activities to state waters.

The State Water Board will be collaborating with other agencies and stakeholders during the upcoming fiscal year in preparation for a State Board Hearing to approve this Order by the end of the fiscal year. A series of informal workshops (5) will be held along the coast during the Winter of 2010 in San Diego, Newport Bay, Marina del Rey, Santa Barbara and San Francisco. The stakeholder process will be used to help determine the appropriate boat classes and average wetted boat hull areas associated with those classes of boats. This information will be used to determine ranking (high, medium and low) for the "average wetted boat hull density" determination that will be used as a Risk Matrix.

The Risk Matrix determines the frequency of initial monitoring and reporting, number of inspections and annual fee. Attendees will be separated into working groups and will be asked how to divide up classes of boats by size and type, so that one average wetted boat hull density can be assigned per boat size/type. The working groups will also rank their concerns about the permit. Responses to these and other questions/concerns will be equally weighted by the group and will be considered data points. Pending time availability, an open forum will be provided at the end.

Nonpoint Source Activities on National Forest Lands

Several types of NPS activities have taken place on National Forest System lands in California, including timber harvest, rangeland management, dispersed and concentrated recreation, fuel treatments, and fire suppression. Of these, only timber harvesting is regulated by WDRs and/or waivers. The existing statewide Water Quality Management Plan (WQMP) for National Forest System Lands in California, certified by the State Water Board in 1981 and last updated in 2000, is implemented by the U.S. Department of Agriculture, Forest Service (Forest Service).

The State Water Board and Forest Service both recognize that the current WQMP needs to be updated. For example the current WQMP does not do the following: a) address new, current nonpoint sources of pollution which have become important (e.g., off-highway vehicle recreation), b) set forth actions needed to help restore waters that are listed as impaired under CWA Section 303(d), c) actions to minimize existing legacy pollution-generating sites, or d) conform to many subsequent changes in the water quality regulatory landscape. These regulatory changes include new mandates that all waivers of waste discharge requirements be formal, conditional, temporary, and include a monitoring component, as well as the NPS Program Plan and the NPS Implementation Policy.

The State Water Board sees opportunities for more efficiently maintaining, protecting, and restoring water flowing from or through National Forest System lands from NPS pollution. A WQMP that addresses many types of NPS pollution can serve as the basis for a statewide regulatory mechanism, improving regulatory consistency and certainty, and allowing for statewide prioritization of legacy site remediation, restoration of CWA Section 303(d)-listed waters, and monitoring programs. The statewide program would replace the several timber harvest waivers of the Regional Water Boards, while recognizing the need to address regional differences. Beginning in late 2008, the State Water Board augmented its collaboration with the Forest Service toward this end, now expects to have a new WQMP and statewide regulatory mechanism in place by the end of 2010.

The State Water Board worked extensively with the State Board of Forestry and Fire Protection in the latter's major revision of its Forest Practice Rules addressing threatened and impaired watersheds. Despite substantial Water Board involvement, the Rule amendments have focused only on protection of anadromous salmonids and do not improve consistency with water quality goals for restoration of CWA Section 303(d)-listed waters.

Confined Animal Facilities

Confined animal facilities (CAFs) are defined in California regulations and include poultry facilities, feedlots, dairies, etc. Federal regulations use the term "animal feeding

operations" (AFOs) for the same type of facilities and use the term "concentrated animal feeding operations (CAFOs) to identify a subset of AFOs based on the animal population at the facility.

In California, manure produced at poultry facilities and feedlots has generally not been problematic for water quality, and only dairies have been subject to formal regulatory oversight. There are about 1,850 dairies in California. Most of those dairies are in three areas: the coast north of San Francisco (Regions 1 and 2) with about 250 dairies combined, the Central Valley (Region 5) with about 1,400 dairies, and the Chino Basin (Region 8) with about 160 dairies. Following is a brief summary of dairy program activities for 2008–2009 in those regions with the majority of the State's dairies.

Region 1: There are about 200 dairies in the North Coast Region that have historically been regulated under a waiver of WDRs. North Coast Regional Board staff is evaluating using a new waiver or WDRs to regulate dairies.

Region 2: San Francisco Bay Regional Water Board staff performed dairy inspections during the winter of 2008 and the spring of 2009, to ensure compliance with existing regulations. One of the dairies covered under WDRs made significant management improvements at the facility and is now eligible for coverage under the Waiver of WDRs for CAFs.

Region 5: The Central Valley Region adopted General WDR Order #R5-2007-0035 for cow dairies on May 03, 2007. Order R5-2007-0035 originally applied to about 1,500 dairies operating in the Region when the Order was adopted. About 100 dairies in the Region went out of business in 2008–2009. Any dairies that went into operation after October 17, 2005, or facilities that expanded in size after that date, were required to obtain individual WDRs. The Central Valley Region plans to issue NPDES permits to any dairies that qualify as a CAFO and discharge wastes to waters of the United States.

The Order R5-2007-0035 requires each dairy to prepare a Waste Management Plan that addresses the production area and a Nutrient Management Plan that addresses the land application areas. Because of the extent of work required, there is a timetable that allows phased development and implementation of plans and necessary improvements. All changes must be in place by July 2012.

As is required under the General Order, hundreds of annual reports have now been received in both the Sacramento and Fresno Regional Water Board offices. These reports were due prior to July 01, 2008. Regional Water Board staff have an arduous task in reviewing and commenting on these reports. In an effort to help answer questions regarding the new requirements, Regional Board staff posted a frequently asked questions (FAQ) document on their website on June 11, 2008.

Region 8: The Santa Ana Region continues to use a General NPDES permit to regulate dairies in that region. The General Permit requires each dairy to prepare a Waste Management Plan to ensure that all manure is kept under control. Because residual salts and nutrients from historic farming and dairying operations have impacted groundwater in the Region, the General Permit requires all manure produced in the Chino Basin to be exported from the Region.

Irrigated Lands Regulatory Program

State Board NPS staff has been working with the Regional Boards and agriculture-related partner agencies (e.g.; California Department of Food and Agriculture, California Department of Pesticide Regulation [CDPR], Natural Resources Conservation Service [NRCS]) as part of the State Board's Irrigated Lands Regulatory Program (ILRP) Roundtable to ensure that the elements of the state's NPS Implementation Policy are effectively integrated into all of the Regional Board's irrigated agriculture regulatory programs. State Board NPS staff has participated in the ILRP Roundtable quarterly meetings, Central Valley Regional Board's ILRP Technical Issues Committee and Management Plan meetings, the Santa Ana Regional Boards meetings to develop their Conditional Waiver for Agricultural Discharges (CWAD) and will be participating in the Colorado River Basin Regional Boards Technical Advisory Committee (TAC) as they develop and implement a Conditional Prohibition of Agricultural Discharges within the Coachella Valley.

State Board NPS staff has actively participated as Charter members of the advisory group for the Central Valley Regional Board's Long-term Irrigated Agriculture Program (ILRP) to ensure that the requirements of the NPS Implementation Policy are addressed appropriately and will continue to do so in 2010.

State Board NPS staff and the ILRP Program Manager have been coordinating efforts with Regional Board ILRP staff in an effort to support the development and implementation of a MM/MP tracking database to enable the compilation and dissemination of technologies for on-the-ground management practice information, to be used to demonstrate implementation effectiveness consistent with the requirements of the NPS Implementation Policy. There are a number of tracking databases currently under development and/or in use at the Regional Board level. The goal is to determine which one of these could possibly be expanded and used by all ILRPs. This activity will be on going during the next year. The desired outcome is to examine all available technologies, determine which could be expanded for statewide use and then support this expansion and use.

State Board NPS and ILRP staff has also requested that State Board staff in the Office of Information Management and Analysis (OIMA) analyze one of these Regional Board database projects, specifically, The University of Redlands Project. This project has been completed by a grantee in the Regional Board 7 (Colorado River Basin) and the only requirement at this time, per the grantee, is the need for server support. OIMA State Board staff is attempting to procure this server support to resolve the issue. If this can be accomplished, this database program could then be shared statewide.

2. State Water Plan - Water Quality Planning

The California Water Code specifies the California Water Plan (Water Plan), prepared and updated by the California Department of Water Resources (CA DWR), 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.

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 Strategic Plan Update 2008–12 (Water Boards,

2008) the State Water Board has committed to collaborate with the CA DWR to integrate the Regional Water Quality Control Plans (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 Water Plan.

The State Board NPS Program staff is developing a chapter for the 2010 update to the Water Plan that defines and addresses NPS pollution prevention through existing and proposed Water Board programs. This chapter should include, but is not limited to, discussions on: (1) status of NPS pollution prevention and associated Water Board programs and policies; (2) NPS pollution prevention as function of land use category; (3) major issues such as irrigated agriculture, confined animal facilities, monitoring, and emerging issues; and (4) estimated costs associated with NPS pollution prevention programs.

3. Stream and Wetland Systems Protection Policy

The State Water Board approved State Board Resolution 2008-0026 that allows for the development of a policy to protect wetlands and riparian areas in order to restore and maintain the water quality and beneficial uses of the waters of the State (Stream and Wetlands Policy). The State has previously used CWA section 401 to protect wetlands from the environmental impacts of dredge and fill activities. Recent US Supreme Court Rulings (*Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 2001* and *Rapanos v. United States, 2006*) have limited the jurisdiction of CWA section 401 to include only waters of the State that are navigable or tributary to navigable waters. This omits many of California's unique and valuable waters that contribute to wetland and riparian resources such as vernal pools, ephemeral and intermittent streams and washes, and other isolated wetlands and streams. In order for the State to protect these valuable resources, the Stream and Wetlands Policy has been proposed and will use authorities under the California Water Code to achieve water quality objectives and protect the beneficial uses identified in the Regional Water Board's Basin Plans. In addition, this Policy will be designed to prevent nuisance consistent with CA Water Code section13241 and will implement the State's Anti-degradation Policy (State Water Board Resolution No. 68-16). In the interim, State Water Board Order No, 2004-0004 has been issued which requires WDRs for dredge and fill activities from small projects within non-CWA section 401 waters so that the State can implement the "No Net Loss" Policy for wetlands (EO W-59-93). Larger projects are regulated under individual WDRs. The State Water Board recognizes the need to develop a strategic Policy that is based on watershed planning and uses the Wetland and Stream Protection Policies currently developed by the North Coast and San Francisco Bay Regional Water Boards.

Staff in the NPS Unit has worked with State Water Board Stormwater Program and DFA in a grant selection process to award a CalFED grant for the purpose of developing a web-based riparian buffer sizing tool. This tool is intended to be used by municipalities when implementing stream setback or riparian buffer ordinances. If successful, it could be further developed for use statewide and by parties tasked with implementation of the Stream and Wetlands Policy.

Staff in the NPS Unit has developed several regional tours and workshops through the Water Board's Training Academy that focus on watershed tools and MPs that utilize green engineering to address hydromodification issues for the purpose of promoting healthy streams. The focus of each workshop has been tailored to each Regional Water Boards particular climate, hydrology, and other unique issues.

4. Climate Change

It is widely recognized that changes in temperature and precipitation patterns will impact water availability and quality. Higher air temperatures lead to increases in water demand and changes in hydrologic conditions, resulting in drought and greater threats of wildfires, and reduced snow pack, earlier snowmelt, and a rise in sea level that may cause more seawater intrusion. Also, higher water temperatures reduce dissolved oxygen levels, which can have an adverse effect on aquatic life. Where river and lake levels fall, there will be less dilution of pollutants; however, increased frequency and intensity of rainfall will produce more pollution and sedimentation due to runoff. In addition, more frequent and intense rainfall may overwhelm pollution control facilities that have been designed to handle sewage and storm water runoff under assumptions anchored in historical rainfall patterns.

Water quality impairments are especially critical as droughts and expected increases in climate change impacts further limit water supplies. Changes in hydrology, such as reduced snow pack and earlier snowmelt, result in less natural water storage, and more difficulties managing reservoirs and reservoir releases to maintain river temperatures that are cool enough for anadromous fish. Moreover, lower groundwater tables resulting from less recharge and/or more extractions can reduce or eliminate base flow in creeks, severely affecting aquatic habitat. Even without the impacts of climate change the current condition of California's fish populations reveals the need for action. Currently, 34 fish species are listed as threatened or endangered in California, including coastal and Central Valley runs of steelhead, spring-run and winter-run Central Valley Chinook salmon, a central coast population of coho salmon, Delta smelt, three species from the Colorado River, and several species from the Klamath Basin and southern deserts. Consequently, to ensure a reliable water supply and adequate aquatic habitat, California must manage water in ways that protect water resources.

Water Board's regulatory authorities and programs ensure that MPs are implemented that minimize the impact of climate change to water quality and quantity. Some examples include irrigated agriculture BMPs that focus on the use of saline resistant crops, drip irrigation, and the use of recycled water. Other examples in the urban land use category include LID practices and urban water re-use. A workshop entitled *Climate Change Water Recycling Measure W-4 Implementation* took place at CalEPA on March 4, 2009. The workshop focused on promoting appropriate LID practices that focus on infiltration, capture and/or storage of runoff. Proper planning and implementation of appropriate LID practices have the potential to reduce energy use and associated greenhouse gas emissions by increasing local water supplies that can reduce or offset the demand for more energy intensive water supplies such as those that are transported for vast distances and up-gradient. The BMPs for LID urban water supply augmentation included planning and implementing stormwater infiltration and/or capture BMPs that increase local groundwater supplies where favorable soil and geologic conditions exist. And for locations where infiltration is either limited or not recommended, urban runoff BMPs focused on the augmenting of nonpotable water supply by capturing runoff and reusing it for local landscaping, e.g. rainbarrels and rain gardens.

5. Atmospheric Deposition

State Board NPS staff, in an effort to collaborate with the CDPR to develop more effective methods of aerial pesticide application that minimizes problems associated with pesticide drift and volatilization, has participated in the development of the CDPR Pesticide Air Monitoring Network. 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. CDPR requested that the Pesticide Registration and Evaluation Committee (PREC) serve as a forum for discussing the scientific and technical aspects of the pesticide air monitoring network project. PREC members provided input regarding technical/scientific issues related to the planning and implementation of the project. The project scientific objectives are to identify common pesticides in air and determine concentrations, compare concentrations to health levels, estimate cumulative exposure to multiple pesticides, track trends in air concentrations, and correlate concentrations with use and weather patterns. State Board NPS staff plans to continue to attend these meetings and to provide input as requested by CDPR.

State Board staff is also following studies such as the Department of Public Health's study "Pesticides in Dust from Homes in an Agricultural Area" by Martha Harnly. This and other studies will provide valuable information on which pesticides are present via air deposition from agricultural practices and help lead to the development and implementation of MPs to reduce these levels.

Additionally, State Board NPS staff will work to include information on MPs to reduce off-target drift for specific application methods and crop sector combinations (such as airblast application to orchard crops) in the MP Miner database. This database will be made available to applicators, agricultural extension agents, registrants, environmental groups and other interested stakeholders through outreach and education efforts/presentations by State Board NPS staff after system upgrades have been completed in Spring 2010.

6. Coordination with the Total Maximum Daily Load Program

In 2008-09 the State Water Board TMDL, NPS and other regulatory programs (WDRs, National Pollutant Discharge Elimination System (NPDES) and Stormwater) formed a working group and have been meeting on a regular basis in an effort to improve communication and coordination at the State program level and to improve inter-program communication and coordination at the Regional Boards. Subjects under discussion include: (1) how to write and develop TMDL implementation plans so they can be implemented effectively through the NPS Implementation Policy; (2) coordination of Watershed Priorities in both the TMDL and NPS Workplans; (3) promoting that State Board TMDL, NPS and other regulatory program staff attend other program Roundtables; (4) expansion of the existing TMDL Planner/Tracker database system to enable and ensure more consistent implementation and to track the implementation of TMDLs subject to the NPS Program/Policy and other Regulatory programs; (5) coordination of compliance monitoring between programs; and (6) improve TMDL implementation plan language for improved enforceability through permits, waivers and prohibitions.

The group has identified that the various programs have/use different terminology. The group is working to improve communication through the development of a standard lexicon that will be presented to the various Roundtables for additional input in late 2009 early 2010.

Performance Review: At the State Board level the NPS Program has performed well over the last year. Continued support of the effective use of the NPS Implementation Policy has been achieved from two perspectives. NPS Program staff involvement in a number of interagency coordination groups to spread the message of the requirements of using the key elements of the NPS Implementation Policy has resulted in it becoming more common as the method for regulating sources of NPS pollution (e.g.; ILRP, water quality management plan for National Forest Lands; CAFs). In addition, State Board NPS Program staff has been

directly implementing the NPS Implementation Policy by developing the Marina's General Coastal Permit. Other issues that were identified as activities in the NPS Implementation Plan were completed this fiscal year (e.g.; State Water Plan – Water Quality Planning). While others continue to be addressed at varying levels within the State Board, these have shown limited progress during this fiscal year (e.g.;Atmospheric Deposition).

D. Interagency Coordinating Committee

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. Monitoring for the effects of NPS pollution is expensive and interagency coordination can identify common goals where both the costs and results of monitoring programs can be shared. Interagency coordination is needed to help set statewide objectives for the most critical NPS issues.

The California Water and Landuse Partnership (CA WALUP) is an informal partnership among state and federal agencies and non profit groups that have a strong interest in improving water quality in the state of California. The mission of CA WALUP is to protect natural resources by providing technical information and practical tools for informed land use decision-making at the local level. CAWALUP is a member of the National Nonpoint Source Education for Municipal Organizations (NEMO) Network. NEMO is an educational program for land use decision makers addressing the relationship between land use and water resource protection.

Over the last year, CCC staff worked with a small group of CA WALUP participants (Tim Lawrence-UC Davis, Matt Yeager-San Bernardino County, Michael Thomas-Central Coast RWQCB, Daniel Apt-RBF Consulting) to come up with a conceptual plan for training a wide variety of responsible parties about the fundamentals of LID. This effort is intended to build on the LID workshops at four locations along the California coast last fiscal year. Those workshops were a great success and they pointed to the need for different levels of information needed by various audiences (e.g., developers, engineers/architects, planners, public works staff, and decision-makers). The conceptual plan would include various entities conducting the training for different audiences and would specify the development of a core set of principles to be used for all audiences. The conceptual plan has been presented to several potential funders, but with the only member of the group dedicated to full time education and outreach (Tim Lawrence) changing jobs and the disruption of state funding sources, the project is on hold.

Over the last year, CCC staff has continued to facilitate meetings of state and federal agencies related to the nonpoint source impacts related to marinas and recreational boating as well as wetlands and riverine habitats. CCC staff worked to conduct the Central Coast Wetland Science Symposium in September 2008 at the Moss Landing Marine Lab and gave a presentation on the implementation of the Central Coast Wetland Program. CCC staff also helped conduct the Central Coast CRAM training on June 1-3, 2009, a 3-day practitioner course, intended to equip participants with the skills necessary to conduct a complete assessment for the riverine wetland class using the California Rapid Assessment Method (CRAM) for wetlands and riparian areas continue IACC Wetlands, Marinas and CCA coordination. The Wetland IACC workgroup that CCC staff has been leading over the last five years has evolved into several workgroups including the State Wetland Monitoring Workgroup, in support of the California Water Quality Monitoring Council and the Central Coast Wetland

Group, a partnership of agencies, scientists, non-governmental and private organizations working to preserve and restore Central Coast Wetlands.

The Marinas and Recreational Boating IACC Workgroup has continued to meet on a quarterly basis to share information about the NPS pollution aspects of boating and marinas among state, local and federal agencies, as well as interested stakeholders. The goals of the workgroup are to: (1) develop partnerships among entities (e.g., state, federal and local agencies) responsible for addressing NPS pollution related to boating and marinas, (2) make efficient use of state, federal and local resources to address this pollution by sharing information, avoiding duplicative efforts and identifying technical and policy gaps, and (3) promote improvements to marina water quality through implementation of MPs.

This year the group continued to focus on the water quality impacts of antifouling paints (AFP) and continued combined meetings with the AFP workgroup led by CDPR staff. Lisa Sniderman and Vivian Matuk reinitiated contact with the boating industry-led California Clean Marinas Certification Program lead Tim Leathers and there are plans to have further discussions about how this group can help reduce NPS pollution of marina waters. Another important new topic is the effort by the State Water Board to develop a California Coastal Marinas permit to regulate the discharge of waste from these facilities. CCC staff has worked to support State Water Board staff in gathering feedback on the permit development, by facilitating marina workgroup meetings and providing comments from the perspective of the CCC.

Coastal Commission water quality staff work with local government staff as needed to impose conditions on Coastal Development Permits requiring appropriate BMPs. As local governments bring Local Coastal Programs (LCP) to the CCC for amendments, staff works to include appropriate management measures in those plans. Over the last year, CCC staff worked with San Mateo and Marin County staff members to recommend inclusion of NPS related policies, into new LCP updates. Often several meetings and staff level negotiations are required to fit policies developed at the national and state level into a local planning document in a way that covers all important measures, avoids redundant or conflicting regulations and fits within the format of the local document. Negotiations with both San Mateo and Marin Counties will continue in the next year.

Performance Review: Over the last ten years the mode of interaction between the 28 other state agencies with authorities and responsibilities for NPS pollution control and the “core agencies” has morphed into smaller focus groups rather than the Interagency Coordinating Committee. These workgroups have shown significant progress in coordinating the programs at the staff level and have resulted in significant progress in the past year. This is especially evident in the CCCs efforts incorporating NPS related policies into LCP updates which can occur on a case-by-case basis, whenever local governments amend their LCPs. During the upcoming years, CCC will be developing a LCP Guidance Document based on recent Commission decisions, so that CCC planners will be able to learn about nonpoint source water quality policies.

E. California Critical Coastal Areas Program

California’s Critical Coastal Areas (CCA) Program fosters collaboration among local stakeholders and government agencies (state, federal, and local), to better focus efforts on coastal watersheds in critical need of protection from polluted runoff. This program brings together multiple interest groups in a watershed to facilitate a watershed-based approach to

addressing NPS pollution, by developing and implementing a NPS Watershed Assessment and Action Plan.[1]

CCC staff continued to lead pilot project efforts in three (3) pilot projects where stakeholder groups completed a watershed assessment in Fitzgerald Marine Reserve (San Mateo County), developed an Action Plan framework at Watsonville Slough (Santa Cruz County) and completed an Integrated Coastal Watershed Management Plan at Trinidad Head (Humboldt County). Each of these projects applied for implementation funding through various state grant programs. Fitzgerald and Trinidad Head were successful in getting recommendations for funding through the Proposition 84 water quality grant program, but funds were not made available before the state budget crisis halted all funding by the state bond programs. The cessation of funding caused many of the pilot project local stakeholders, as well as regional support entities (Association of Bay Area Governments and San Francisco Estuary Institute) to stop work on the pilot projects and some have had to lay off staff. Coastal Commission staff has started work on a document summarizing the lessons learned in the pilot program that is due to be completed next fiscal year. We hope that the bond funded projects can be restarted next year and that we are able to resume work with our CCA partners summarizing and sharing information about coastal watershed assessment and action plan development.

Documenting the commitment of at least ten sponsors will be started in earnest when the lessons learned document is completed and hopefully will be informed by ongoing implementation of the pilot project action plans. We will also be making use of funding through a Coastal Impact Assessment Program (CIAP) Grant from the U.S. Minerals Management Service to implement this effort. That CIAP grant is for CCC staff to summarize and distribute information about the Coastal Commission's water quality programs and the effectiveness of Coastal Development Permit requirements and Local Coastal Program policies in protecting water quality in the Coastal Zone.

Document restoration or significant improvements in the protection of beneficial uses and coastal resources in at least ten critical coastal areas has been delayed or curtailed due to the state budget issues since it relies on the efforts described above being completed. The effort may be reduced to documenting restoration or significant improvements in the five pilot projects since those areas have already accomplished the watershed assessments and are more likely to have demonstrated implementation in the next 3 years.

Performance Review**:** Despite the impacts of the State "budget crunch", the CCC has continued to make progress in their efforts to address NPS pollution in CCAs. The "lessons learned" document should be a useful tool to expand the development and implementation of CCA Action Plans to other important coastal watersheds. Of special note is the CCC's efforts in summarizing and distributing information about their efforts to protect water quality in the Coastal Zone.

F. Monitoring

This section of the NPS Annual Report focuses on water quality monitoring activities for the California NPS Program. These activities are designed to enhance information needed for implementation at many levels (e.g., from local watershed organizations to state and federal

[1] An outline for a CCA "NPS Watershed Assessment and Action Plan" is available at: http://www.coastal.ca.gov/nps/Web/CCA_bg.htm.

agencies and the private sector) and among various programs. The monitoring activities of the California NPS Program will be coordinated with the State and Regional Water Boards' (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.

1. California Monitoring and Assessment Program - Perennial Streams Assessment

As part of providing more consistent and scientifically defensible water quality monitoring data, the State Water Board NPS Program has provided support and encouraged the utilization of new monitoring and assessment methods and techniques, as appropriate (e.g., probabilistic sampling, bioassessment, etc.). This support is reflected in the Monitoring and Assessment of Perennial Streams. Streams and rivers support aquatic life by providing habitat, spawning grounds, food, and shelter for fish, birds, and other wildlife. Approximately 34,000 miles of California's stream length are wadeable perennial streams. "Wadeable" streams are streams, creeks, and small rivers that are shallow enough to sample without boats. "Perennial" streams are those that contain water year-round.

The California Monitoring and Assessment Program (CMAP)[2] was initiated as a collaborative effort of the USEPA, the State Water Board's NPS Program and SWAMP and the CA Department of Fish and Game to monitor and assess wadeable perennial streams. From 2004 through 2008, the NPS Program contributed approximately $2.1 million to support this effort. This monitoring program, now called the Perennial Streams Assessment program (PSA), is an ongoing long-term survey designed to provide information on the quality of water in perennial streams and assessments of whether conditions are getting better or worse statewide and in some land use classes. It also provides valuable information on the magnitude of stream length affected by certain NPS stressors and the relative risk these pose to aquatic life use in streams.

The current survey collects information annually from seventy-five to ninety sites, distributed evenly among six major geographic sub-regions of California. Because it builds on similar previous surveys, data can be combined to enable the SWAMP and NPS programs to produce long-term trends of ecological conditions and estimates of stressor impacts. The sub-region design will allow the development of separate assessments of the condition of streams in major regions of the state. The design incorporates sites with specific land use classes and this allows separate assessments for streams that drain agricultural and urban watersheds.

A Statewide Conditions report summarizing data from 2000 through 2007 will include a description of conditions for four land cover classes. It will also discuss the relationship between biotic conditions and land use intensification in agriculture, forested, urban and mixed-use categories. The report will be submitted for review in December 2009. Reports will be available at http://www.waterboards.ca.gov/water_issues/programs/swamp/reports.shtml. Support of this activity is on going.

[2] The California Monitoring and Assessment Program (CMAP) builds on the Environmental Monitoring and Assessment Program (EMAP) for surface waters as a collaboration between United States Environmental Protection Agency and states. EMAP data was collected in California from 1999 through 2003

Additionally, refinement of monitoring and assessment tools allows us to further examine the effects of land uses. Over the last year, the NPS Program has supported the development of several tools including an interpretive measuring tool to determine the changes in stream condition associated with agriculture and other land uses in the Central Valley of California, a refinement of taxonomic information used statewide, and a pilot analysis to examine the possibility of integrating datasets from different designs.

The development of an interpretive index for stream condition assessment in the Central Valley was completed over the last year. This assessment tool was developed using existing bioassessment data sets from 1994 through 2005. The index serves as a measuring tool to determine changes in stream condition associated with agriculture and other land uses. This work has been completed and is currently posted at http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/centralvalley_rpt121608.pdf.

Another example of this successful support and encouragement is the biological monitoring using macroinvertebrate sampling methods now commonly used to determine effects of certain practices or to track improvements resulting from restoration efforts. As the use of this assessment method increases, standardization of California bioassessment taxonomy is critical. The NPS Program supports the work of the Southwest Aquatic Freshwater Invertebrate Taxonomists workgroup, who has taken the lead in standardizing taxonomic trait table. These revised versions are now accessible to users at {http://safit.org/Docs/ste_list.pdf}.

The NPS Program also supported an effort to explore ways to integrate datasets from random and targeted survey designs. The broader objective of the Synthesis Report is to identify ways that data from different survey designs can contribute to a full response to key environmental stressors and gradients. The report for this analysis is currently being finalized and will be available at http://www.waterboards.ca.gov/water_issues/programs/swamp/reports.shtml.

State Board NPS staff is assessing supporting trend monitoring efforts focusing on smaller, more homogeneous watersheds. California streams are affected by NPS pollution from multiple land-use activities within their watersheds, and by management actions designed to improve water quality. The NPS Program continues to coordinate with SWAMP on the Stream Contaminant Trend Monitoring Program at Integrator Sites (Currently know as Stream Pollution Trend [SPoT] Monitoring), a statewide program initiated by SWAMP to track trends in contaminants and their effects and to link these to land use and land management. The goal of this trends monitoring component of the SWAMP statewide stream assessment is to detect meaningful change in the concentrations of stream-borne contaminants and their effects relative to land use and land management. Indicators in this study will include sediment toxicity tests, sediment chemistry and temperature.

Starting in 2008, contaminant concentrations and toxicity in stream sediments were collected near the base of 100 large watersheds statewide as part of the SPoT Monitoring. The NPS Program hopes to supplement sites in smaller watersheds where specific practices or land use management activities are ongoing. Measuring sediment chemistry and toxicity annually allows assessment of long-term trends showing whether stream conditions are improving or degrading with land use change, and whether management programs are effective at improving water quality in these critical habitats.

The statewide network of sites sampled in this program is also designed to provide a statewide context for local monitoring. This makes it easier to compare among local areas and regions to indicate the relative magnitude of problems and success of management practices. This program is ongoing and a preliminary report is expected next year. Reports will be available at http://www.waterboards.ca.gov/water_issues/programs/swamp/reports.shtml.

Performance Review: –The California Monitoring and Assessment Program, and the continuation of this effort through the Perennial Stream Assessment, has provided the California NPS Program and Surface Water Ambient Monitoring Program with valuable information on the ecological status of perennial streams and the ecological effects of stressors from land use in these streams statewide. The potential use of this information can help the NPS Program in aligning their resources where stressors (pollutants) from land use cause the most serious impacts. In addition, the assessment tools (e.g., IBIs, stressor extent, etc.) will be further refined with future data collection. Other tools that will potentially be developed will be bio-objectives for California.

2. Enhance Regional Monitoring Consistent with SWAMP Framework

Klamath Basin Monitoring Program (KBMP), formally the Klamath Basin Water Quality Monitoring Coordination Group, was established in 2007 to enhance monitoring efforts in the Klamath Basin including waters residing in California and Oregon. The members in this group include, but are not limited to, state and federal agencies, local agencies, volunteer organizations and tribes. Since 2007, KBMP has focused on developing and establishing governing rules, as well as developing a structure for coordinating monitoring. Last year (2008-2009), the group made great strides in creating the operational structure including developing a data portal to share information. KBMP has developed a draft Monitoring Plan for the Basin and is working toward finalizing it in the near future. In addition, a Strategic Plan was developed to provide guidance of the Program according to funding availability. The Strategic Plan can be found at http://www.kbmp.net/images/stories/pdf/KBMP_Strategic_Plan.pdf.

KBMP has released their first newsletter in 2008 , the Klamath Current (http://www.humboldt.edu/~kwi/docs/Klamath_Current_8.pdf)., In 2009, the KBMP will approve operating procedures, complete their second Klamath Current Newsletter, work towards finalizing a Monitoring Plan, continue developing the data portal system and continue the search for long-term sustainable funding. More information on the KBMP can be found at http://www.kbmp.net.

Performance Review: –The Klamath Basin Monitoring Program has made great progress in 2009. The membership has worked together towards coordinating their monitoring, developed a comprehensive and cohesive monitoring plan, and instituted infrastructural operational and procedures and processes. Beyond 2009, KBMP will continue to refine the structural organization, the communication process within the organization, and the data management. KBMP will work towards sustainable funding and prioritize program activities according to funding availability.

3. California Water Quality Monitoring Council

Enhancing data management, exchange, and compatibility encourages data use and sharing among various stakeholders. SWAMP continues to develop and implement

standardized data formats and to facilitate data migration. SWAMP is partnering with multiple organizations to implement data centers and a data exchange network to facilitate integration and make data publicly accessible.

State Water Board NPS Program staff continues to participate in the California Water Quality Monitoring Council (Monitoring Council) to advocate for NPS monitoring needs at various levels consistent with NPS monitoring objectives. This partnership can create opportunities to enhance monitoring activities across the state. The Monitoring Council, established in December 2007 with the signing of a Memorandum of Understand (MOU) between California Environmental Protection Agency (CalEPA) and the California Resources Agency (CalRA), is focused on developing specific recommendations to improve the coordination and cost-effectiveness of water quality and ecosystem monitoring and assessment, enhance the integration of monitoring data across departments and agencies, and increase public accessibility to monitoring data and assessment information.

The Council has held multiple meetings since its establishment in 2007, and has identified data and assessment information availability as its first priority. The goal is to develop a statewide water quality data web portal, where assessment information and data will not only be informative and accessible to the public, but also to decision makers.

The web portal is designed to be a one-stop-shop to access information pertaining to water quality conditions on a statewide, regional, and local basis. The portal is organized around themes that are framed as common questions (i.e., Is our water safe to drink? Is it safe to swim in our waters? Is it safe to eat the fish and shell fish from our waters? Are our aquatic ecosystems healthy? and What stressors and processes affect our water quality?). This web organizational feature will allow data and information delivery to those who need it in ways that directly meet their highest priority needs. Work on the web portal is ongoing.

As a collaborative effort with Monitoring Council, SWAMP and the U.S. EPA, the NPS Program played the lead role in sponsoring monthly Webinars as a communication and networking tool for the monitoring community (e.g., state, federal and local agencies, volunteer monitoring groups, regional monitoring programs etc.). These webinars are designed to create and foster communication and collaboration among water quality monitoring efforts across the state. The forum allows the participants to communicate their efforts, challenges, and successes in water quality monitoring, and identify needs. The webinars also provide the monitoring community with information on state activities such as; available tools (e.g., data management, quality assurance, methods, new etc.), state programs (e.g., SWAMP, Monitoring Council, Clean Water Team etc.), water quality indicators (e.g., bioassessment, toxicity, algae etc.). For more information, as well as recorded webinars, see http://www.waterboards.ca.gov/water_issues/programs/monitoring_council/collaboration_network/index.shtml

In an effort to integrate local and volunteer monitoring with state/regional programs, the Citizen Monitoring Program plays an important role in the protection of local resources by providing valuable information about the condition of their local waterways. In 2008, the NPS Program and SWAMP's Clean Water Team supported focused efforts to coordinate citizen monitoring groups into the statewide monitoring framework. Water quality monitoring groups across the state were identified and a core working group was established to assess needs. These efforts have resulted in the development and completion of a communication plan and a strategy. A technical advisory committee has been developed to guide coordination

and communication efforts. A web-based data management and reporting tool for citizen monitors has also been developed to assist in integrating citizen monitoring group data into a SWAMP-compatible format. Work has also focused on incorporating citizen monitoring into the Monitoring Council Strategy . For more information on the Monitoring Council, see Section 3, above or http://www.waterboards.ca.gov/water_issues/programs/monitoring_council/index.shtml. These continued efforts will help build the bridge of communication and collaboration between state monitoring programs and citizen monitoring groups.

Performance Review: The major accomplishment of the Monitoring Council for 2009 was the development of the "My Water Quality Portals." Each web portal centers around commonly asked, user friendly questions and/or theme about water quality (e.g, Is our water safe to drink?). In 2009, "Is it safe to swim in our waters"?, and "Is it safe to eat fish and shellfish from our waters?" web portals were developed to provide the public with information about the quality and safety in their area, while providing water quality managers with water quality trend information (e.g., trends). In the future, the Monitoring Council plans to focus their effort on building the three other portals (Is our water safe to drink?, Are our aquatic ecosystem healthy, and What stressors and processes affect our water quality?), while further developing the current active portals. In addition, the Monitoring Council will be developing a comprehensive water quality strategy that will outline a ten-year plan to achieve ambitious goals related to design and implementation of water quality monitoring programs, use of monitoring data in assessments and decision making, and development of tools and supporting infrastructure to enable wide access to data and information products.

4. Tracking Management Practice Implementation and Relating to Water Quality Improvements

Substantial funding has been allocated toward controlling pollution from NPS land use activities such as agriculture, forestry, urban, marinas etc. For instance, the California NPS Program allocates approximately $4.5 million annually in grants to implement activities that contribute towards controlling and reducing NPS pollution. However, there are many activities implemented through other state, federal, and local agencies to control NPS pollution. Currently, the State of California has limited knowledge on the extent of implementation and on its effectiveness towards controlling NPS pollution and improving water quality. Hence, in 2008, the NPS Program initiated an effort to gather information on management activities across the state by accessing various data repositories (e.g., Natural Resource Project Inventory [NRPI] at UC Davis, Financial Assistance Application Submittal Tool [FAAST] at the SWRCB etc.), and contacting various state and local watershed agencies. The inventory will continue through 2009. Following completion of the inventory, the management activities will be mapped. The goal is to select subwatersheds that are good candidates for long-term water quality trend monitoring. The selected subwatershed informational requirements may include, but are not limited to, pre-implementation monitoring data, comprehensive management activity implementation, existing monitoring activity and as well as others. The project intent is to build off of existing monitoring efforts and coordinate with various stakeholders and agencies working in the watershed by expanding the monitoring to acquire information on management activity effectiveness to improve water quality. This project correlates well with U.S. EPA's strategic measure such as SP-12 (Watershed Improvement) and WQ-10 (NPS Success Stories). State Board staff estimates the completion of the list/map to be Summer/Fall of 2010

Performance Review: The NPS Program is continuing their coordination efforts with SWAMP, Regional Monitoring Programs, Citizen Monitoring, State Monitoring Council and other monitoring entities to gather information to address the NPS Program Objectives/Questions pertaining to water quality status and trends, identifying pollutant and NPS pollutant sources, determining MM/MP effectiveness and the effective use of limited resources to control NPS pollution. We will continue to work with all of these programs as they are a vital source of information in determining NPS pollution issues and determining whether the implemented control measure are achieving the goal of the TMDL(s) to ultimately improve water quality.

Several of the NPS Program monitoring and anticipated activities laid-out in the NPS Implementation Plan are still in their infancy. Activities such as MP Tracking, MP Inventory and Monitoring, developing a NPS Program Monitoring Workgroup in the Monitoring Council as well as others will continue to evolve over the next few years.

In the future, the NPS Program will work with SWAMP and other monitoring programs to hold workshops and continue to host webinars that will transfer knowledge to restore and improve water quality.

Regional Water Quality Control Board Initiatives

Regional Board's implement performance-based NPS programs to achieve healthy, functioning watersheds, coastal and inland environments, and groundwater basins through leveraged efforts to generate on-the-ground change. Through documentation of program implementation and analysis of environmental change, they strive to evaluate and modify NPS water quality priorities. Program evaluation occurs with short term metrics, such as the number of farm work plans developed, number of site inspections conducted, and/or number of participants trained. In addition, they evaluate environmental change through longer term metrics such as changes in impervious surface in a watershed, trends in various water quality parameters, and/or changes in riparian corridor health.

In addition to NPS pollution priorities mandated by legislation, statute, regulation, the State Water Resources Control Board, Cal-EPA, and the U.S. EPA, Regional Water Boards also determine priorities based on Board and staff assessments of Regional needs. Regional Boards are responsible for implementing the NPS Implementation and Enforcement Policy, and are currently developing programs and policies to address this responsibility.

North Coast Regional Water Quality Control Board (Region 1)

The North Coast Regional Water Board (Region 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) hydromodification; and (6) wetlands, riparian areas, and vegetated treatment systems. Within each land-use category the Regional Board has identified the focus and methods of their implementation efforts and where appropriate identified their priorities for the five-year implementation planning period. An office reorganization in 2008 resulted in the NPS program joining the Timber Harvest Division, bringing the CWA section 401 program staff into one unit.

Initiative 1.1.: Agriculture

The agriculture sector is a high priority for the Region 1's NPS Implementation Policy compliance efforts. With the exception of wine grape production, agricultural activities throughout the Region have not been closely regulated in recent years. However, the Regional Board has had success with a less organized approach to dairies. No agriculture activities are specifically covered under the NPS Implementation Policy except for those in the Scott and Shasta River Watersheds. In these two watersheds, enforcement focus has been primarily a complaint driven response along with outreach to the vineyards, dairies, and grazing operations. In Sonoma and Mendocino Counties, the County Agricultural Commissioners have a vineyard ordinance. Regional Board staff have implemented outreach and education efforts through mailouts and letters, individually and in cooperation with other agencies, grape grower industry groups (such as Fish Friendly Farming) and specific grape growers. Regional Board staff has also performed new project reviews and pre-development consultations. Additionally, there have been multi-agency enforcement efforts undertaken, including a number of high profile enforcement cases. This has raised the water quality awareness in the grape-growing community and has helped to reduce the magnitude and frequency of water quality problems from vineyards. The Regional Board staff is optimistic that focused attention on other sectors of the agricultural community in the Region will prove similarly successful.

Agriculture issues in Region 1 have been classified into the following geographical areas and cultivation types:

- Dairy issues, including the Laguna de Santa Rosa and southern Sonoma County, Humboldt Bay and Eel River Delta areas. Regional Board staff plans to update the Regional Board in January 2010.
- Major agricultural activities in the Klamath River watershed, including grazing and production of small grains, transplant strawberries, and alfalfa, and utilizing such irrigation practices as sprinkler and flood irrigation (Scott River and Shasta River watersheds, Butte Valley, Tulelake, and the Upper Lost River areas). Although there is no ag waiver currently for this region, staff plans to address these areas by developing an ag waiver under the Klamath TMDL. Regional Board staff are looking at a possible phased approach or a region wide Ag Waiver by 2012 that would address the TMDL and Non-TMDL waterbodies.
- Grazing (throughout the Region) would be covered by the Ag waiver when one is developed.
- Vineyards, (primarily Sonoma and southern Mendocino Counties) are primarily complaint driven responses at this time. During 2008-09, Regional Board staff attended outreach meetings in Alexander Valley for Water Conservation hosted by the Sonoma County Grapegrowers Association. This participation was an effort to have Water Quality included in any planning discussions.
- Smith River Watershed - Easter lily and miscellaneous agricultural production areas (Del Norte County) would be covered by an Ag Waiver as this relates to Agriculture.
- Floral production (Arcata, Crescent City, including large industrial-style facilities) would be covered by the Ag Waiver.
- Marijuana farms (random distribution; remote portions of the Region, primarily in Mendocino and Humboldt Counties) this would also be covered under the Ag Waiver discussed above.
- Miscellaneous non-concentrated agricultural activities (throughout the Region). These would also be covered under an Ag Waiver.

Based on our assessment, Regional Board staff has concluded that all the agricultural activities and areas in this region can be effectively regulated under a single region-wide agricultural permit or waiver. However, there are specific types of agricultural activities within the Region that may be suited to coverage under region-wide permitting mechanisms, particularly dairies, grazing, and, to a lesser extent, grape production. There are also specific agricultural production areas that may be suited for coverage under area-wide or watershed-wide permitting mechanisms, such as the Potter Valley and the Smith River areas.

For agricultural activities, the Regional Board's priorities for the coming five years include three high priority areas and three medium priority areas:

Highest Priorities

Initiative 1.1.a.: Shasta and Scott River watersheds - High water quality priority, good timing with TMDL adoptions and the Department of Fish and Game Incidental Take Permit for listed coho salmon and associated application process underway, and the existence of active watershed groups and resource organizations. Through the Regional Board's TMDL implementation program, successful efforts are underway to reduce tailwater discharges and sediment delivery, and to retain and foster planting and restoration of riparian areas. Implementation of the Shasta and Scott River TMDLs continues. The Klamath River TMDL, slated for adoption this calendar year, will include a revision to the agricultural waiver sections of the Klamath Action Plan.

Initiative 1.1.b: Dairies - high water quality priority, good timing since a number of grants have been awarded for dairies throughout the region; applications have been submitted for additional dairy areas, active industry group exists and there is a good program available to build upon. Regional Board staff is in the process of developing a dairy regulatory effort that is similar to the San Francisco Bay Regional Board's approach, that is compliant with the NPS Implementation Policy, and that incorporates the recently promulgated EPA Confined Animal Feeding Operation regulations. This regulatory effort will result in a dairy waiver/permit system to be adopted by July 1, 2010.

Initiative 1.1.c.: Specific grazing operations with confirmed water quality concerns: good timing with the statewide grazing policy underway for "typical" grazing practices, the existence of several complaints, and the potential for significant water quality impairment. Through complaint responses Regional Board staff are requiring submission of grazing plans on subject properties. As of 2009, over 500 of the more than 700 ranchers in the watershed have sent in Notices of Intent (NOIs) to work with the Regional Board or other agencies to implement the TMDL

Medium Priorities

Inititative 1.1.d.: Laguna de Santa Rosa – Regional Board staff will participate in TMDL early implementation and information gathering efforts, and conduct periodic surveillance and water quality monitoring in conjunction with core regulatory and TMDL activities. Adoption of a dairy waiver/permit program will address the need for nutrient reductions in the Laguna watershed.

Initiative 1.1.e.: Smith River agricultural area – Regional Board staff will meet with growers' groups, learn about current activities, practices, water quality protection efforts, and work with growers to identify potential sources of NPS pollutant discharges and potential measures to control those discharges. Due to competing initiatives in our Region, reductions in staff time due to furloughs, and lack of evidence of significant water quality concerns, this initiative has become a lower priority for us. No significant action is foreseen on this in the near future. However, an agricultural waiver should address this initiative.

Initiative 1.1.f.: Large-scale flower producers – Regional Board staff will review wastewater quantity and composition from these facilities, assess the threat to water quality, and determine appropriate action(s). As stated in Initiative 1.1.e., this has become a lesser priority. However, an agricultural waiver should address this initiative.

Initiative 1.2.: Forestry (Silviculture)

Forestry has, and will continue to be, a high priority water quality concern for Region 1. A significant portion of the Region is zoned Timber Production Zone. Timber harvest and processing comprises a significant portion of the economy on the North Coast, and is identified as one of the significant contributors of NPS pollution in North Coast streams. The primary pollutant of concern associated with timber harvest and related activities is sediment, potentially discharged in a number of ways including surface erosion from roads and landings, mass wasting, and increased bank erosion. Timber harvest and related activities can also contribute to increased temperatures in surface waters through removal of canopy. In addition, pesticides, fertilizers, and diesel, are potential discharges relating to site preparation and reforestation activities.

Forestry oversight in Region 1 is performed by the Regional Board's Timber Division, which is comprised of two timber units and the Nonpoint Source Unit. The Division's timber-related responsibilities include reviewing Timber Harvest Plans (THPs) and Non-industrial THPs as part of the California Department of Foresty (CDF) Review Team. It is of note that during the 2008-09 time period, the number of THPs has declined due to the reduced demand for lumber as a result of the housing market decline. Additional staff responsibilities include reviewing U.S. Forest Service (USFS) timber sales and miscellaneous activities associated with large industrial timber owners, such as Humboldt Redwood Company (formerly Pacific Lumber Company), Mendocino Redwood Company, Sierra Pacific, and Green Diamond Resource Company. Regioinal Board staff also provides oversight by reviewing conversion of timberlands to non-timber uses and by responding to complaints regarding illegal logging and small (less than 3 acre) conversions.

Region 1's waivers for both Federal (USFS) and non-Federal timber harvest activities expired this year 2010. A new non-Federal waiver was adopted in June 2009. The USFS waiver will be up for adoption by April of 2010, and has been expanded to include nonpoint sources, in addition to timber harvesting. These two waivers, as well as the General WDRs for Timber Harvesting activities, should provide coverage of nearly all new logging activities which will now be covered under a NPS Implementation Policy-compliant regulatory tool. The Klamath National Forest (KNF) has significant landholdings in the much all of the Scott and Salmon Rivers. The Regional Board and the KNF plan to sign MOUs (2009) that would commit the two agencies to "identify those elements of existing Forest Service plans and commitments that will support achieving TMDL loading capacities and would be expected to lead to meeting Basin Plan water quality standards for temperature." These MOUs describe the specific implementation actions that the Forest Service will take to achieve the TMDLs

and meet the temperature-related water quality standards on National Forest System (NFS) lands within the Salmon and Scott River watersheds.

Inititative 1.3.: Marinas and Recreational Boating Facilities

This category has been determined to be the lowest priority of the six categories, due to the lack of documentation of any significant water quality impacts. Consequently, there has been little activity. Staff will periodically visit marinas and boating facilities throughout the Region, incidental to travel for higher priority work. If staff observe and/or confirm significant water quality issues or concerns, staff will recommend appropriate progressive enforcement actions. If staff observe or confirm recurring or significant water quality issues at multiple facilities, staff may recommend revising the priority level and timeline for developing a region-wide policy to regulate these facilities.

Staff will continue to participate in IACC meetings and will follow the ongoing General Marina Pemit development. Due to other high priorities in the region and a low number of marinas in the area, this will remain a low priority.

Inititative 1.4.: Urban Runoff

Urban runoff includes runoff not only from large urbanized areas typically regulated by the NPDES Municipal Stormwater program, but also includes small communities not covered by NPDES municipal permits, paved and unpaved county and private roads, driveways, and grading activities not covered by other programs. Unpaved roads, in particular, have been identified as a significant source of sediment-related water quality impacts in Region 1. Depending upon the type of source, urban runoff may also impact receiving waters by contributing petroleum products, fertilizers, pesticides, heavy metals, and high temperature runoff. Progress was made towards the adoption of the MS4 permit for Santa Rosa.

Considering the number and extent of unregulated urban runoff sources throughout this more than 19,000 square mile region, and the fact that sources of this type are found on nearly every type of facility, project, and property that is accessible by vehicle, the Regional Board does not expect to develop a separate, region-wide permit to address urban runoff.

A number of State and Regional Board programs address various subsets of the urban runoff sources throughout Region 1. These include the NPDES General Construction Stormwater Permit, which is applicable to projects involving an acre or more of soil disturbance: the General WDRs and waiver for timber harvest activities, applicable to roads, controllable sediment discharge sites and soil disturbance activities within the boundaries of Timber Harvest Plans; and the Garcia River and Scott River TMDLs, applicable to sediment sources, including roads, in these watersheds. Other policies and plans are underway, including the Freshwater Creek and Elk River TMDLs; and the Regionwide Sediment Amendment, an action plan for a number of watersheds that are listed for sediment and have “technical” TMDLs completed, will also address a portion of the urban runoff sources throughout the Region.

In addition, there are various region-wide efforts underway that are addressing or are intended to address a portion of the urban runoff sources in the region. These efforts include the Five County Salmonid Restoration Program (5C Program), a cooperative effort by Del Norte, Trinity, Siskiyou, Humboldt, and Mendocino Counties to conduct their road-related activities in a manner which is protective of salmonid habitat; the 4C Program in Sonoma

and southern Mendocino Counties, also intended to ensure that road-related activities do not adversely impact fisheries; and efforts by various counties in the Region to develop or update their grading ordinances or general plans.

Region 1 staff expect to work cooperatively with the 5C Program counties to improve communication and to ensure that the MMs/MPs described in the 5C Program plan are effectively applied in the field; in the future, staff may propose formalizing the 5C Program Plan in a permitting mechanism. As called for by the Action Plan for the Scott River TMDL, Regional Board staff is in the process of developing WDRs for the County of Siskiyou that cover sediment delivery sites, maintenance and operations activities on County roads, relying heavily on the work that the 5C Program has done. Also, as opportunities present themselves, staff will participate in meetings and/or review efforts associated with development of County grading ordinances and policies, in order to encourage the counties to develop policies that ensure protection of water quality and beneficial uses. Pending the outcome of the Mendocino County Grading Ordinance development process and Sonoma County General Plan update currently underway, Regional Board staff may add further tasks to the priority list in the future. Possibly be covered by a general permit approach – meetings and actions towards that – third party certified under the TMDL – for 5 counties would be covered – but they have to commit to the program – some have and some haven't – will be working with the ones that haven't – if they don't then progressive permitting approach.

Regional Board staff plan to have this adopted by Fall 2009 the Regional Water Board with a new MS4 permit for the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency, with coverage of that portion of the service area in the Laguna de Santa Rosa watershed. This will comprise early implementation of the TMDLs for both the Laguna and the Russian River TMDLs.

Inititative 1.5.: Wetlands

Wetlands, riparian areas, and headwaters have a high resource value but, historically, have been drained, filled, covered, degraded, and destroyed, by various activities and developments not only within this Region, but Statewide and nationwide. New projects involving wetlands disturbance are regulated under the CWA section 401 Water Quality Certification program.

Under an agreement with the Association of Bay Area Governments (ABAG), Region 1 has brought on a staff person who is dedicated to issuing CWA section 401 certifications for Caltrans maintenance and construction activities. This arrangement has proven highly effective. Also, the Regional Board management has reorganized the CWA section 401 certification program with timber harvest staff in a new Division NPS/ Timber Harvest Division. This was done to improve the CWA section 401 process, specifically on consistency, tracking and recordkeeping. As part of the Region's review and certification of Caltrans projects staff are also focusing more on mitigating the stormwater and hydromodification impacts.

Region 1 and the San Francisco Bay Regional Board (Region 2) are jointly funding development of a wetlands and riparian area protection policy. In addition, the State Water Board, in collaboration with other State agencies, is developing a statewide wetlands map/ inventory (Wetland Tracker). Regional Board staff hopes to be able to utilize this system for

tracking impacts to wetlands in Region 1. During 2008-09 no progress was made during this time period due to loss of staff.

Initiative 1.6.: Hydromodification

Hydromodification or stream channel modification projects alter the course or structure of watercourses and waterbodies. Such projects can include construction of dams, stream diversions, and installation of culverts in stream channels. These projects, like projects involving wetlands disturbance, are typically regulated under the Water Quality Certification (WQC) program. Unfortunately, similar to limitations discussed in wetlands programs, the cumulative basin-wide impacts to watersheds, water quality, and beneficial uses resulting from hydromodification projects are not typically considered during WQC review. Where removal of the hydrologic constriction within the stream channel is not feasible, appropriate management measures should be taken to mitigate the effects of stream channel modification. The types of BMPs that could be used would depend on the scale of the problem, resources available, and the location of the mitigation site within the context of the stream (e.g. river continuum concept).

Performance Review: The Klamath River TMDL, slated for adoption this calendar year, will include a revision to the agricultural waiver sections of the Klamath Action Plan. Staff is in the process of developing a dairy regulatory effort that is similar to the San Francisco Bay Regional Board's approach, that is compliant with the NPS Implementation Policy, and that incorporates the recently promulgated EPA Confined Animal Feeding Operation regulations. This regulatory effort will result in a dairy waiver/permit system to be adopted by July 1, 2010. Through complaint responses we are beginning to require submission of grazing plans on subject properties and as of 2009 there are over 500 of the more than 700 ranchers in the watershed who have sent in NOIs to work with us or other agencies to implement the TMDL. Adoption of a dairy waiver/permit program will address the need for nutrient reductions in the Laguna watershed. As for the Smith River area, no significant action is foreseen on this in the near future. However, an Agricultural waiver should address this initiative.

Region 1's waivers for both Federal (US Forest Service) and non-Federal timber harvest activities expired this year. A new non-Federal waiver was adopted in June 2009. The USFS waiver will be up for adoption by April of 2010, and has been expanded to include nonpoint sources in addition to timber harvesting. These two waivers, as well as the General WDRs for Timber Harvesting activities, means nearly all new logging activities should now be covered under a NPS Implementation Policy-compliant regulatory tool. The Klamath National Forest (KNF) has significant landholdings in the much all of the Scott and, Salmon River. The Regional Board and the Klamath National Forest plan to sign MOUs (2009) that would commit the two agencies to "identify those elements of existing Forest Service plans and commitments that will support achieving TMDL loading capacities and would be expected to lead to meeting Basin Plan water quality standards for temperature." These MOUs describe the specific implementation actions that the Forest Service will take to achieve the TMDLs and meet the temperature-related water quality standards on National Forest System (NFS) lands within the Salmon and Scott River watersheds.

Plans are to have a new MS4 permit this adopted by Fall 2009 the Regional Water Board a new MS4 permit for the City of Santa Rosa, the County of Sonoma, and the Sonoma County Water Agency, with coverage of that portion of the service area in the Laguna de Santa Rosa

watershed. This will comprise early implementation of the TMDLs for both the Laguna and the Russian River TMDLs.

Staff will continue to participate in IACC meetings and follow the ongoing General Marinas Pemit development. However, due to other high priorities in the region and a low number of marinas in the area, this will remain a low priority.

San Francisco Bay Regional Water Quality Board (Region 2)

The primary causes of NPS pollution impairment or threat in the San Francisco Bay Region (SFRWCB) are from activities associated with hydromodification, agriculture, and urban runoff. Of these, agriculture (including animal facilities, grazing, and vineyards) and hydromodification are high priorities for non-point source (NPS) pollution regulation, while urban runoff pollution is primarily addressed through stormwater NPDES permit program (both Phase I and Phase II).

During the 2008-09 year, the SFRWCB staff continued to work on three major NPS initiatives that are related to our high priority NPS issues: 1) working in collaboration with Region 1 (North Coast) to develop an amendment to the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region to protect stream and wetland systems through a Stream and Wetland Systems Protection Policy, 2) implementing a waiver of WDRs for grazing lands in Tomales Bay and initiating work on a WDR waiver for grazing in Sonoma and Napa Counties; and 3) developing a WDR/Waiver for vineyards. Staff has also focused on NPS implementation activities for selected high priority TMDLs (grazing land and vineyard WDR waivers as part of TMDL implementation as well).

Initiative 2.1: Stream and Wetland Systems Protection Policy

Regions 1 (North Coast) and 2 (San Francisco Bay) have determined that a "Stream and Wetland Systems Protection Policy" (Regional Wetland Policy) is needed to address a number of water quality concerns:

- Current stream and wetland resource conditions in the two regions are substantially degraded and a high number of watersheds in both regions do not support their designated beneficial uses. Because streams and wetlands provide water quality functions that protect watershed-wide water quality, degradation of these areas is a serious threat to the overall aquatic ecosystem.

- Existing and emerging water quality issues that affect streams and wetlands, including land use change, nonpoint source pollution, hydromodification, and climate change are widespread, significant, and complex, but neither Region has a policy framework sufficient to deal with these issues in a coordinated fashion, leading to inefficient and uneven regulation and missed opportunities to address water quality.

- Federal regulatory jurisdiction over streams and wetlands has been limited in recent years by the Federal courts, increasing the roles of states in protecting these resources. Guidance issued by the State Water Board in response to these Federal court decisions emphasizes the need for the Regional Boards to exercise state authorities to protect non-federal state waters.

This policy is also needed to address adopted and proposed statewide plans and policies such as the State Board's NPS Implementation Policy. This requires that the Regional Boards regulate all NPS discharges that impact streams and wetlands and other waters of the state. It would also incorporate the State Board's proposed "Wetland and Riparian Area Protection Policy," which would set general statewide goals for stream and wetland protection, but would require the Regional Boards to develop region-specific implementation plans for stream and wetland protection.

Coordination issues with other agencies would also improve under this policy by addressing other needs, in particular, the need for the Regional Boards to address their role as the lead agencies responsible for protecting and restoring water quality in their respective regions, with jurisdiction over some waters of the State that are not regulated by other agencies. Finally, protection of stream and wetland resources through local efforts is uneven, and recent local planning efforts have emphasized the need for additional guidance.

The Regional Wetland Policy will focus on protecting and restoring the physical characteristics of stream and wetland systems (e.g., stream channel shape and slope, riparian shade cover, floodplain width, and flow regimes) in order to protect beneficial uses. During 2008-09, staff worked on a final draft Basin Plan Amendment, including new beneficial uses, water quality objectives, and an implementation plan, which is expected to be sent for scientific peer review in fall 2009. This will be followed by external public review and comment in spring 2010 and a Regional Board adoption hearing by the end of 2010.

Staff also worked on stream permitting and fish protection rapid permit guidelines. After adoption of the Regional Wetland Policy, the Regional Board will continue to develop high-priority implementation tools for staff and the regulated community, including local governments. This may include additional performance criteria to incorporate into Regional Board permits to assess compliance with water quality standards, assessment tools to ensure appropriate project design, and general waste discharge requirements (WDRs) for certain classes of activities.

The Regional Board may also implement watershed planning and partnership efforts and develop model language for general plans, specific plans, and ordinances that protect and restore water quality. It is expected that these activities will continue throughout the current five year NPS implementation period of 2010-2013. Regional Board staff anticipates developing numeric criteria for permits and model language for general plans following adoption of the Policy.

Upcoming milestones include: 1) development of a draft Basin Plan Amendment by December 2009, 2) development of rapid fish protection permitting guidelines by December 2009, 3) development of sediment and habitat criteria by December 2009, and 4) implementation guidance tools for local governments by summer 2010 with other *potential* tools and guidance materials including: 1) potential performance criteria for permits, 2) assessment tools for project design, and 3) WDRs for specific class(es) of stream and wetland activities (dates to be determined).

Initiative 2.2: Waste Discharge Requirements Waiver for Grazing Lands

Sampling analyses have shown that Tomales Bay and its tributaries are impaired by pathogens, and one of the sources listed is grazing activities in the watershed. The Regional Board adopted a conditional WDR waiver in July 2008 to regulate this source of

NPS pollution in the larger Tomales Bay Watershed. The Waiver for Grazing Activities implements: a requirement of the Tomales Bay Pathogen TMDL adopted in 2005, the Walker Creek Mercury TMDL adopted in 2007, future planned TMDLs for sediment and nutrients in Tomales Bay, the State Board's NPS Implementation Policy, and the California Water Code. The grazing waiver's goal is to reduce the amount of sediment, nutrients, pathogens and mercury in Tomales Bay and its tributaries, by requiring landowners and operators to implement appropriate MMs on grazing lands.

The waiver requires landowners/operators to prepare ranch water quality plans (or amend existing plans) that include an implementation schedule for the MMs identified in the plan. The waiver applies to facilities larger than 50 acres, based on the fact that Information received from the Marin County Planning Department indicates that grazing parcels that are 50 acres or larger account for approximately 90% of all the grazing lands acreage in the Tomales Bay Watershed. If the potential for water quality impacts is found at smaller facilities, the Regional Board will then issue individual permits, or require these smaller facilities to be covered under the waiver.

Landowners/operators of facilities covered under the waiver were required to submit a Report of Waste Discharge, or equivalent document, by January 31, 2009. As a result of a November 2008 mailout to landowners of 425 agricultural parcels in the Tomales Bay Watersheds, Regional Board Staff received 168 signed Notices of Intent (NOI) to comply with the Grazing Waiver and 106 signed Notices of Non-Applicability (NONA). In April 2009, the Marin Resource Conservation District (RCD) revised our mailing database and identified 46 parcels that did not have grazing activities onsite or were located outside the Tomales Bay Watershed.

On June 19, 2009, Regional Board staff mailed 110 Notices of Overdue Submittal to those landowners that had not submitted an NOI or an NONA. The notice letters reminded landowners of their responsibility to comply with the requirements of the Grazing Waiver; set July 31, 2009, as the final deadline for the submittal of an NOI or NONA; and stated that failure to submit the appropriate documentation by the July 31st deadline may lead to enforcement action. Regional Board staff has revised the estimated number of agricultural parcels that may require coverage under the waiver to 225. To date, staff has received a total of 192 NOIs.

Board staff continues to field telephone calls and emails to address questions or concerns raised by landowners or the public regarding the grazing waiver. Staff is also processing the paperwork submitted by landowners or operators of grazing lands in the Tomales Bay Watershed and comparing it to watershed and parcel maps.

Other activities related to implementation of the Waiver include:

- Board staff finalized a $30,000 TMDL-funded contract with the Association of Bay Area Governments (ABAG) and Marin RCD to provide outreach and prepare a template Ranch Plan for ranchers in the Walker Creek Watershed.

- Marin RCD was awarded a 2008 319h grant in the amount of $800,000 to work with ranchers on development of ranch water quality plans and to implement BMPs, as required by the Waiver. However, the grant agreement has not yet been executed.

Regional Board 2008-09 milestones include: 1) enrolling owners/operators of 85% of all grazing lands in the watershed into the waiver program within the first year, 2) conducting follow-up actions necessary to secure coverage of the remaining 15% of grazing land, 3) ensuring all ranch plans are developed and/or updated – preferably through setting up a third-party verification program, 4) implementing all proposed MMs and management objectives by the end of the five-year period, and 5) developing a draft grazing waiver for the Napa River and Sonoma County watersheds by June 2010.

Initiative 2.3: Waste Discharge Requirements Waiver for Vineyards

Another land use identified as significantly impacting sedimentation in streams is vineyard development and operation. Where hillside vineyards replace mature mixed evergreen forests, peak runoff rate and volume from the vineyard site may increase substantially. If vineyard development involves installation of subsurface drainage pipes, more storm runoff, at a faster rate, may be discharged off-site than under natural conditions. Finally, if discharges from drainage pipes are collected at a single point of discharge, there is the potential to further concentrate runoff volume. The above effects have the potential to cause off-site gully erosion and/or shallow landslide failures, most often at or near the points of discharge from the site and in locations where hillslope soils and bedrock are soft and easily eroded.

The Regional Board will focus on addressing vineyard NPS pollution through a variety of ways in the next several years. The goals, in terms of vineyard performance standards, for management of new and existing vineyards is to: 1) control excessive rates of sediment delivery to channels resulting from vineyard surface erosion; 2) control road-related sediment delivery to channels; 3) to effectively attenuate significant increases in storm runoff so that vineyards shall not cause or contribute to downstream increases in rates of bed and bank erosion; and 4) accelerate natural recovery and prevent human-caused increases in gullies and shallow landslides.

Vineyard sediment control performance standards described above could be achieved through expanding the total vineyard acreage enrolled and independently certified under the Fish Friendly Farming Program or other farm certification programs, approved as part of a waiver of WDRs, or through individual Reports of WDRs. The Regional Board is currently working on developing WDRs (or conditional waivers) for vineyards in the Napa River and Sonoma Creek Watersheds and anticipates conducting a series of coordination meetings with stakeholders and release of a public review draft in 2010. Board consideration of adoption of the waiver is expected in early 2011. It is expected that the vineyard waiver may also include measures to address impacts from roads. Reports of Waste Discharge to the Regional Board will provide, at a minimum, the following: a description of the vineyard (farm plan), identification of site-specific erosion control measures needed to achieve performance standard(s), a schedule for implementation of identified erosion control measures, effectiveness monitoring, and annual reporting.

Regional Board staff expects to be able to track progress by the numbers of acres enrolled in the Fish Friendly Farming Program, the number of management plans in place, the number of vineyards in compliance with WDRs or waivers, and measurement and monitoring of runoff volumes and erosion, as well as instream monitoring of spawning gravels and redd scour. The target will be to reduce sediment delivery associated with land use activities by 25 percent or more by 2017 and 37% by 2022.

Initiative 2.4: TMDL Implementation

A major focus of the Regional Board's 2008-2013 Nonpoint Source Implementation Plan will be implementing TMDLs, through WDRs and waivers as noted above, as well as other implementation activities through partnering with local governments and other stakeholders.

The TMDLs with NPS load allocations expected to be implemented in the 2008-13 timeframe years are listed below in Table 2.

Table 2: San Francisco Bay Regional Board TMDLs Scheduled for Implementation during the 2008-13 NPS Program Implementation Period

TMDL	Pollutant	Source	Date Adopted*	Timeline of Implementation Activities
Napa River	Pathogens	On-site sewage systems, dairies, grazing lands municipal treatment systems, wildlife	September 2007	2007-2013
Napa River	Sediments	Roads, vineyards, grazing, urban runoff	September 2009	2009-2013
Sonoma Creek	Pathogens	On-site sewer systems, municipal sewer systems, municipal runoff, grazing lands, dairies	April 2006	2008-2013
Tomales Bay	Pathogens	Dairies, grazing lands, horse facilities, septic systems, wildlife	September 2005; Basin Plan amendment February 2007	2008-2013
Walker Creek	Mercury	Gambonini Mine, Soulajoule Reservoir, sediments in downstream depositional areas, background	January 2007	2008-2013
Richardson Bay	Pathogens	Houseboats, boats	July 2008	2009-13
Guadalupe Creek	Mercury	Mining wastes, urban runoff, atmospheric deposition, soil	October 2008	2009-13
Sonoma Creek	Sediments	Vineyards, rural roads, grazing lands, gullies and landslides	December 2008	2009-2013
Sonoma Creek	Nutrients	Septic systems, animal facilities	2009-10	2009-2013

TMDL	Pollutant	Source	Date Adopted*	Timeline of Implementation Activities
Coastal San Mateo Watersheds	Pathogens	Septic systems, animal facilities, wildlife	FY 2010/11	2012-13
Lagunitas Creek	Sediment	Roads, bank failures, erosion	FY 2009/10	2011-13
Napa River	Nutrients	Vineyards, ag lands	FY 2009-10	2010-13
Petaluma River	Nutrients, pathogens, sediments	Vineyards, ag lands, animal facilities, roads	2011-2012	2013
San Francisquito Creek	Sediment	Erosion, bank failures	2009-2010	2010-13
Tomales Bay	Nutrients	Ag runoff	2010-2012	2012-13
Tomales Bay	Sediment	Ag lands runoff	2011-2012	2012-13
Walker Creek	Sediment	Ag lands runoff, bank failures	2009-2010	2010-13

*Date of actual or scheduled Regional Board adoption (when month is given) or projected fiscal year for Regional Board action (for TMDLs under development).

The highest priority TMDLs for the Nonpoint Source Five-Year Workplan implementation include Napa River pathogens and sediment, Sonoma Creek pathogens and sediment, Tomales Bay pathogens, Walker Creek mercury, and Guadalupe River mercury. Implementation activities will be those laid out in TMDL implementation plans, with specified actions for each source category.

For the pathogen TMDLs, implementation actions include: (1) requiring plans by Marin, Sonoma, and Napa counties for on-site sewage system inspection and repair programs and annual reports on progress of these programs; (2) implementing the grazing lands waiver for Tomales Bay Watershed (as noted above); (3) developing grazing waivers for Napa River and Sonoma Creek Watersheds; (4) updating WDRs/waivers for dairies; (5) ensuring compliance with existing dairy WDRs and waivers; (6) ensuring that Reports of Waste Discharge are in compliance with WDRs or waivers for equestrian facilities; and (7) as necessary, ensuring compliance with existing NPDES permits and WDRs for sewage treatment facilities. The Regional Board and other stakeholders will also be conducting creek water quality monitoring for Tomales Bay, the Napa River and Sonoma Creek, and will be evaluating the results every five years (i.e., from 2009 to 2011 depending on the TMDL), to assess progress in meeting TMDL targets and to re-evaluate implementation measures.

Sediment TMDLs for Napa River and Sonoma Creek will focus on land use activities that contribute to sediment in creeks, namely farming (including vineyards), grazing, road maintenance, and erosion, with the goal of reducing current sedimentation rates by 50% within the next 10-20 years. The TMDLs call for reports of waste discharge from rural landowners, vineyard operators, and park departments, as well as measures to improve stream and fishery habitats through water management and restoration activities. This includes developing guidelines to maintain in-stream flows, developing restoration plans and implementing projects in specific tributaries, completing water rights surveys, and other actions as specified in the TMDL implementation plans. The timeframe for development and

submittal of erosion control and management plans, and/or evidence documenting effective practices in place, is expected to be from three to five years following adoption of the TMDLs.

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 WDRs, monitoring, site remediation, and erosion control. The Regional Board will conduct monitoring and evaluate the results and need for further management actions every five years, beginning in 2011.

The Guadalupe River Watershed mercury TMDL addresses mercury in the Guadalupe River, Lake Almaden, Alamitos Creek, and four reservoirs within the Watershed. Implementation actions include effective source control measures for mining waste such as erosion control, riparian restoration, and bank stabilization; mercury and methylmercury monitoring in reservoirs and lakes; and stormwater controls and monitoring activities. The first 10 year phase includes erosion control at mines, methylmercury controls at reservoirs, and assessment of Alamitos Creek with development of a plan for remediation and creek restoration. ABAG successfully applied for a 2008 319(h) grant to cap and stabilize eroding mercury-contaminated sediments along a tributary to the Guadalupe River, as an initial TMDL implementation action.

All of the above TMDLs include Regional Board staff working closely with a variety of local stakeholders, including local government agencies, to support and enhance their current efforts, including supporting grant funding, providing technical help and oversight for projects, and working collaboratively to develop guidelines and tools. Specific details and timelines for TMDL implementation can be found on the San Francisco Bay Regional Water Board's website TMDL page under "Completed TMDL Projects" http://www.waterboards.ca.gov/sanfranciscobay/tmdlmain.htm.

Performance Review: Our region's highest priorities for NPS implementation this year have focused on developing our Stream and Wetland Systems Protection Policy and associated guideline documents, successfully developing and initiating implementation of a grazing waiver in Tomales Bay Watershed as part of our pathogen TMDL implementation, and beginning work on developing a grazing and vineyard management waiver in the Napa River and Sonoma Creek Watersheds, as part of pathogen and sediment TMDLs in those watersheds. We are also moving ahead with other TMDL implementation activities in the various watersheds as noted above. Although furloughs and grant program freezes have had an impact on this work, we are on track for all these tasks and expect to see continued progress in meeting water quality improvement goals within the next five years. We will continue to evaluate progress and make adjustments as needed each year based on water quality priorities.

Central Coast Regional Water Quality Control Board (Region 3)

The Central Coast Regional Board has developed NPS water quality priorities using water quality data, legislative mandates, statutes, regulations, and input from internal and external stakeholders. As such, a balance must be achieved from competing demands in order to promote our mission to protect, restore and enhance water quality. The Central Coast Water Board staff regularly reviews priorities to respond to legal changes and make efficient use of resources. For example, in the last few years changes to the CWC, as specified in the NPS Implementation Policy, which pertain to waivers of WDRs have necessitated redirection of significant resources, primarily on waivers for irrigated agriculture, but also with some redirection for timber harvest. The three areas discussed below, irrigated agriculture, TMDLs, and water quality monitoring, reflect current Regional Board priority actions or initiatives.

The vision for the Central Coast Water Board is expressed through the following goals:

Regional Board Goal #1: Healthy Aquatic Habitat: By 2025, 80% of aquatic habitat is healthy, and the remaining 20% exhibits positive trends in key parameters.

Regional Board Goal #2: Proper Land Management: By 2025, 80% of lands within any watershed will be managed to maintain proper watershed functions, and the remaining 20% will exhibit positive trends in key watershed parameters

Regional Board Goal #3: Clean Groundwater: By 2025, 80% of groundwater will be clean, and the remaining 20% will exhibit positive trends in key parameters

To achieve these goals, the Central Coast Regional Board has identified the following three initiatives as their highest priorities for addressing NPS pollution over the next five-year implementation planning period.

Initiative 3.1.: Irrigated Agriculture

Irrigated agriculture is a major land use in the Central Coast Region and is identified as one source of impairment to many waterbodies on the Central Coast CWA 303(d) list. Water quality constituents of concern associated with irrigated agricultural activities include nutrients, pesticides and sediment.

Water quality impacts from irrigated agriculture are primarily addressed through the implementation of a conditional waiver for irrigated lands. The primary long term objectives are to improve water quality through widespread implementation of five agricultural management measures: education, irrigation management, pesticide management, nutrient management and erosion control. Current areas of focus in the agricultural waiver program include MP implementation, farm inspections, education outreach, enforcement, and data tracking.

Outreach and education efforts during 2008-09 included Regional Board Agricultural Program staff presenting an overview of the program at the Agriculture and Environment Conference hosted by the Agricultural Water Quality Alliance at Asilomar in November. In mid-November of 2008, Regional Board staff participated as a member of the Food Safety and the Environment panel discussion at the California Water Policy Convention held in Los Angeles and hosted by Public Officials for Water and Environmental Reform. In January 2009, Regional Board staff spoke at both a pre-conference training and conference break-

out session on Food Safety and Water Quality as part of the Ecological Farming conference at Asilomar.

In 2008-09, 1,735 farming operations enrolled - up from the 2007 total of 1,700. This represents 396,000 acres, which is more than 90% of the total for the region. Regional Board staff also performed inspections at 59 farming operations, which represents 80,000 acres. Directly resulting from these inspections, 15 farming operations implemented additional erosion practices on about 5,000 acres.

As of June 30, 2009, Regional Water Board staff has sent out 1,375 Requests For Information (RFIs) to growers requesting additional information to determine if they are in compliance with the Waiver. Additionally, 81 Notices Of Violations and 5 Administrative Civil Liabilities (ACLs) have resulted in total payments of approximately $20,000.00. During 2008-09, Regional Board staff initiated 20 enforcement actions against growers for water quality infractions and some of these will be ongoing. Regional Board staff issued an additional 200 Notices of Violations (NOVs) to growers for failure to pay required monitoring costs, which is a requirement of the Waiver.

As of 2008-09, Farm education resulted in 1,203 growers (which represents 358,000 acres) that have a farm plan in place and who have successfully completed 15 hours of education

Monitoring efforts continue to identify irrigated agriculture as a major land use contributing to the impairment of many waterbodies in the Central Coast Region. Growers have formed a non-profit organization, called the Central Coast Water Quality Preservations, Inc (CCWQP) that conducts cooperative monitoring in accordance with the conditions of the agricultural waiver program. CCWQP has established fifty long-term trend sites in areas with known problems associated with agriculture. They collect monthly conventional water quality data and flow at each of these sites, as well as water column toxicity (twice in the wet season and twice in the irrigation season), sediment toxicity (once per year) and benthic invertebrate bioassessment. In addition, the program is required to expend at least 25% of their monitoring resources following up on problem areas and working with the industry to solve these problems. The Cooperative Monitoring Program for Agriculture is designed to integrate with the Central Coast Ambient Monitoring Program (CCAMP), as well as the City of Salinas's stormwater monitoring program.

During 2008-09, the Central Coast Water Quality Preservation, Inc. submitted a proposal for 2008 follow-up monitoring, to do upstream monitoring in several watersheds beginning in January 2009. They will also submit a proposal for education and outreach as well as summer flow monitoring in several watersheds to focus on tailwater reduction. Follow-up projects are funded by regular program fees and by a Proposition 40 grant and are a mandatory component of the Cooperative Monitoring Program established by the Conditional Waiver.

Over the next five years, the Regional Board will target MP implementation, farm inspections, education outreach, enforcement, and data tracking efforts in watersheds where monitoring data shows toxicity and/or elevated nutrient levels. Beginning in 2008, Regional Board staff intended to inspect a statistically valid sample of irrigated agricultural operations each year (90 inspections) to document compliance and determine the level of practice implementation throughout the region. In 2008-09 a total of 59 inspections were made due to limited resources. In 2009 the inspection program will be evaluated and targets will be revised as necessary. By 2013 the goal is to have a minimum of 75% of total

acreage implementing erosion control, irrigation, nutrient, and pesticide MMs protective of the resources. In 2013, it is expected to be able to demonstrate reductions in surface water toxicity and nutrient levels.

The Regional Board will interpret watershed water quality information for growers in targeted watersheds as well as provide technical assistance on irrigation and nutrient management to help growers revise MPs necessary to prevent water quality or beneficial use impacts. To document program implementation, changes in MP, and changes to water quality, the following information will continue to be tracked:

- Number of farmers with required 15 hours of farm water quality education was 1,127 (in 2008-09 18,000 total hours completed overall, up from 17,284 in 2007).
- Number of Regional Board staff presentations in 2008-09 was 10.
- Number of farm plans completed was 1,419.
- Number of inspections and findings from inspections was 59.
- Level of farm plan implementation for inspected sites was approximately 1/3 at a high level of implementation while 2/3rds are implementing but additional implementation is needed.
- Number of acres implementing erosion control practices, irrigation MPs, nutrient MPs, and pesticide MPs. A summary report can be viewed on the Regional Board website: http://www.waterboards.ca.gov/centralcoast/water_issues/programs/ag_waivers/docs/2007_6_11_check_list_report.pdf.
- Trends in water quality data – Regional Board is currently working on trend analysis and plans to have more information on trends in 2009-10.

Initiative 3.2.: Water Quality Monitoring

The CCAMP is the Central Coast Regional Board's regionally scaled water quality monitoring and assessment program. CCAMP is primarily funded by the State Water Board's Surface Water Ambient Monitoring Program (SWAMP) and by a private endowment held with the Bay Foundation of Morro Bay. 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 Water Board programs like the Cooperative Monitoring Program for Agriculture, the City of Salinas stormwater monitoring program, and others. This initiative is ongoing.

All CCAMP data is viewable at the CCAMP website (www.ccamp.org) Peer-reviewed Hydrologic Unit Reports are available on the website, as are other related monitoring and research documents. By 2011, CCAMP plans a website update that will include National Land Cover Dataset derived land cover acreages for both cumulative and local drainage area of each monitoring site. This will enable viewers to associate water quality data with upstream land uses.

CCAMP currently is collaborating on a grant with SWAMP and the State Water Board to build data uptake tools for managing data from citizen monitoring programs, grants and other programs. These tools will provide a web-based data delivery system that checks data for consistency with SWAMP requirements. This effort will greatly enhance the State's capacity to organize and use data from multiple sources, and will aid the NPS Program in

understanding the location of water quality problems. These data uptake tools will be completed by 2013.

Past CCAMP data has been used in the CWA 303(d) listing process and has generated over 70 new listings in 36 different waterbodies. CCAMP has recently compiled all CCAMP data (since 1998), and hundreds of thousands of lines of data from other sources into a single format (the same as that used for web data delivery) for use in the 2008 CWA 303(d) listing and CWA 305(b) assessment process. This data will be used to generate thousands of Lines of Evidence for use in Fact Sheet development. Fact Sheets are key evidence in the Listing and Assessment process, and consequently are important tools for focusing NPS management efforts.

CCAMP Monitoring Strategy

Watersheds: The CCAMP monitoring strategy for watershed characterization utilizes a five-year rotational strategy to conduct tributary based sampling each year in one of the five watershed areas. Over a five-year period all of the Hydrologic Units in the Central Coast Region are monitored and evaluated. Permanent watershed sites are monitored monthly for conventional water quality parameters (e.g.; nutrients, pathogen indicators, minerals, solids, chlorophyll a, basic physical parameters), and once during the year for sediment chemistry, toxicity, and benthic invertebrate assemblages. Additional monitoring sites may be established in each rotation area to provide focused attention on watersheds and waterbodies known to have water quality impairments. Currently, CCAMP places 30 monitoring sites in each watershed rotation.

The five-year watershed rotation is not synchronized with the five years of this NPS Program Implementation Plan. When the next five year rotation begins in 2010, some alterations will be considered to the CCAMP study design, as a result of increased funding through the CCAMP endowment. Probable changes will include increased site coverage in upper watersheds (up to 20 additional sites), addition of metals to the monthly sampling suite, more comprehensive coverage of toxicity and bioassessment monitoring, addition of riparian habitat assessment (using the California Rapid Assessment Method [CRAM]) and addition of a follow-up monitoring component.

2008 – Santa Barbara Coast (Hydrologic Units 313,314, and 315)
2009 – Santa Lucia Coast (Hydrologic Units 307, 308, and 310)
2010 – Pajaro and North Coast (Hydrologic Units 304 and 305)
2011 – Salinas (Hydrologic Units 306, 309 and 317)
2012 – Santa Maria (Hydrologic Units 311 and 312)

Coastal Confluences: The CCAMP monitoring strategy for coastal confluences includes ongoing sampling at thirty-three river and stream mouths, just above salt water influence. This program serves as a "census" of water quality conditions in all of the Central Coast Region's larger watersheds, and provides a basis for detecting long-term trends and assessing broad scale performance of water quality management efforts. Coastal confluence monitoring is conducted on an ongoing basis, so that information generated reflects the "pulse of watershed health" between watershed rotational monitoring. Conventional water quality parameters (the same as monitored for the watershed rotations) are monitored on a monthly, ongoing basis. Sediment chemistry, bioaccumulation and

toxicity and benthic invertebrates are monitored annually, as budget allows. This program element will be supplemented by a new statewide monitoring program component by SWAMP, which will conduct trend monitoring for sediment toxicity and chemistry at the lower ends of major watersheds. It is anticipated that seven to nine sites will be in the Central Coast Region.

Nearshore Waters: CCAMP does not routinely monitor nearshore waters. Special studies are conducted from time to time through SWAMP funds, grants, or partnerships. CCAMP coordinates with and/or supports several other marine oriented programs, such as the Central Coast Long-Term Assessment Network (CCLEAN), Area of Special Biological Significance monitoring, U.C. Davis and CDFG research teams working on sea otter health, the Central Coast Ocean Observation System (CenCOOS) and EMAP coastal studies. CCAMP recently conducted an assessment of the health of Central Coast harbors. A CCLEAN/CDFG/U.C. Davis study has been completed on bioaccumulation of contaminants in sea otter tissue (Proposition 13), and a CCLEAN/CDFG/U.C. Davis study is in progress on pathogens in sea otters, prey items, and in discharges from wetland treatment systems (Proposition 50).

Groundwater: CCAMP provides information management support to Water Board staff working on regional groundwater issues, and coordinates with the State Board's Groundwater Ambient Monitoring Assessment (GAMA).

Target outcomes: Assessment reports for each of the five watershed rotation areas:

- o Assessment report for Coastal Confluences trend monitoring data, including analysis of upstream land use influences
- o CCAMP data to TMDL staff to assist in pollutant source allocations and the development of specific numeric objectives for impaired waterbodies
- o CCAMP data utilized in CWA 303(d) /305(b) assessment process
- o Assess trends in ambient water quality and effects of management efforts over time by monitoring at long-term sites and relating data to upstream land uses and management activities
- o Assessment of Central Coast Region to determine how well we are meeting our goals for healthy watersheds.

Initiative 3.3.: Total Maximum Daily Loads (TMDLs)

In the Central Coast Region there are twelve approved TMDLs and thirteen additional TMDLs moving through the approval process. All TMDLs in the Central Coast Region are focused on mitigating nonpoint sources of pollution. Of the twelve approved TMDLs the NPS program focuses implementation resources (staff and grant funding) on eight TMDLs listed in Table 3.

Table 3: Central Coast Regional Board TMDLs Scheduled for Implementation During the 2008-13 NPS Program Implementation Planning Period

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
Chorro Creek	Nutrients	Educational, technical, and financial assistance	The target date to	Attain Basin Plan nutrient	Implementation efforts ongoing

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
	Dissolved Oxygen	to farmers and ranchers for implementation of management practices to reduce sediment, nutrients, and pathogens. Develop and implement permit streamlining for Santa Barbara and SLO Counties. This will promote the use of pre-approve projects for proponents to select from to remedy water quality impacts associated primarily with agricultural discharges.	achieve the TMDL is 2016. Nonpoint source funding will run through 12-31-08	and dissolved oxygen objectives. (Reference Water Board Resolution No. R3-2006-044. Reduce sediment, nutrients, and pathogen loads in Chorro Creek.	with farmers and ranchers. Staff has observed water quality improvements, e.g. improved dissolved oxygen levels. Nutrient levels have been reduced since TMDL adoption. Permit streamlining: in progress
Los Osos Creek, Warden Creek and Warden Lake Wetland	Nutrient	Educational, technical, and financial assistance to farmers and ranchers for implementation of management practices to reduce sediment, nutrients, and pathogens. Develop and implement permit streamlining for Santa Barbara and SLO Counties. This will promote the use of pre-approve projects for proponents to select from to remedy water quality impacts associated primarily with agricultural discharges.	The target date to achieve the TMDL is 2015. Nonpoint source funding will run through 12-31-08	Attain Basin Plan nutrient objectives (Reference Resolution No. R3-2004-0165). . Reduce sediment, nutrients, and pathogen loads in Los Osos Creek, Warden Creek and Warden Lake Wetland.	Implementation efforts ongoing with farmers and ranchers. Water quality improvements have not yet resulted. Staff drafted TMDL status report which describes recommended follow-up. Permit streamlining: in progress
Morro Bay (Including Chorro and Los Osos Creeks)	Pathogen	Educational, technical, and financial assistance to farmers and ranchers for implementation of management practices to reduce sediment, nutrients, and pathogens. Develop and implement	The target date to achieve the TMDL is 2012. Nonpoint source funding will run through	Attain Basin Plan numeric targets for Fecal Coliform as documented in Water Board Resolution No. R3-2002-0017. Reduce	Implementation efforts ongoing with farmers and ranchers. Many implementation actions have been completed in the watershed.

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
		permit streamlining for Santa Barbara and SLO Counties. This will promote the use of pre-approve projects for proponents to select from to remedy water quality impacts associated primarily with agricultural discharges.	12-31-08	sediment, nutrients, and pathogen loads in Morro Bay.	Recent data indicate reduced bacteria levels in some sub-watershed, but elevated bacterial levels in Morro Bay persist. Community of Los Osos has not yet built and put online a community sewer system, one of the TMDL implementation actions called for. Permit streamlining: in progress
Morro Bay (Including Chorro Creek, Los Osos Creek and the Morro Bay Estuary)	Sediment	Educational, technical, and financial assistance to farmers and ranchers for implementation of management practices to reduce sediment, nutrients, and pathogens. Develop and implement permit streamlining for Santa Barbara and SLO Counties. This will promote the use of pre-approve projects for proponents to select from to remedy water quality impacts associated primarily with agricultural discharges.	The target date to achieve the TMDL is 2052. Nonpoint source funding will run through 12-31-08	Attain Basin Plan numeric targets for sediment as documented in Resolution No. R3-2002-0051. Reduce sediment, nutrients, and pathogen loads in Morro Bay and the Morro Bay Estuary.	Implementation efforts ongoing with farmers and ranchers. Many implementation actions have been completed in the watershed. The data needed to demonstrate progress towards achieving the TMDL is not yet available. Permit streamlining: in progress
Watsonville Slough	Pathogens	Construct vegetative treatment systems	The target date to	Attain Basin Plan numeric	In progress. Implementation

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
			achieve the TMDL is 2017. Nonpoint source funding will run through 12-31-08 There are funds from proposition 40, 50, and 84 that will continue to support implementation of management actions beyond 2008.	targets for Fecal Coliform as documented in Water Board Resolution No. R3-2006-0025. Reduce pathogen loads in Watsonville Slough.	report not yet drafted by staff.
Pajaro River (Including San Benito River, Llagas Creek and Rider Creek)	Sediment	Construct vegetative treatment systems. Install of vegetated buffer strips to reduce sediment discharge. Convert sections of existing farm drainage ditches into water quality treatment wetlands to reduce loads.	The target date to achieve the TMDL is 2052. Nonpoint source funding will run through 12-31-08 There are also funds from proposition 40, 50, and 84 that will continue to support implementation of management actions	Attain numeric targets for suspended sediment concentrations as defined in Water Board Resolution No. R3-2005-0132 Reduce sediment loads in Pajaro River (Including San Benito River, Llagas Creek and Rider Creek)	In progress. Implementation report not yet drafted by staff.

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
			beyond 2008.		
Pajaro River (Including Llagas Creek)	Nitrate	Construct vegetative treatment systems. Install of vegetated buffer strips to reduce nutrient discharge. Convert sections of existing farm drainage ditches into water quality treatment wetlands to reduce loads.	The target date to achieve the TMDL is 2026. Nonpoint source funding will run through 12-31-08 There are also funds from proposition 40, 50, and 84 that will continue to support implementation of management actions beyond 2008.	Attain Basin Plan drinking water nitrate objective 10 mg/L nitrate as N. Reduced nitrate loads in Pajaro River (Including Llagas Creek).	In progress. Implementation report not yet drafted by staff.
San Lorenzo River (Including Carbonera Creek, Lompico Creek, and Shingle Mill Creek)	Sediment	Implementation of Erosion and Sediment Control Best Management Practices for Non-County Roads.	The target date to achieve the TMDL is 2027. Nonpoint source funding will run through 12-31-10 There are also funds from proposition 40, 50, and 84 that will continue to support implementati	Attain numeric targets for suspended sediment concentrations as defined in Water Board Resolution No. R3-2002-0063 Reduced sediment loads in San Lorenzo River (Including Carbonera Creek, Lompico Creek, and Shingle Mill Creek).	In progress. Staff will have progress report at the end of 2009-2010 fiscal year.

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result	2008-09 Status
			on of management actions beyond 2010.		
San Lorenzo River	Nitrate	Implementation of Erosion and Sediment Control Best Management Practices for Non-County Roads.	The target date to achieve the TMDL is 2045. Nonpoint source funding will run through 12-31-10 There are also funds from proposition 40, 50, and 84 that will continue to support implementation of management actions beyond 2010.	Attain numeric targets for nitrate concentrations as defined in Water Board Resolution No. 00-003 (September 2000) Reduced nitrate loads in San Lorenzo River.	Implementation efforts in progress. Nitrate levels are being reduced on an annual basis; seasonal excursions persist.

Regional Board staff will be implementing the NPS implementation actions in Table 2 through implementation grants managed at the local level. These implementation grants are used in combination with community-based efforts to work towards attainment of numeric targets and Basin Plan objectives.

In addition to grant actions, the Regional Board's agriculture waiver program addresses agriculture impacts in listed waterbodies through MP implementation, farm inspections, education outreach, enforcement, and data tracking. Similarly, NPS Regional Board staff coordinates with other staff working in the TMDL, CCAMP, Timber, Basin Planning, and Stormwater programs to optimize use of staff resources and implement actions to reduce NPS pollution in listed waterbodies. Regional Board staff will continue to focus our NPS implementation actions in these listed waterbodies through 2013. For additional information visit the Central Coast Water Board's website at http://www.swrcb.ca.gov/rwqcb3.

Performance Review: Agricultural implementation remains one of the Central Coast region's highest priorities. We are currently evaluating and trying to improve our approach to tracking management practice implementation as we revise the current Ag Order (conditional waiver),

which will be before our Board in July 2010. Our monitoring program and TMDL program activities also remain high priorities. All activities are slowed somewhat by furloughs and the grant program freezes, which delayed some critical grants we are depending on for monitoring data and implementation; however, we still expect to be able to show measurable water quality improvement within the next five years. We will continue to evaluate progress and make adjustments as needed each year.

Los Angeles Regional Water Quality Control Board (Region 4)

Nonpoint source pollution is a critical threat to water quality in the Los Angeles Region. Many of the impaired waterbodies identified on the Region'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 in the Los Angeles Region. The initiatives discussed below, reflect the NPS priorities of the Regional Board for the next five years: irrigated agriculture, trash, and atmospheric deposition.

Initiative 4.1.: Irrigated Agriculture

Agriculture is the largest industry in Ventura County and many Ventura County waterbodies are impaired by agricultural chemicals, including nutrients, pesticides and herbicides. In response to these impairments, the Los Angeles Regional Water Board (Regional Board) adopted a Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Order No. R4-2005-0080) on November 3, 2005. The objectives of the program are to monitor the water quality effects, and, if required, mitigate the impacts of runoff from irrigated agriculture facilities in the coastal watersheds of Los Angeles and Ventura Counties.

Agricultural activities can generate pollutants such as sediment, pesticides, and nutrients that degrade water quality and impair beneficial uses. The intent of the Conditional Waiver program is to attain water quality objectives in receiving waters by regulating the discharges from irrigated lands. The Conditional Waiver program has three primary requirements for agriculture dischargers; 1) enroll in the program, 2) conduct water quality monitoring, and 3) implement Best Management Practices (BMPs).

Currently, 80% of the irrigated acreage in the Region is enrolled in the Conditional Waiver program. Together growers have completed 11,187 hours of required water quality education. Outreach and communication with the agriculture community is ongoing and it is expected that 100 % of the irrigated land will be enrolled in the program in the next five years.

The heart of the Conditional Waiver program is water quality monitoring. Currently, monitoring is conducted in a cooperative fashion by two groups of agriculture dischargers – one group in Ventura County and one group in Los Angeles County. There are 40 monitoring locations throughout the Region. The sites are strategically located in agricultural areas to target discharge and potential pollutants from agricultural lands. Monitoring groups are required to submit the results of water quality monitoring to the Regional Board annually. The annual monitoring reports demonstrate the group's compliance or noncompliance with the water quality benchmarks in the Conditional Waiver. In the case that monitoring results demonstrate noncompliance, corrective action is required in the form of a Water Quality Management Plan (WQMP). The WQMP includes additional monitoring, if necessary, and

the implementation of BMPs to mitigate the discharge impacts. The two groups submitted their first annual monitoring reports in February 2008 and, due to exceedances of water quality benchmarks, submitted their WQMPs with plans for BMP implementation in August and September 2009.

Over the next five years it is the goal of Regional Board staff to track the results of water quality monitoring and BMP implementation. These two parameters are key indicators to evaluate overall program effectiveness, improvements in water quality, and identify waterbodies with continued impairment. Likewise, the enrolled acreage, education workshops, and outreach activities will also be documented. Implementation of the Conditional Waiver is an iterative process and it may take many years of the BMP implementation, monitoring, and upgrading to completely address pollution from agricultural sources. The term of the conditional waiver is five years; therefore, Regional Board staff intends to renew the waiver in Fall of 2010.

Initiative 4.2.: Trash

A major source of trash in the rivers, creeks, and lakes of the Los Angeles Region is litter, which is intentionally or accidentally discarded to the waterbodies. Wind blown trash, littering and other direct disposal are examples of NPS trash pollution. Trash in waterways causes significant water quality problems and impairs aquatic life, wildlife, recreational, and aesthetic beneficial uses.

In order to address NPS trash pollution in the Los Angeles Region, staff developed and are implementing a Minimum Frequency of Assessment and Collection (MFAC) program in conjunction with Best Management Practices (BMPs) (MFAC/BMP program). The MFAC/BMP program is implemented for waterbodies that have adopted Trash TMDLs. The MFAC/BMP program includes an assessment of trash on the surface or shoreline of the waterbody of concern, collection of all visible trash that accumulates on the surface or shoreline of the waterbody, and implementation of BMPs to attain a progressive reduction of the amount of trash collected at each collection event. SWAMP protocols for trash assessment are being implemented throughout the Region.

A Trash Monitoring and Reporting Plan, which is developed as part of the MFAC/BMP program, is used to determine baseline trash amounts and determine the progressive reduction required to attain zero trash. The goal of the MFAC/BMP program is to attain zero trash from nonpoint sources. Zero trash is determined by the fact that trash does not accumulate in deleterious or nuisance amounts on the surface and the shorelines of waterbodies to adversely affect beneficial uses.

Over the next five years it is the goal of Regional Board staff to track the number of MFAC/BMP programs implemented, the baseline amount of trash reported in the Trash Monitoring and Reporting Plans, the number and location of BMPs implemented, and the reduction in trash collected at and/or in waterbodies. As of June 30,2009, staff has approved seven (7) TMRPs have been approved that will be used to implement five (5) TMDLs. TMRPs will now be implemented and the results from the monitoring and reporting will be tracked by Regional Board staff.

Initiative 4.3.: Atmospheric Deposition

Studies confirm that atmospheric deposition is a significant source of NPS pollution in the Los Angeles Region, especially for trace metals such as lead, chromium, zinc, copper and nickel. In order to address this, the Regional Board has assigned load allocations to sources of atmospheric deposition in several recently adopted TMDLs, including the Los Angeles River, San Gabriel River, Marina del Rey, and the Ballona Creek metals TMDLs. In addition, the Regional Board intends to adopt a TMDL that assigns atmospheric deposition load allocations for the Port of Los Angeles/Long Beach TMDL. The watersheds subject to these TMDLs have urban and industrial land uses, including industrial facilities that release pollutant loads to the atmosphere. Pollutants that settle directly on waterbodies are considered NPS pollution. Currently, staff are participating in internal and local working groups to develop approaches to reduce NPS pollutant loading due to atmospheric deposition. In addition, the Regional Board recently issued CWC 13267 letters to the largest stationary sources of toxic metals in the region. The reports submitted by these dischargers are currently being reviewed to assess the degree of their contributions and to assess MMs to reduce this NPS loading.

Over the next five years, staff will develop and implement standard assessment techniques and allocation methods to deal with air deposition in TMDLs. In addition, staff will develop and implement MMs by coordinating with staff and other regulatory entities, resulting in a greater understanding of the most effective MMs for targeted pollutants or watersheds. These MMs will be coordinated with implementation plans for TMDLs. Staff will track the number of air emissions facilities investigated, the quantity of pollutants emitted, the number of MMs implemented, and reduction in atmospheric deposition of pollutants.

Initiative 4.4.: Implementation of Total Maximum Daily Loads (TMDLs)

The following TMDLs have identified NPS as a significant source of pollutants and their implementation will be addressed during the next five-year implementation planning period:

1) Calleguas Creek Toxicity TMDL
   Agricultural and urban uses are identified as the largest sources of chlorpyrifos and diazinon in the watershed. However, the proportion of loading from urban use will likely decrease as both of these pesticides were banned for sale for non-agricultural uses on December 31, 2005. The Load Allocations of this TMDL are being implemented through the Conditional Waiver for ILRP. The WQMP required by the Conditional Waiver has identified priority subwatersheds in which BMPs must be implemented in order to attain the Load Allocations for this TMDL. Implementation timeline: 3/24/06 to 3/24/16

2) Calleguas Creek Organochlorine (OC) Pesticides and PCBs TMDL
   The largest source of OC pesticides is agricultural runoff. Most PCB residues are due to past use of PCBs as coolants and lubricants in transformers, capacitors, and other electrical equipment. Atmospheric deposition is also a potential source of PCBs. Urban runoff and publicly owned treatment works are minor sources of OC pesticides and PCBs. The Load Allocations of this TMDL are being implemented through the Conditional Waiver for ILRP. The WQMP required by the Conditional Waiver has identified priority subwatersheds in which BMPs must be implemented in order to attain the Load Allocations for this TMDL.
   Implementation timeline: 3/24/06 to 3/24/26

3) Calleagus Creek Nitrogen TMDL
The largest sources of nitrogen into Calleguas Creek are discharges from the POTWs in the watershed and runoff from agricultural activities. The Load Allocations of this TMDL are being implemented through the Conditional Waiver for ILRP. The WQMP required by the Conditional Waiver has identified priority subwatersheds in which BMPs must be implemented in order to attain the Load Allocations for this TMDL. Implementation timeline: 7/16/03 to 7/16/10

4) Santa Clara River Nutrient TMDL
The largest sources of nitrogen into Calleguas Creek are discharges from the POTWs in the watershed. Runoff from agricultural activities is a smaller, but significant, source. The Load Allocations of this TMDL are being implemented through the Conditional Waiver for Irrigated Lands Regulatory Program. The Water Quality Management Plan required by the Conditional Waiver has identified priority subwatersheds, in which BMPs must be implemented, in order to attain the Load Allocations for this TMDL. Implementation timeline: 3/23/04 to 3/23/12

5) Revlon Slough and Beardsly Wash Trash TMDL
Nonpoint source discharges, such as windblown trash and direct disposal, are the major source of trash loading. The Load Allocation for this TMDL will be implemented through the MFAC/BMP Program. The TMRP has been approved for implementation of this TMDL. The MFAC/BMP Program can now be implemented and ongoing tracking will be performed by Regional Board NPS staff through 2010. Anticipated implementation timeline: 3/08 to 3/13

6) Port of Los Angeles/Long Beach Toxic Pollutants TMDL
Industrial and urban land uses, including point source facilities and re-suspended road dust, are potential sources of airborne metals and other toxic pollutants. This TMDL is currently under development. The Regional Board NPS staff work on Air Deposition completed during 2008-09 will be used to write the Load Allocations and an Implementation Plan for this TMDL. Anticipated implementation timeline: 12/09-12/19

Performance Review: The Conditional Waiver program's three primary requirements for agriculture dischargers are: 1) enrollment in the program, 2) conduct water quality monitoring, and 3) implement Best Management Practices (BMPs). Enrollment of irrigated acreage through 2008-09 is approximately 80% and Growers have completed 11,187 hours of the required water quality education. Outreach and communication is ongoing and enrollment is expected to be 100% in the next four years.

Monitoring is conducted in a cooperative fashion by two groups of agriculture dischargers at 40 strategic sites throughout the Region to target discharge and potential pollutants from agricultural lands. First annual monitoring reports were submitted in February 2008 and, due to exceedances of water quality benchmarks, WQMPs were also submitted with plans for BMP implementation in August and September 2009.

Over the next four years it is the goal of Regional Board staff to track the results of water quality monitoring and BMP implementation. The term of the conditional waiver is five years; therefore, Regional Board staff intends to renew the waiver in Fall 2010.

In order to address NPS trash pollution, staff developed and are implementing a Minimum Frequency of Assessment and Collection (MFAC) program in conjunction with Best

Management Practices (BMPs) (MFAC/BMP program). The MFAC/BMP program is implemented for waterbodies that have adopted Trash TMDLs.

Staff has 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. CWC 13267 letters were issued to the largest stationary sources of toxic metals in the region. The reports submitted by these dischargers are being reviewed to assess the degree of their contributions and to assess MMs to reduce this NPS loading. Staff will also track the number of air emissions facilities investigated, the quantity of pollutants emitted, the number of MMs implemented, and reduction in atmospheric deposition of pollutants.

Progress was made on other TMDLs in this Region and work will continue as projected by means of the WQMP required by the Conditional Waiver, the Water Quality Management Plan required by the Conditional Waiver and the MFAC/BMP Program.

Central Valley Regional Water Quality Control Board (Region 5)

Consistent with the statewide NPS Program, the overall goals of the Central Valley Regional Board's NPS Program are to restore waters impacted by NPS pollution and protect unimpaired waterbodies. Six Central Valley Water Board "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) runoff from irrigated lands; (5) watershed work; and (6) implementation of the NPS elements of TMDLs.

Initiative 5.1.: San Francisco Bay – Delta Initiative

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 the State of California is pumped from the Delta. Protecting Delta beneficial uses is one of the Central Valley Water Board's highest priorities.

Delta aquatic resources have been in decline for a number of years. Recent monitoring has documented record or near record lows in the abundance of a number of pelagic species, including delta smelt, young of the year striped bass, longfin smelt and threadfin shad according to a report prepared by the multi-agency Interagency Ecological Program (IEP) (Baxter et al. 2008, Pelagic Organism Decline (POD) Progress Report: 2007 Synthesis of Results). IEP is a cooperative effort on the part of its interdisciplinary member agencies (Department of Water Resources, Department of Fish and Game, State Water Resources Control Board, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Geological Survey, U.S. Army Corps of Engineers, National Marine Fisheries Service, and U.S. Environmental Protection Agency) to provide an organizational structure and resources to assist in planning, coordinating, and integrating studies, including the POD investigations. Studies conducted to date suggest that multiple factors may contribute to the declines;

including export pumping, invasive species, contaminants, and other factors related to alterations in food web dynamics.

As a result of the POD and the overwhelming amount of activity in and around the Delta related to it, the State Water Board, and the Central Valley and San Francisco Bay Regional Water Boards (collectively Water Boards) recognized that is was extremely important that the Water Boards coordinate closely on Delta issues and implement innovative strategies and approaches to address aquatic life and other beneficial use impairments in the Delta. In 2007, the Water Boards formed a Bay-Delta Team to improve coordination on all activities related to the Delta. In addition, Water Board staff developed a *Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Strategic Workplan), which was subsequently adopted by the three Water Boards, describing a suite of priority activities the Water Boards will pursue over the next five years. These activities complement other ongoing activities and, together, will be implemented to address the water supply and environmental crisis in the Delta. Elements of the Strategic Workplan include, but are not limited to, actions to address water quality and contaminants control (e.g., development and implementation of Total Maximum Daily Loads [TMDLs]); development of a Regional Monitoring Program; conducting a review of the southern Delta salinity and San Joaquin River flow objectives; and conducting a comprehensive review of the Bay-Delta Plan, water rights, and other requirements to protect fish and wildlife beneficial uses and the Public Trust. The Bay-Delta Team allows Water Board coordination with other Delta efforts, including the Bay-Delta Conservation Plan (BDCP), Delta Vision, CALFED and other State and Federal agencies working in the Delta. The strategic workplan is a first step toward developing a comprehensive strategy for the Delta.

Water quality impairments in the Delta result primarily from contamination being carried into the Estuary by the feeder rivers, or from in-Delta land use and water management practices. The most significant surface water quality problems in the Delta are bioaccumulative substances, pesticides, salinity, dissolved oxygen, urban stormwater runoff, and toxicity. In all cases, non-point sources contribute significantly to the loads of these constituents to the Delta.

In FY 08-09, staff coordinated with other agencies to implement studies and evaluate study results on the potential impacts of ammonia on Delta smelt and diatoms. Staff participated in two ammonia workshops (March and August) where scientists came together to discuss the potential impact of ammonia on Delta aquatic life. In addition, staff coordinated with other agencies on studies to determine if pesticides and other contaminants were at concentrations in the Delta that could impair beneficial uses. A study was conducted to monitor discharges from Delta islands. Central Valley Water Board staff continued to implement the adopted diazinon and chlorpyrifos, dissolved oxygen and salinity TMDLs in the Delta and tributaries to the Delta. A Delta regional monitoring program is under development. Staff is coordinating with the Aquatic Science Center and other stakeholders in the development of the monitoring program. The regional monitoring program has two main goals: a short term goal of making sure that every year there is a coordinated effort to review data and information collected and make suggestions for future monitoring and a long term goal of integrating existing monitoring efforts and programs into a cohesive Delta-wide program. Staff coordinated with the Bay Delta Conservation Planning effort and assisted in development of their draft Conservation Plan.

This initiative overlaps multiple non-point source initiatives including irrigated lands, salinity management, and TMDLs. The Delta is called out specifically because of its Regional and

Statewide importance. As such, many of the long-term goals and performance measures for the Delta are the same as those identified in the other initiatives and are not repeated here. By the end of the 5 years covered by this implementation plan, the Delta Team will develop a comprehensive Delta strategy, including performance measures, and begin implementing the high priority actions outlined in the strategy. The Delta is receiving the highest priority for permitting, compliance and enforcement, and scientific investigation. Specific tasks that are expected to be completed in the next five years that are related to implementing the comprehensive Delta strategy include the following:

- Adopt and begin to implement the Delta mercury TMDL
- Continue to implement adopted chlorpyrifos and diazinon and dissolved oxygen TMDLs
- Adopt new TMDL for other pesticides including pyrethroids
- Have the Regional Monitoring Program up and running
- Make significant progress in determining whether contaminants play a significant role in the POD and implement controls, as needed
- Coordinate with other agencies on water quality and other aspects of beneficial use protection (habitat improvement, etc.)

Initiative 5.2.: Central Valley Salinity Initiative: CV-SALTS

Since 2006, the State Water Board and Central Valley Regional Board have been working with stakeholders on the development of a salinity and nutrient management plan for the Central Valley. This project, known as the Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) initiative, will result in both regulatory and non-regulatory efforts to manage salinity and nutrients (primarily nitrate). Elements of the overall plan will be incorporated into the Basin Plans serving this region to ensure implementation.

Recognizing the fact that all water users contribute to and/or can be impacted by salinity and nitrate levels in the water, the Water Boards have established committees of stakeholders to prepare the management plan. The Central Valley Salinity Coalition has also been formed by a subset of the stakeholders to help coordinate and fund the effort. Representatives of irrigated agriculture, the dairy industry and other nonpoint source dischargers are involved in both the committees and the coalition.

The project is expected to evaluate all aspects of the water quality regulatory programs addressing both surface water and groundwater with the goal of updating the Boards' programs as necessary to appropriately address salinity and nitrates.

As a result of the adoption of the State Water Board's Recycled Water Policy (Resolution No. 2009-0011, adopted 3 February 2009), this project is part of a statewide effort. The Policy requires the development of salinity and nutrient management plans for all groundwater basins in California by 2014 and CV-SALTS will be developing these plans for the Central Valley.

Over the past year (2008-09), a pilot study has been initiated to evaluate the sources of salts in three areas of the valley. If the approach developed through this process proves successful, the effort will be expanded to evaluate additional areas using the same methods. It is also anticipated that the pilot projects will help illustrate where additional data is needed to help assess beneficial uses, water quality objectives and implementation efforts.

In the coming year (2009-10), the project will take on a number of new challenges, including identification and implementation of Best Management Practices for salinity and nitrate management from nonpoint sources. This will be part of an overall effort to get all

dischargers to minimize salt and nitrate discharges to the extent possible even as the updated control program is developed.

Initiative 5.3.: Dairy Initiative

Animal wastes may produce significant amounts of pathogens, nutrients, and salt contamination. Runoff from animal confinement facilities (e.g., stockyards, dairies, poultry ranches) can impair both surface and ground water beneficial uses. Uncontrolled runoff can also cause nuisance conditions. The greatest potential for water quality problems has historically stemmed from the overloading of the facilities' waste containment and treatment ponds during the rainy season and 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.

The Central Valley Water Board adopted general waste discharge requirements (General Order) in May 2007 to control the discharges from the 1550 existing milk cow dairies in the Central Valley. In five years, the Central Valley Water Board expects that the milk cow dairies that existed as of December 31, 2007 will be in compliance with the general waste discharge requirements. In addition, facilities that cannot be covered by the General Order (because they are new or expanding) have submitted reports of waste discharge for the preparation of individual waste discharge requirements. Three individual orders were adopted during Fiscal Year (FY) 08/09. It is anticipated that 10 individual orders will be adopted in FY 09-10. During FY 08-09, approximately 300 inspections of dairies were completed to evaluate compliance with the General Order. During FY 09-10 it is anticipated that 230 compliance inspections will be completed.

The General Order provides for a phased approach with several milestones that culminate with Discharger Certifications of facility retrofit and implementation of the Nutrient Management Plan (NMP). These milestones include discharger submittal of an existing conditions report, dischargers completing interim facility modifications, discharger development of a Nutrient Management Plan, certification of facility retrofit, and certification of implementation of the Nutrient Management Plan. Certification that the NMP has been completed was required in the annual report due 1 July 2009. A Waste Management Plan describing retrofitting needed to improve facility design with an implementation schedule is due for each dairy covered by the General Order on 1 July 2010. The California Dairy Quality Assurance Program, with assistance from Central Valley Water Board staff, has developed and held workshops to provide education and outreach to help dairy producers comply with the General Order. Submittal of required reports has exceeded 95 percent with enforcement actions being taken against nonsubmitters to achieve greater compliance.

Initiative 5.4.: Irrigated Lands Regulatory Program Initiative

The Irrigated Lands Regulatory Program (ILRP) was established in 2002 in response to amendments to the California Water Code section 13269, which required the termination of a waiver of Waste Discharge Requirements that had applied to irrigated land discharges for decades. The ILRP addresses all water quality issues in irrigation and stormwater runoff from about seven million acres of irrigated lands, from near-desert to temperate rainforest climates, hundreds of crop types, and tens of thousands of individual farming operations.

The intent of the program is to assure that 100 percent of growers with discharges of pollutants from irrigated lands to surface waters are in compliance with the California Water Code (CWC). According to July 2009 participant lists, 25,000 growers are enrolled in the ILRP through Coalition Groups; however, more than 12,000 growers are not participating. Staff are conducting ongoing outreach to determine which of these non-participants have the potential to discharge to surface waters.

The ILRP has significantly increased compliance efforts from FY 07/08 to 08/09 and was successful in getting growers to respond to Orders. Over 1,300 CWC 13267 Orders were sent out and 142 Notice of Violation (NOVs) were issued.

A revised 2008 Monitoring and Reporting Program (MRP) has been implemented. The MRP will fill in data gaps that hamper continued program implementation; begin to shift from broad spectrum monitoring seeking to identify water quality problems to a more surgical monitoring to identify pollutant sources and evaluate BMPs; and improve communication of data to the Regional Board and public.

The ILRP will improve water quality through MRP implementation of irrigated lands that discharge to surface waters in the program. Monitoring data has been collected by the coalition groups, University of California contracts and the Surface Water Ambient Monitoring Program. The Coalitions are conducting a significant amount of monitoring of surface waters that receive discharge from irrigated agriculture. The cumulative amount of analyses conducted by the Coalitions and under Central Valley Water Board contract is nearly 200,000. About 80% of those analytical results for specific chemical constituents (about 5% toxicity and 15% field parameters). Based on these data, a number of water quality problems have been identified – some are clearly associated with agriculture and some may be due to other causes.

In 08/09 staff approved management plans prepared by the Coalitions that address over 500 water body / parameter combinations. These plans are required when there are two or more exceedances of water quality objectives in a three year period. Regional Board staff has been and will continue to work with the Coalitions to ensure implementation of these plans is vigorously pursued by the Coalitions and their member growers.

The long-term regulatory program, addressing both surface and groundwater, completed an existing conditions report, a project plan/stakeholder plan and a draft program alternatives report. An EIR will be prepared within the next year.

Future tasks for the ILRP include: processes and procedures to improve the timeliness and completeness of data evaluation; studies to determine the effectiveness of management practices to address identified water quality problems; identifying non-compliance growers and enrolling them in the Program; increasing outreach and enforcement to ensure that water quality protection becomes routine in all farming operations; increasing compliance and enforcement efforts; and addressing a Petition to the State Water Board and a lawsuit by environmental interests challenging the Conditional Waivers.

Initiative 5.5: Watershed Program

Numerous local watershed groups, including resource conservation districts (RCDs) have been created to restore watersheds that are degraded, or threatened by various land-use

practices. These efforts have achieved stream restorations, improved land management practices, and provided public education regarding watershed health and threats. Within Central Valley Regional Water Board, there are now approximately 50 locally directed watershed management programs that are working to improve watershed conditions including water quality and aquatic habitat. Regional Water Board staff work with these local watershed groups to provide guidance and technical support for activities that meet our mission to protect and enhance water quality. In this role, we frequently attend watershed groups, RCD, and community meetings, participate on technical advisory committees, review project plans and designs, and evaluate the performance of implemented projects.

These locally directed watershed partnerships successfully communicate, educate, and carry out projects with local residents that are often resistant to cooperation with state and federal regulatory agencies. With appropriate outreach activities, residents realize that they benefit from better watershed conditions and see that local action brings a sense of self-determination and empowerment. Progress on NPS source pollution is dependant on the local involvement, expertise and buy in provided by these groups.

Although funding for watershed groups has become more problematic in the last year, for the most part they have kept functioning, and remain the local stewardship experts and representatives of their respective watersheds. The following watershed issues have received increasing attention:

- Risk of catastrophic fire (fuel reduction and education)
- Invasive riparian plants (arundo and tamarisk)
- Irrigated land runoff and irrigation efficiency
- Grazing lands program
- Monitoring
- Integrated Regional Water Management
- Central Valley Salt
- Fish passage projects
- Carbon sequestration (aforestation)
- Wetland mitigation – construction, maintenance and monitoring

Ongoing projects include completion of watershed management planning and channel condition enhancement such as trash pick up, problematic erosion control and wet meadow restoration.

Initiative 5.6: Implementation of Total Maximum Daily Loads (TMDLs)

The following TMDLs have identified NPS as a significant source of pollutants and their implementation will be addressed during the next five-year implementation planning period:

Table 4: Central Valley Regional Board TMDLs Scheduled for Implementation During the 2008-13 NPS Program Implementation Planning Period

TMDL	Pollutants/sources	Compliance Date	2008-2013 Activities	2008-2009 Activities
Cache Creek Mercury	mercury/resource extraction (abandoned mines), riparian habitat modification	2011	monitoring and identification of hot spots for further remediation	Completed inventory of sources.
Clear Lake Mercury	mercury/resource extraction (abandoned mines)	2023	monitoring and working with local stakeholders to implement actions to meet TMDL requirements	Responsible agencies signed MOU in Oct 08 and finalized monitoring and implementation plan to evaluate loads from watershed sources. Adoption has been delayed. Stakeholder process has been expanded.
Delta Mercury	mercury/resource extraction (abandoned mines)	2030 (tentative)	characterization and control studies of wetlands and irrigated agriculture	Anticipate adoption in 09-10.
San Joaquin River chlorpyrifos/diazinon	diazinon and chlorpyrifos/agriculture, urban runoff, POTWs	12/1/2010	monitoring and assessment, review management plans, track BMP implementation	Provided monitoring and implementation provisions to other program staff and provided technical support for submitted management plans.
Delta chlorpyrifos/diazinon	diazinon and chlorpyrifos/agriculture, urban runoff, POTWs	12/1/2011	monitoring and assessment, review management plans, track BMP	Provided monitoring and implementation provisions to other program staff and

			implementation	provided technical support for submitted management plans.
Sacramento/Feather River diazinon	diazinon and chlorpyrifos/agriculture, urban runoff, POTWs	6/30/2008 (review every 5 years)	evaluate monitoring, review management plans and evaluate BMP implementation	TMDL is in compliance. Monitoring will continue to ensure compliance.
San Joaquin River Salt and Boron Vernalis	salt and boron/agriculture, managed wetlands, POTWs	7/28/14 to 7/28/26 (depending on priority)	monitoring for TMDL compliance and work with stakeholders for implementation	Entered into a MAA with USBR in Dec 08.
Grassland marshes selenium	selenium/agriculture	2010	monitoring for TMDL compliance	Monitoring was conducted for the 08/09 fiscal year.
Salt Slough selenium	selenium/agriculture	2010	monitoirng for TMDL compliance	TMDL in compliance; waterbody recommended for 303d de-listing. Monitoring will continue to assure compliance.
San Joaquin River selenium TMDL	selenium/agriculture	2010	monitoirng for TMDL compliance	TMDL in compliance; some waterbodies recommended for 303d de-listing. Monitoring will continue to assure compliance.
Clear Lake Nutrients	phosphorus/agriculture, timber, urban	2017 (review 2012)	monitoring and implementation plan, monitoring and assessment, update Clean Lakes report	Monitoring and implementation plan completed. Monitoring expected to begin this

				fiscal year.
San Joaquin River Dissolved Oxygen	nutrients/agriculture, POTWs	12/31/2011	monitor and oversee studies required by TMDL	First set of studies were completed. Second set of studies and monitoring are on hold due to the bond freeze.

Performance Review: The San Francisco Bay-Delta studies, CV-SALTS, dairies, ILRP, watershed program and TMDL implementation continue as priorities for the Central Valley region. We continue to work on a Regional Monitoring Program for the Bay-Delta, work with the Salinity Coalition on developing technical information to support a region-wide salt and nitrate management policy, continue to implement the general order for existing dairies and have over 90% compliance, develop a long-term program for the ILRP, and continue TMDL implementation. Enforcement activities are underway to bring the remaining dairies into compliance.

While all activities were affected by the furloughs and budget problems of the State, the Central Valley Water Board considers CV-SALTS its highest priority and maintained the allotted staffing; however, we still expect to be able to show measurable water quality improvement within the next five years. We will continue to evaluate progress and make adjustments as needed each year.

Lahontan Regional Board Regional Water Quality Control Board (Region 6)

The overall goals of the Lahontan Regional Water Board (Regional Water Board) Nonpoint Source (NPS) Program are to restore waters impacted by NPS pollution and protect unimpaired waterbodies. Five (5) "initiatives" exemplify the Regional Water Board's NPS Program for the next five years (2008-2013). The focus on these "initiatives" does not preclude important work on other sources of NPS pollution in the Lahontan Region. These five (5) 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

Lake Tahoe, the eleventh deepest lake in the world, sits near the crest of the Sierra Nevada Mountains and is split by the California-Nevada state line. State and Federal agencies have adopted many regulations to protect Lake Tahoe's renowned clarity and cobalt-blue color. The Regional Water Board has designated Lake Tahoe as an Outstanding National Resource Water under the federal CWA and considers non-contact recreation (aesthetic enjoyment of the Lake's clarity) as a primary beneficial use. Similarly, the Nevada Division of Environmental Protection (NDEP) has designated Lake Tahoe as a "water of extraordinary ecological or aesthetic value."

Despite stringent water quality goals and associated watershed regulations, Lake Tahoe has been losing its famed clarity at a rate of nearly nine inches per year since the late 1960's and has failed to meet transparency and clarity standards. Thus, the Lake is considered "impaired."

To address this impairment, a TMDL is under development. The Regional Water Board and NDEP 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.

Status of Implementation for 2008-09

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. Several comments were received on the Tahoe TMDL Technical Report; Regional Board staff completed an updated version in June 2009. This report and the draft TMDL were subject to scientific peer review that should be completed in August 2009. The peer review comments will be considered in the preparation of the public draft of the TMDL slated for release late in 2009.

The Lahontan Water Board will complete the second phase with the adoption of the TMDL planned for June 2010. When released for public comment late in 2009, the draft Lake Tahoe TMDL will include these components:

- Final Lake Tahoe TMDL Report
- Updated Lake Tahoe TMDL Technical Report
- Scientific Peer Review Comments and Response to Comments
- Proposed Amendments to the Lahontan Water Board Basin Plan
- Environmental Documentation

In concert with the Basin Plan amendment for the Lake Tahoe TMDL, amendments will also be prepared to include adjustments to the current stormwater regulatory approach for facilitating Lake Tahoe TMDL implementation. In preparation for these additional amendments, Regional Board staff held two CEQA scooping meetings in July 2008, followed by an additional Supplementation CEQA scooping meeting in August 2009. The proposed stormwater amendments for the Lake Tahoe Basin will allow dischargers to prioritize pollutant load reduction actions. Retained under contract by the Regional Board, TetraTech and University of California at Davis developed tools to assist with the TMDL source analysis and TMDL linkage analysis. Regional Board staffs along with their Nevada counterparts are working with TetraTech and UC Davis to package electronic, executable versions of the models with input files for public accessibility and use.

With the completion of the second phase, the third phase will formally begin (although many implementation and monitoring projects are already underway in the Lake Tahoe Basin.) One recent example to start in September 2009, is the Lake Clarity Crediting Program (a credit/tracking program to help link urban implementation actions to expected load

reductions). NPDES stormwater permits updated after the adoption of the TMDL will include crediting mechanisms to estimate pollutant load reductions associated with various implementation activities such as erosion control projects, stream environment zone restoration efforts, residential best management practices and water quality infrastructure maintenance work. One year of beta testing of the Crediting Program will conclude in October 2010 before including the Program in any NPDES permits.

In anticipation of the TMDL implementation requirements and to comply with NPDES requirements when their permits are updated in late 2010, NPDES permitees in the Lake Tahoe Basin (City of South Lake Tahoe, El Dorado County and Placer County) are developing a Pollutant Reduction Strategy to gather critical information needed for long-term stormwater planning. In 2008-09, each of the three permitees completed its initial Pollutant Load Reduction Strategy. This included GIS maps with discharge points and associated catchments, identification of relative loads for suspended solids, nitrogen and phosphorus and descriptions of how the information will be considered in future implementation activities. Once completed, the Strategy will greatly improve the permitees' ability to comprehensively plan for meeting future load reduction requirements. The 2010 update of the NDPES permits will include specific fine sediment particle and nutrient waste load allocations consistent with the adopted TMDL. The permitees will be expected to update their Stormwater Management Plans to describe how the required load reduction targets will be met.

Other examples of recent implementation activities include the 2008-09 award of two CWA 319 projects for TMDL implementation in the Lake Tahoe Basin. (Lake Tahoe BMP Implementation and Effectiveness Project and Homewood Watershed Improvement/TMDL Implementation Pilot Study). The federal American Recovery and Reinvestment Act (ARRA) of 2009 helped to restart two Lake Tahoe Basin implementation projects that had previously been funded with state bonds and were stopped due to the state's budget crisis. Three new stormwater projects in the Lake Tahoe Basin are being processed for funding from ARRA. These projects were selected in part as a focus of the funds was on stormwater projects supporting disadvantaged communities (City of South Lake Tahoe and Kings Beach meet this definition).

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 Region. Grazing activities are identified as a source of impairment for approximately 30 waters on the Region's CWA 303(d) list (listed for sediment, nutrients, pathogens and/or habitat alteration.) Thirteen water body segments out of CWA 303(d)-listed water bodies are for violations of pathogen water quality objectives. This is 30 percent of the Lahontan Region's listed waters. The total mileage of pathogen-listed streams (no lakes or wetlands are listed for pathogens) is 87 miles. Livestock grazing operations are the likely source of discharges of pathogens (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.

The Lahontan Regional grazing strategy (as presented to the Regional Water Board during the October 2006 Grazing Workshop) identifies the Walker River, the Owens River-Mono Lake, and the Susan River-Eagle Lake watersheds as targeted priorities where the implementation of grazing management practices (MPs) would likely lead to water quality

improvement. Addressing and mitigating water quality impairments are economically and administratively preferable to developing a TMDL for CWA 303(d) listed watersheds when possible. In June 2007, the Regional Board adopted a *Waiver Of Waste Discharge Requirements For Grazing Operations In The East Walker River Watershed (Bridgeport Valley And Tributaries) Of The Lahontan Region*. This waiver requires development of ranch water quality management plans, implementation of MPs and monitoring of the MP effectiveness.

In 2008-2013, Lahontan Water Board activities will target CWA 303d-listed water bodies and identify other impaired waterbodies for which sufficient monitoring data does not exist to list the water body on the CWA 303d list. Management practice implementation will focus on waters where impairments may be readily solvable with grazing MP implementation and could reasonably lead to de-listing of impaired water bodies or prevent future listing.

Implementation Results for 2008-09

The first season of monitoring under the Bridgeport Valley Grazing Waiver is complete. Data was presented to the Regional Board during its March 2009 meeting. Fecal coliform concentrations during the grazing season showed an average reduction of about 59% for two Buckeye Creek sites; 77% for two Robinson Creek sites; and 31% for the one East Walker River site, in comparison to baseline data (Rockwell, G.L., and Honeywell, P.D., 2004, Water-quality data for selected stream sites in Bridgeport Valley, Mono County, California, April 2000 to June 2003: U.S. Geological Survey Data Series 89, 35 p.). The Bridgeport Valley grazing waiver has a compliance requirement of 200 or less fecal coliform per 100 mL by the end of the 2011 season. Current average grazing season fecal coliform is about 253 less fecal coliform per 100 mL. Though they have come a long way, there is still much work to do by the Bridgeport Ranchers Organization to meet the compliance requirements of the grazing waiver.

In 2008-09, analyses of Lines of Evidence resulted in the recommendation of delisting for pathogens in Big Meadow Creek and the South Upper Truckee River above Christmas Valley (both in the Lake Tahoe Basin.) Monitoring showed that the water quality objective is attained. Various management strategies were implemented during the last several years including but not limited to various rotation patterns, use of electric and temporary fencing, reduction in numbers, reduction in use, and seasonal resting of pastures. Regardless of strategy, water quality standards were exceeded and grazing was ceased in these two waterbodies. For two other CWA 303(d)-listed waterbodies in the Lake Tahoe Basin, sampling and analysis for fecal coliform and E.coli was continued in 2009

In 2008-09, Regional Board staff started a study to compare concentrations of E. coli and Fecal Coliform in natural waters of the Lahontan Region. The results of this study will be useful in helping to identify possible sources of coliform

The State Board approved a list of concept proposals for funding from the Agricultural Water Quality Grant Program (AWQGP) that included a Lahontan project titled *Grazing Management Practice Implementation and Assessment in One or More Targeted Watersheds in the Lahontan Region (Walker River, Carson River, Susan River and Owens River.)* Regional Board staff conducted a competitive process from December 2008 to February 2009 to select a grantee. Final award is on hold until further notice due to the suspension of state bond-funded projects and is pending future bond sales.

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 drying 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 endlining. These activities can result in soil erosion and discharge to surface waters, streamcourse damage, compaction or removal of riparian soil and vegetation, and soil and plant loss in wetlands.

The Regional Water Board reviews timber harvest proposals for both federal and non-federal lands. However, the process is different for both, with special forest management provisions for lands in the Lake Tahoe Basin. In 2003, the Regional Board adopted a conditional waiver of WDRs for discharges related to timber harvest activities. In February 2007, the Regional Board renewed and updated the waiver for a five-year period. Both the original and updated waivers include MPs to protect water quality.

To reduce fire risk around Tahoe Basin communities, over the next 10 years, land management and fire protection agencies, as well as homeowners, will remove designated trees and brush. To expedite fire protection efforts, the Lahontan Water Board has directed its staff to revise the 2007 timber waiver. It further directed its staff to coordinate with two other Tahoe resource management agencies (Tahoe Regional Planning Agency and US Forest Service - Lake Tahoe Basin Management Unit) to simplify permitting for fire protection activities.

In 2008-2013, Lahontan Water Board activities will include adoption of the revised timber waiver and updated management agreements with Tahoe Regional Planning Agency and United State Forest Service (USFS) - Lake Tahoe Basin Management Unit. Throughout the Region, the Lahontan Water Board will ensure that all harvesting activities submit proper application and certification as required by the timber waiver, as well as review and modify timber harvest plans to ensure compliance with water quality standards and waiver requirements**.**

Implementation Results for 2009

In May 2009, the Regional Board renewed and updated the waiver for a five-year period. The 2009 updated replaces the 2007 version and was triggered by a proclamation by the California Governor to implement applicable recommendations of the CA-NV Tahoe Basin Fire Commission, which was created after the June 2007 Angora Fire in South Lake Tahoe. Staff held public workshops throughout the Region on proposed revisions to the Timber Waiver that was approved by the Lahontan Regional Water Quality Control Board in May of 2009. The Board's action in approving the 2009 Timber Waiver was petitioned to the State Water Resources Control Board. Talks are under way to resolve outstanding issues with the petitioners.

A streamlined permitting process for fuels reduction activities in the Lake Tahoe Basin went into effect in early 2009. The Regional Water Board directed its Executive Officer to enter into an MOU with the Tahoe Regional Planning Agency (TRPA). The MOU streamlines

permitting for vegetation management projects in the Lake Tahoe Basin by eliminating the need for project applicants to apply to both the TRPA and the Regional Water Board and to receive permits from both agencies. Under this new MOU, a person wanting to remove trees and vegetation on the California side of the Lake Tahoe Basin need only apply to the TRPA.

In 2008-09, Regional Board staff reviewed and commented on over 30 USFS/BLM fuels management/timber harvest projects and completed site visits/inspections of about 20 USFS new or existing projects.

Initiative 6.4.: Leviathan Mine Restoration

Leviathan Mine is located on the eastern slope of the Sierra Nevada Mountains in Alpine County, California. Historic mining activities at Leviathan Mine included underground and open pit extraction of sulfur-rich ore. These activities resulted in the exposure of naturally occurring sulfide minerals to air and water. This exposure triggered a series of chemical reactions that caused local ground water to become acidic and metal-rich. The acidic groundwater discharges from an old mine tunnel and seeps at several locations within the Leviathan Mine site. When this acid mine drainage (AMD) 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.

In 1984, the State of California, acting by and through the California Department of General Services and at the request of the State Water Board, acquired a portion of the Mine area. Subsequently, the State of California, acting by and through the California Department of General Services, transferred jurisdiction over the site to the State Board. The State Board then delegated authority for maintenance of the site to the Regional Board .In May 2000, the USEPA made Leviathan Mine a federal Superfund site. USEPA directed the Lahontan Water Board to implement certain pollution abatement and site characterization activities at Leviathan Mine. It is expected that USEPA will direct the Lahontan Water Board to continue work at Leviathan Mine until a final remedy addressing all releases of hazardous substances at the Mine is implemented.

At the Leviathan Mine, the Lahontan Water Board has implemented several projects to abate AMD from entering local surface water bodies. In 1985, the Lahontan Water Board completed construction of a pollution abatement project at Leviathan Mine to address specific problem areas. This project included the construction of AMD storage and evaporation ponds, which are the focus of the Lahontan Water Board's pond water treatment activities.

Lahontan Water Board will continue to implement AMD abatement activities including pond water treatment.

Implementation Results for 2009

In 2008-09, approximately 2.9 million gallons of AMD were treated through a series of holding and evaporation ponds, followed by use of a pond water treatment plant during the summer months. Regional Board staff collected samples of influent (untreated pond water) and treatment system effluent to evaluate treatment of effectiveness and compliance with discharge criteria. Regional Board staff continued to implement their monitoring programs for surface water quality, surface water stage and flow, and meteorological data. In addition, Regional Board staff conducted or oversaw site maintenance such as invasive plant control,

fence repair, road maintenance, evaporation pond liners and storm water conveyance cleanout.

Initiative 6.5.: TMDL Implementation

In 2008-2013, the Lahontan Water Board will implement the five TMDLs adopted to date and listed below.

TMDL	Pollutant	Potential Source(s)	Date Adopted	Expected Timeline of Implementation Activities
Heavenly Valley Creek	sediment	recreation (roads, ski runs)	January 2001	2008-2013
Indian Creek Reservoir	phosphorus	historic storage of treated tertiary-treated domestic wastewater effluent	July 2002	2008-2013
Squaw Creek	sediment	land development, urban runoff, roads, hydromodification, recreation	April 2006	2008-2013
Blackwood Creek	sediment	legacy channel and land disturbance	October 2007	2008-2013
Truckee River (Middle) Watershed (includes Gray and Bronco Creeks)	sediment	Roads, recreation, land development, grazing, silviculture	May 2008	2008-2013

Implementation Results for 2009

In 2008-09, Regional Board staff managed five projects funded from CWA 319h or state bonds that are examples of implementation activities of these five TMDLs. These five projects are:

- Early Implementation of TMDLs in the Truckee River Watershed (Gray Creek Acquisition) (project is now completed and grant closure underway)
- Revegetation and Erosion Control for Ski Areas (project is now completed and grant closure underway)
- Early Implementation of TMDLs in the Truckee River Watershed (BMP&LID workshops) (project is now completed and grant closure underway)
- Indian Creek Reservoir TMDL Mitigation
- Reducing Sediment Loads through Residential BMPs – Middle Truckee River TMDL

The Lahontan Water Board is developing and will begin implementing the following TMDLs during the next five years:

TMDL	Pollutant	Potential Source(s)	Expected Date of Adoption	Expected Timeline of Implementation Activities
Focus for FY 2008-09				
Lake Tahoe	nitrogen phosphorus sediment	land development, roads, urban runoff, recreation, hydromodification, silviculture, natural sources	June 2010	2009-2013
Swauger Creek	pathogens phosphorus	grazing, septic tanks, recreation, natural sources	June 2010	2010-2013
Robinson Creek, Hwy 395 to Bridgeport Reservoir	pathogens	grazing, agricultural return flows, septic tanks, recreation, natural sources	June 2010	2010-2013
Robinson Creek, Twin Lakes to Hwy 395	pathogens	grazing, septic tanks, recreation, natural sources	June 2010	2010-2013
East Walker River, above Bridgeport Reservoir	pathogens	grazing, urban runoff, natural sources, recreation	June 2010	2010-2013
Buckeye Creek	pathogens	grazing, natural sources, recreation	June 2010	2010-2013
Focus for FY 2009-10				
Eagle Lake	nitrogen phosphorus	agriculture, grazing, silviculture, roads, marinas/boating, septic tanks, recreation, urban runoff	January 2011	2011-2013
Bodie Creek	Mercury	unknown	June 2011	2010-2013
Twin Lakes, Mono Owens HU*	nitrogen phosphorus	agriculture, grazing, land development, urban runoff,	June 2011	2011-2013

TMDL	Pollutant	Potential Source(s)	Expected Date of Adoption	Expected Timeline of Implementation Activities
		atmospheric deposition		
Focus for FY 2010-11				
Eagle Lake	nitrogen phosphorus	agriculture, grazing, silviculture, roads, marinas/boating, septic tanks, recreation, urban runoff	January 2011	2011-2013
Swauger Creek	nitrogen pathogens	grazing, septic tanks, recreation, natural sources	June 2010	2010-2013
Robinson Creek, Hwy 395 to Bridgeport Reservoir	pathogens	grazing, agricultural return flows, septic tanks, recreation, natural sources	June 2010	2010-2013
Robinson Creek, Twin Lakes to Hwy 395	pathogens	grazing, septic tanks, recreation, natural sources	June 2010	2010-2013
East Walker River, above Bridgeport Reservoir	pathogens	grazing, urban runoff, natural sources, recreation	June 2010	2010-2013
Buckeye Creek	pathogens	grazing, natural sources, recreation	June 2010	2010-2013
Focus for FY 2011-12				
Big Meadow Creek*	pathogens	grazing, recreation, natural sources	June 2012	2012-2013
Tallac Creek	pathogens	grazing	June 2012	2012-2013
Focus for FY 2012-13				
Ward Creek-sediment	sediment	urban runoff, silviculture, roads, land development	June 2012	2012-2013
Indian Creek (Alpine Co)	pathogens	grazing	June 2013	2013
Trout Creek	pathogens	source unknown	June 2013	2013
Upper Truckee River	pathogens	grazing, recreation, natural sources	June 2013	2013

TMDL	Pollutant	Potential Source(s)	Expected Date of Adoption	Expected Timeline of Implementation Activities
(Christmas Valley)*				
West Fork Carson River	pathogens	grazing, agricultural runoff, irrigation tailwater	June 2013	2013

* delisting was recommended in July 2009

Implementation Results for 2009

Activities that implement the Lake Tahoe TMDL have already been discussed (see Initiative 1 above.) Regional Board action to recommend delisting of Big Meadow and the Upper Truckee River were also already discussed above (see Initiative 2 above). The delisting of Twin Lakes was recommended as the original listing was flawed and no longer meets current Listing Policy requirements.

Once it is able to continue, the project titled *Grazing Management Practice Implementation and Assessment in One or More Targeted Watersheds in the Lahontan Region (Walker River, Carson River, Susan River and Owens River.)* will implement several of the developing TMDLs. (see Initiative 2 above)

Performance Review: Regional Board staff has completed the first phase of the Lake Tahoe TMDL, the second phase is now underway which includes the completion of a second phase product, *The Pollution Reduction Opportunity Report, Version 2* (March 2008). Staff received comments on the Tahoe TMDL Technical Report and completed an updated version in June 2009. This report and the draft TMDL were subject to scientific peer review that should be completed in August 2009. The peer review comments will be considered in the preparation of the public draft of the TMDL slated for release late in 2009. The Lahontan Water Board will complete the second phase with the adoption of the TMDL planned for June 2010.

The first season of monitoring under the Bridgeport Valley Grazing Waiver is complete and data was presented to the Regional Board during its March 2009 meeting. The grazing waiver has a compliance requirement of 200 or less fecal coliform per 100 mL by the end of the 2011 season. Current average grazing season fecal coliform is about 253 less fecal coliform per 100 mL. Though they have come a long way, there is still much work to do by the Bridgeport Ranchers Organization to meet the compliance requirements of the grazing waiver. Analyses of Lines of Evidence resulted in the recommendation of delisting for pathogens in Big Meadow Creek and the South Upper Truckee River above Christmas Valley (both in the Lake Tahoe Basin.) Monitoring showed that water quality standards were exceeded and grazing was ceased in these two waterbodies. Regional Board staff started a study to compare concentrations of E. coli and Fecal Coliform in natural waters of the Lahontan Region. The results of this study will be useful in helping to identify possible sources of coliform. The State Board approved a list of concept proposals for funding from the Agricultural Water Quality Grant Program (AWQGP) that included a Lahontan project titled *Grazing Management Practice Implementation and Assessment in One or More Targeted Watersheds in the Lahontan Region (Walker River, Carson River, Susan River and Owens River.)* Regional Board staff conducted a competitive process from December 2008 to February 2009 to select a grantee. Final award is on hold until further notice due to the suspension of state bond-funded projects and is pending future bond sales.

In regard to Fuels Management/Timber in May 2009, the Regional Board renewed and updated the waiver for a five-year period. The Board's action in approving the 2009 Timber Waiver was petitioned to the State Water Resources Control Board. Talks are under way to resolve outstanding issues with the petitioners. A streamlined permitting process for fuels reduction activities in the Lake Tahoe Basin went into effect in early 2009. The Regional Water Board directed its Executive Officer to enter into an MOU with the Tahoe Regional Planning Agency (TRPA). The MOU streamlines permitting for vegetation management projects in the Lake Tahoe Basin by eliminating the need for project applicants to apply to both the TRPA and the Regional Water Board and to receive permits from both agencies. Under this new MOU, a person wanting to remove trees and vegetation on the California side of the Lake Tahoe Basin need only apply to the TRPA. In 2008-09, Regional Board staff reviewed and commented on over 30 USFS/BLM fuels management/timber harvest projects and completed site visits/inspections of about 20 USFS new or existing projects.

The in 2008-09 approximately 2.9 million gallons of AMD were treated through a series of holding and evaporation ponds, followed by use of a pond water treatment plant during the summer months at the Leviathan Mine. Regional Board staff collected samples of influent (untreated pond water) and treatment system effluent to evaluate treatment of effectiveness and compliance with discharge criteria. Regional Board staff continued to implement their monitoring programs for surface water quality, surface water stage and flow, and meteorological data. In addition, Regional Board staff conducted or oversaw site maintenance such as invasive plant control, fence repair, road maintenance, evaporation pond liners and storm water conveyance cleanout.

Activities that implement the Lake Tahoe TMDL have already been discussed (see Initiative 1 above.) Regional Board action to recommend delisting of Big Meadow and the Upper Truckee River were also already discussed above (see Initiative 2 above). The delisting of Twin Lakes was recommended as the original listing was flawed and no longer meets current Listing Policy requirements.

Once it is able to continue, the project titled *Grazing Management Practice Implementation and Assessment in One or More Targeted Watersheds in the Lahontan Region (Walker River, Carson River, Susan River and Owens River.)* will implement several of the developing TMDLs. (see Initiative 2 above)

Colorado River Basin Regional Water Quality Control Board (Region 7)

The Imperial Valley portion of the Salton Sea Transboundary Watershed has been targeted for the purposes of watershed management, including the development and implementation of TMDLs and implementation of the State's NPS Program Plan. Priority water quality issues in the region include management of sedimentation of the New and Alamo Rivers and the Imperial Valley Drains, and management of pathogen and trash contamination of the New River.

Initiative 7.1.: Technical Assistance

Irrigated agriculture is a major land use in the Imperial Valley, and is identified as a 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.

During the 2008-09 period, Regional Board staff regularly met with and will continue to meet with Imperial County Farm Bureau (ICFB) staff and Imperial Irrigation District (IID) staff to work on issues related to the TMDL database and determining TMDL compliance. Staff from all three agencies have been working together to establish a method of determining which Water Quality Control Plans/Sediment Control Programs are being updated annually. This work is ongoing.

The State Water Board is currently providing the ICFB funds to educate Imperial Valley farmers/growers on, and promote the use of MPs through a voluntary TMDL compliance program. The short-term goal of this program is a continued reduction of silt and sedimentation in both the New and Alamo Rivers. The long-term goal of this program is a 50% reduction of silt and sedimentation in both the New and Alamo Rivers by 2010.

This current grant is an extension of an ongoing program. With 99% of the Imperial Valley farmers/growers enrolled and participating in the program, our focus in the coming five years will turn towards evaluating existing Farm Plans and preparing new On-Farm-Assistance Plans for those not yet completed.

During this time period, the Imperial County Farm Bureau has also taken measures to educate and promote Imperial Valley farmers/growers including the use of various media sources (e.g.; radio, publications, internet), conducting educational meetings, and conducting on-farm consulting services. These include assisting with landowner access agreements, conducting field visits, assisting with determining causes of erosion, or developing farm water quality management plans, and identifying, developing and or modifying on-farm MPs.

Initiative 7.2.: TMDL Development and Implementation Schedule

The Regional Board's NPS Program will be focusing on TMDL development and implementation in the Salton Sea watershed, our Priority Watershed. Funding through the CWA 319(h) grant program supports the TMDL implementation efforts. Regional Board staff are currently implementing the following TMDLs and their status, as of June 30, 2009, is as follows:

- *Alamo River Silt TMDL – Completed Phase I and II*
- *New River Silt TMDL - Completed Phase I and II*
- *Imperial Valley Silt TMDL - Completed Phase I and II*
- *New River Pathogen TMDL - Significant reduction of pathogens - improved water quality*
- *New River Trash TMDL – Currently awaiting USEPA funding as source of trash has been determined to be from outside the State of California.*

The Regional Board is currently developing the following TMDLs:

- *Coachella Valley Stormwater Channel Bacteria Indicators TMDL – Was adopted by the Regional Board in May 2007. However, it has been determined that further study is necessary to identify all sources of contamination and more work is needed. A Technical Advisory Committee (TAC) will be formed and meetings will be scheduled to begin in late Nov/Dec 2009.*
- *New River Dissolved Oxygen TMDL – Currently still under development*

- *Alamo River Chlorpyrifos TMDL – Currently still under development*

Alamo River Silt TMDL, New River Silt TMDL, and Imperial Valley Silt TMDL

As a result of agricultural return flows contributing silt to the New River, Alamo River, and Imperial Valley drains, three silt TMDLs were developed. The three silt TMDLs have essentially similar implementation schedules in order to ease implementation efforts by both farmers and Regional Board staff. To allow time for responsible parties to meet TMDL load reductions of silt, the compliance timelines consist of four phases, each with increasingly stringent water quality targets. The implementation schedules for the silt TMDLs are shown in Tables 5, 6, and 7.

Table 5: Interim Numeric Targets for Attainment of Alamo River Silt TMDL

Phase	Time Period	Estimated Percent Load Reduction	Interim Target TSS (mg/L)
1	2002 – 2004	15%	320
2	2005 – 2008	25%	240
3	2009 – 2011	10%	216
4	2012 – 2014	8%	200

Table 6: Interim Numeric Targets for Attainment of New River Silt TMDL

Phase	Time Period	Estimated Percent Load Reduction	Interim Target TSS (mg/L)
1	2003 – 2005	5%	229
2	2006 – 2008	7%	213
3	2009 – 2011	4%	204
4	2012 – 2014	2%	200

Table 7: Interim Numeric Targets for Attainment of Imperial Valley Drains Silt TMDL

Phase	Time Period	Estimated Percent Load Reduction	Interim Target TSS (mg/L)
1	2005 – 2006	10%	376
2	2007 – 2009	25%	282
3	2010 – 2012	20%	226
4	2013 – 2015	12%	200

New River Pathogen TMDL

The New River's main sources of pathogens (indicated by fecal coliforms and *E. coli* bacteria) are discharges of municipal wastes from the Mexicali Valley in Mexico and treated, but not disinfected, wastewater from five domestic Imperial Valley wastewater treatment plants (WWTPs). Other sources of pathogens include confined animal feeding operations, wildlife, and other nonpoint sources of pollution. As of June 30, 2008 a significant reduction of pollutant load has been accomplished with this work.

New River Trash TMDL

The New River carries partially treated and untreated wastes from the Mexicali Valley in Mexico across the International Boundary into the United States. The River also receives treated domestic wastewater from Imperial Valley wastewater treatment plants. The New River's flow consists mostly of agricultural return flows from the Imperial Valley. Trash is visible immediately downstream of the International Boundary, near and on the surface of the New River, and along the River's banks. Trash can carry pathogens, VOCs, organic matter, metals, and other pollutants, posing a significant threat to public health, fish, and wildlife communities. By the time flow in the New River from Mexico reaches the International Boundary, many pollutants from trash (e.g., raw sewage, oil barrels, tires, and paint cans) discharged upstream in Mexico have dissolved or leached into the River. USEPA funding is being sought to develop and implement this TMDL.

Coachella Valley Storm Water Channel Bacterial Indicators TMDL

The Coachella Valley Stormwater Channel (CVSC) is located in Coachella Valley, in Riverside County, California. The Coachella Valley has been heavily agricultural since the early 1900s. Agricultural lands are irrigated by groundwater and water from the Colorado River delivered to the Valley through the Coachella Canal via the All-American Canal. The CVSC is an unlined, engineered extension of the Whitewater River. It serves as a conveyance channel for irrigation return water, wastewater discharge from one NPDES permitted aquaculture facility, and treated wastewater from three NPDES permitted municipal WWTPs.

The CVSC is on the California CWA 303(d) list for impairment by pathogens of unknown sources. This listing applies to the 17-mile length of the CVSC from Indio to the Salton Sea. This violation of water quality standards is a threat to public health, and impairs the following CVSC beneficial uses: Freshwater Replenishment (FRSH), Water Contact Recreation (REC I), Water Non-Contact Recreation (REC II), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Preservation of Rare, Threatened, or Endangered Species (RARE).

The Coachella Valley Storm Water Channel Bacterial Indicators TMDL was adopted by the Regional Board in May 2007. The original review schedule for this TMDL was as shown below, however, after initial review of the TMDL, it has been determined that additional study is necessary to identify all potential sources, so this time schedule will be adjusted into the future. A Technical Advisory Committee will be formed in late November/December 2009.

Activity	Date
USEPA Approval	2010
Terminate First TMDL Review, and conduct Regional Board Public Hearing	2012-2013
Terminate Second Review and Conduct Regional Board Public Hearing	2015-2016

Performance Review: Staff continues working together with the Imperial County Farm Bureau and the Imperial Irrigation District staff to work on issues related to the TMDL database and

determining TMDL compliance. Staff from all three agencies have been working together to establish a method of determining which Water Quality Control Plans/Sediment Control Programs are being updated annually.

The Regional Board's NPS Program has been focusing on TMDL development and implementation in the Salton Sea watershed. This includes the completion of Implementation Phases I and II of the Alamo River Silt TMDL, New River Silt TMDL and the Imperial Valley Silt TMDL. Significant reduction of pathogens and improved water quality have been achieved under the New River Pathogen TMDL. The New River Trash TMDL is currently awaiting USEPA funding.

The Regional Board is currently developing the Coachella Valley Stormwater Channel Bacteria Indicator, New River Dissolved Oxygen and Alamo River Chlorpyrifos TMDLs.

Santa Ana Regional Water Quality Control Board (Region 8)

For the next 5 years and beyond, the primary Santa Ana Region NPS efforts will be focused on developing and carrying out programs necessary to implement TMDLs and to implement management measures to improve water quality in CWA 303(d) listed waters. In priority order, NPS program priorities that have been identified by Santa Ana RWQCB staff for action over the next 5 years include:

- Management of pollutant loads from agricultural operations, both irrigated and dry-farmed areas.
- Oversight of programs to control NPS discharges in marinas throughout the region.
- Management of NPS pollutant loads from forested areas of the region.

Updates for 2008-2009: These priorities have not changed and program elements have not deviated during the past fiscal year (July 1, 2008-June 30, 2009). Priorities remain as they were outlined in the Region's Five-Year NPS Implementation Plan for 2008-2013.

Management of Pollutant Loads from Agricultural Operations:

Pollutant loadings carried by runoff discharges from agricultural operations contribute to the impairment of waters in the region, including waters for which TMDLs have been promulgated and other 303(d)-listed waters. Water quality pollutants associated with agricultural runoff discharges include bacteria, nutrients, sediment and pesticides. Agricultural runoff discharges are also associated with loss of aquatic habitat and wildlife habitat.

Santa Ana Regional staff is developing a program of conditional waivers of waste discharge requirements through which we expect to acquire watershed management area (WMA)-specific information about discharges from agricultural operations. This information will be used to direct implementation of management measures, ranging from raising awareness and voluntary installation of controls to individual waste discharge requirements.

The conditional waiver for agricultural dischargers (CWAD) program will first be developed for use as a tool to leverage implementation of the 2004 Nutrient TMDLs for Canyon Lake and Lake Elsinore. These TMDLs require key stakeholders to cooperatively support implementation of the TMDLs; this has evolved into a program of membership in stakeholder

organizations, and allocation and collection of fees to share implementation costs. One of these groups, the Western Riverside County Agriculture Coalition (WRCAC), is implementing a Prop. 50 grant–funded project that has identified the owners of agricultural lands in the San Jacinto River watershed. The Canyon Lake and Lake Elsinore TMDLs Task Force, a working group consisting of local agencies and other dischargers, is also very active in TMDL implementation activities. Agricultural operators and absentee owners of agricultural land in the San Jacinto River watershed tributary will be required to enroll in the CWAD. Waste discharges from dairy confined animal feeding operations (CAFOs) are already regulated by a Regional Board general permit, and will be exempted from participating in the CWAD program. Agricultural operations in the San Jacinto River watershed that may be covered by the CWAD include seasonal dry and irrigated farming of row and field crops, orchard and grove operations, wholesale and retail plant nurseries, turf farms, chicken and horse ranching, and operation and maintenance of large-scale institutional, recreational and commercial landscapes.

The design of CWAD for the San Jacinto River watershed will be intended to influence the behavior of agricultural operators to reduce NPS pollutant discharges from their operations, and will include compliance incentives, such as opting out of the program once effective BMPs are in place. For more information on the TMDL, see http://www.waterboards.ca.gov/santaana/html/elsinore_tmdl.html

The CWAD program will also include a prohibition on application of manure to agricultural lands overlying groundwater management zones that have no assimilative capacity for total dissolved solids (TDS) and/or nitrogen, a prohibition necessary to implement the Santa Ana Regional Basin Plan. To identify potential enrollees in the CWAD program, the initial list was prepared by Western Riverside County Agricultural Coalition (WRCAC) of stakeholders for the Canyon Lake and Lake Elsinore TMDL Implementation working group.

Updates for 2008-2009:

A. The following updates pertain to the Lake Elsinore and Canyon Lake Nutrient TMDL program:

1. Tasks completed by TMDL Task Force:
   a. Developed, implemented and completed the nutrient TMDL water quality monitoring program for lakes and watershed;
   b. Initiated a biological monitoring program;
   c. Initiated water quality modeling updates.

2. Tasks completed by Regional Board staff:
   a. Issued California Water Code Section 13267 Orders to operators of agricultural operations identified from the County Tax Assessor's office records to pay shared costs associated with TMDL implementation, and followed up with notification letters, letters of non-compliance, and notices of violations (NOVs);
   b. Processed TMDL cost-sharing exemption requests;
   c. Reviewed annual monitoring reports;
   d. Reviewed biological monitoring report.

3. Task completed by US Forest Service:
   Monitoring activities were conducted to evaluate the nutrient loads from land management practices.

4. Task completed by Ag. Operators:
   Many complied with the CWC 13267 Order by joining WRCAC and paying TMDL allocation charges.

B. The following updates, and on-going and proposed activities, pertain to San Jacinto River Watershed CWAD Program

1. Tasks completed by Regional Board staff
   a. Developed a CWAD workplan to establish various milestones, goals and schedules.
   b. Developed a CWAD program specific Fact Sheet which is posted in Region's website[3].
   c. Conducted review of watershed-wide agricultural land use survey data (developed for TMDL program by WRCAC) and analyzed its value to the CWAD program;
   d. Completed analysis of available data to begin to determine potential CWAD program enrollees (established agricultural activity types/categories from ag. operation land use classifications in dataset);
   e. Identified and coordinated with major program stakeholders, growers, industry groups, and agencies, including NGOs that may manage and administer a "coalition" of CWAD program participants;
   f. Coordinated with local agricultural grower and farming groups such as Riverside County Farm Bureau and Ag. Commissioner to develop sustainable CWAD program;
   g. Analyzed Riverside County Ag. Commissioner pesticide user and permitted growers data for use in developing a potential enrollee element of a comprehensive CWAD program database;
   h. Conducted field investigations, surveys and reconnaissance evaluation of ag. operations in the CWAD program area;
   i. Conducted out reach activities that include interviews with growers, ag. land owners and local farming groups;
   j. In September 2008, participated in joint agricultural waiver workshop and information meeting, planned by San Diego Regional Board (Region 9). This meeting served as an initial introduction of the Region 8 CWAD program;
   k. Coordinating with Region 9 and the Stormwater Monitoring Coalition (SMC) of southern California cities, counties and NGOs to explore integration of agricultural waiver monitoring programs with SMC Monitoring Coalition as a way of furthering creation of a regional water quality monitoring program. Agricultural community stakeholder representatives are participating in these discussions. Region 8 and 9 staff support idea of an integrated monitoring program.

Goals for the San Jacinto River Watershed CWAD program for SFY 2009-10:

Develop and adopt a CWAD program for the San Jacinto River watershed TMDL specific. The CWAD program will also include a prohibition on application of manure to agricultural lands overlying groundwater management zones that have no assimilative capacity for total dissolved solids (TDS) and /or nitrogen, a prohibition necessary to implement the Region's Basin Plan. Identify potential enrollees in the CWAD program.

Obtain baseline information about the quantity and quality of runoff discharges from the enrollee's operations; obtain and verify information about agriculture irrigation runoff control

[3] http://www.waterboards.ca.gov/santaana/water_issues/programs/planning/ag_waiver_fact_sheet5-14-09.pdf

practices in the watershed, in cooperation with other appropriate agencies; create and provide outreach opportunities to advertise the availability of and advance the use of appropriate agricultural runoff NPS pollutant control management measures.

Goals for the San Jacinto River watershed CWAD Program for 2011-2012:

Further identify irrigated agricultural operators and enroll them in the CWAD program. In cooperation with other appropriate agencies, conduct outreach inspections at targeted discharger facilities to assist CWAD program enrollees to identify and apply appropriate agricultural runoff NPS pollutant control management measures. Conduct escalating enforcement of agricultural operators who fail to enroll enrollees who fail to comply with CWAD program conditions and requirements.

Build the San Jacinto River watershed comprehensive CWAD database. Enroll >85% of the agricultural operators that have been identified by WRCAC and the TMDL working group and that meet CWAD program criteria in the San Jacinto River Watershed CWAD program.

The final goal for the San Jacinto River watershed CWAD program includes full financial participation in TMDL implementation programs by all agricultural operators, and reduction of the nutrient load allocated to agriculture to levels that achieve the TMDL.

Eventually, the CWAD program will expand region-wide. Following implementation of the San Jacinto River watershed CWAD program, an additional CWAD (or multiple CWADs) will be developed for other WMAs with TMDLs that involve management of NPS pollutant discharges from agricultural operations, including nutrients, sediment and pesticides - organo-chlorine pesticides in particular. These include:

Middle Santa Ana River http://www.waterboards.ca.gov/santaana/pdf/05-01.pdf
Lower Santa Ana River, and Newport Coast WMAs
TMDLs for Newport Bay include
Nutrient TMDL http://www.waterboards.ca.gov/santaana/pdf/98-100.pdf ;
Sediment TMDL http://www.waterboards.ca.gov/santaana/pdf/TMDL02.pdf ;
Pesticides TMDLs http://www.waterboards.ca.gov/santaana/pdf/03-39.pdf and
http://www.waterboards.ca.gov/santaana/pdf/07-24.pdf
http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/nutrient_tmdl.shtml
Organochlorine Compounds TMDLs
http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/newport_oc_tmdl.shtml; and
Diazinon/Chlorpyrifos TMDLs
http://www.waterboards.ca.gov/santaana/water_issues/programs/tmdl/index.shtml#projects

Through a Clean Water Act (CWA) Section 106 assistance program, Regional Board staff has requested contractor assistance from USEPA to identify agricultural operators and owners of irrigated lands in these watersheds. Assistance has not been forthcoming. Lessons learned from development and implementation of the San Jacinto River watershed CWAD program should make the process of crafting subsequent Santa Ana Basin CWAD programs more efficient.

Controlling NPS Discharges in Marinas:

SWRCB General Water Quality Order No. 2004-0017-DWQ requires, "…Owners and Operators of Specified Vessel Terminals Located in Newport Bay and Huntington Harbour to Install, Maintain, and Operate Pumpout Facilities and Dump Stations Where Necessary to Protect Water Quality." In 1976, USEPA designated Newport Bay and Huntington Harbour as "no discharge zones" (NDZ). In 1994, Newport Bay was listed on the federal Clean Water Act Section 303(d) list of impaired water bodies due to bacterial contamination. In 1998, the Santa Ana Regional Board established the Newport Bay fecal coliform TMDL to address bacterial contamination. The TMDL includes a zero waste load allocation for vessel waste discharges, in recognition of the NDZ status of the Bay. The TMDL requires the City of Newport Beach and Orange County to conduct additional studies to assess the effectiveness of the vessel pumpout program. In 1994, Huntington Harbour was also listed on the 303(d) list of impaired water bodies due to bacterial contamination. No bacteria TMDL has yet been established for Huntington Harbour; once established, this TMDL is expected to also include a zero waste load allocation for vessel waste discharges.

General Order No. 2004-0017-DWQ was adopted at the request of the Santa Ana Regional Board to provide leverage to enforce the NDZ designations and implement the Newport Bay fecal coliform TMDL. Following adoption of the general Order, in November 2004 Santa Ana Region staff conducted a study and found that all marinas listed in the Order had either fully complied with it or had taken steps that would result in their timely compliance. A follow-up inspection program is needed to assure that the objectives and requirements of the general Order continue to be met. Furthermore, the region's NPS staff is considering a pilot program to assess whether inland recreational boating and marinas are, or have the potential to become, a significant NPS load. We will also determine if there is a desire or need for the region's NPS program to act as a conduit for disseminating information about the Division of Boating and Waterways clean boaters programs.

Updates for 2008-2009:

A. In August and September of 2008, Regional Board staff, in coordination with Orange County CoastKeeper, conducted inspections of 9 marinas/vessel terminals located in Newport Bay, and 10 marinas/vessel terminals and one mobile pumpout contractor operation in Huntington Harbour. Staff also reviewed and evaluated vessel waste pumpout programs operated by the Cities of Newport Brach and Huntington Beach and made recommendations for improvement of their respective programs.

B. Goals for SFY 2009-10 marina oversight program also include implementing tools developed by the Division of Boating and Waterways clean boater's programs and other stakeholder programs, and conducting a pilot program of fact-finding visits to inland marinas at the recreational lakes in the region to assess their potential to be a significant source of NPS pollution.

C. Goals for SFY 2010-11 marina oversight program include conducting further inspections and program evaluation that follow up the 2008 inspections and the 2004 study of the 12 marinas with pumpouts and dump stations in Newport Bay and Huntington Harbour identified in the general Order, to determine if they are in compliance with the general Order. Orange County CoastKeeper has indicated a strong willingness to participate in this effort. Following the inspections, appropriate enforcement will be initiated as necessary to compel compliance with the general Order.

D. Staff has been involved in coordination and review process with State Board staff regarding the proposed California Coastal Marina general permit.

NPS discharges of copper from bottom paints that inhibit growth of marine organisms on hulls of boats kept at marinas and moorings is a well-documented problem in Newport Harbor that is being addressed through the development of a TMDL (http://www.waterboards.ca.gov/santaana/html/rhine_tmdl.html) . Discharges result when copper leaches from the coatings, as well as when treated boat hulls are scrubbed clean at their moorings. Studies conducted in Newport Bay by and for Regional Board staff show that on average antifoulant-coated hulls discharge approximately 50 to 70 pounds of copper per year

Updates for 2008-2009:

A. A Clean Water act Section 319 NPS grant was awarded to the Orange County CoastKeeper to implement an education that encourages the use of nontoxic alternatives to copper-based anti-foulant coatings in Newport Bay. This program will become one of many programs that will be used to aid in reducing the amount of copper being discharged into bay waters;

B. Regional Board staff is actively involved in work on the proposed California Coastal Marina general permit, by participating in its development and review.

Management of NPS Pollutant Loads from Forested Areas under USFS Control:

Forested areas of region are a source of NPS pollutants that contribute to sediment and nutrient impairments in the watersheds of Big Bear Lake[4], 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 USFS manages a number of leases for various uses, most notably ski resorts in the Big Bear watershed.

There are several communities on Big Bear Lake surrounded 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. The excessive loadings appear to originate in both developed areas and the open space public use areas under USFS management.

Activities 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, unauthorized recreational off road vehicle use and forestry activities. Extensive removal of trees killed by insect infestations in overgrown forests is on-going in the Region. While forestry activities are well managed, NPS sediment discharges from leaseholds, USFS forest roads and unauthorized off road vehicle use remains an ongoing concern. While the USFS endeavors to implement NPS control measures identified in its forest management plans in a timely fashion, it is constrained by limited funding and staffing.

[4] http://www.waterboards.ca.gov/santaana/html/big_bear.html

Goals for SFY 2008-12 for the region's forested area include devising a strategy for obtaining USFS participation in cooperative water quality and NPS monitoring programs. This could involve developing a conditional forest management practices waiver of waste discharge requirements for NPS pollutants from USFS-managed lands, requiring water quality and NPS monitoring as a condition of the waiver.

Updates for 2008-2009:

A. U.S. Forest service conducted monitoring activities to evaluate the nutrient loads from USFS land management activities in the San Jacinto River watershed.

Performance Review: Regional Board staff has been developing a program of conditional waivers of waste discharge requirements for discharges from agricultural operations, both irrigated and dry-land farming. Information about dischargers will be watershed management area (WMA)-specific and be used for direct implementation of management measures, ranging from raising awareness and voluntary installation of controls to individual waste discharge requirements. Regional Board staff has requested contractor assistance from USEPA through a Clean Water Act (CWA) 106 assistance program to identify agricultural operators and owners of irrigated lands in these watersheds. Assistance has not been forthcoming. Lessons learned from development and implementation of the San Jacinto River watershed CWAD program should make the process of crafting subsequent Santa Ana Basin CWAD program more efficient.

Staff, in coordination with Orange County CoastKeeper conducted inspections of marinas/vessel terminals located in Newport Bay and Huntington Harbour. Staff also reviewed and evaluated vessel waste pumpout programs operated by the Cities of Newport Brach and Huntington Beach and made recommendations for improvement of their respective programs. Goals for SFY 2009-10 marina oversight program also include implementing tools developed by the Division of Boating and Waterways clean boater's programs and other stakeholder programs, and conducting a pilot program of fact-finding visits to inland marinas at the recreational lakes in the region to assess their potential to be a significant source of NPS pollution. Goals for SFY 2010-11 marina oversight program include conducting further inspections and program evaluation that follow up the 2008 inspections and the 2004 study of the 12 marinas with pumpouts and dump stations in Newport Bay and Huntington Harbour identified in the general Order, to determine if they are in compliance with the general Order. Orange County CoastKeeper has indicated a strong willingness to participate in this effort. Following the inspections, appropriate enforcement will be initiated as necessary to compel compliance with the general Order. Additionally, Staff has been involved in coordination and review process with State Board staff regarding the proposed California Coastal Marina general permit.

During 2008-09 the U.S. Forest service conducted monitoring activities to evaluate the NPS pollutant nutrient loads from USFS land management activities in the forested areas of the San Jacinto River watershed. The goals for the region's forested area continue to include devising a strategy for obtaining USFS participation in cooperative water quality and NPS monitoring programs. This could involve developing a conditional forest management practices waiver of waste discharge requirements for NPS pollutants from USFS-managed lands, requiring water quality and NPS monitoring as a condition of the waiver.

San Diego Regional Water Quality Control Board (Region 9)

The San Diego Regional Water Quality Control Board (SDRWQCB) has prioritized wetlands, riparian areas and hydromodification as the major areas of focus for it NPS Program in the coming five years. Healthy wetlands and riparian areas support many important beneficial uses and serve many important functions, including, flood attenuation, groundwater recharge, water purification, and fish and wildlife habitat. The importance of wetlands has been recognized in both federal and California policies calling for "no net loss" of wetlands as well as the California NPS Program Plan. Relevant MMs in the California NPS Program Plan address the protection of, restoration of, or threats to the physical, chemical, and biological integrity of wetlands and riparian areas.

Numerous land development, infrastructure, and other projects and activities in the San Diego region have individually and collectively resulted in significant loss and degradation of wetlands and riparian areas and their associated functions and beneficial uses. These include the results of dredging and filling; stream channel modifications (channelization, concrete lining, undergrounding, etc.); and modification of hydrologic and salinity regimes.

The primary tool available to the SDRWQCB for preventing further loss and degradation of wetlands and riparian areas, and for ensuring appropriate, adequate, and successful mitigation is the CWA section 401 certification process. In the San Diego region, most applications for CWA section 401 certification involve activities subject to the CWA section 404 dredge and fill permitting program administered by the U.S. Army Corps of Engineers. Many activities subject to CWA section 404 permitting have the potential to cause severe and long lasting - even permanent - adverse effects on the health and extent of wetlands and riparian areas. Even where incremental adverse effects associated with a particular project or activity might seem to be small, over time the cumulative adverse effects of a number of projects and activities can be very significant.

The SDRWQCB receives approximately 150 applications for CWA section 401 certification and approximately 500 California Environmental Quality Act (CEQA) documents annually. More than 193 acres of jurisdictional wetlands were permanently impacted in connection with CWA section 401 certifications issued by the SDRWQCB between 2002 and 2004. Even where mitigation requirements for acreage of wetlands created or enhanced were met, functional mitigation for adverse effects did not necessarily result.

Initiative 9.1.: Protection and Restoration of Wetlands and Riparian Areas

The SDRWQCB plans to continue 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 9.1a.: Strengthening policies and standards

Existing policy and standards in support of protecting wetlands and riparian areas are not comprehensive. The proposed State Water Resources Control Board statewide "Wetland and Riparian Area Protection Policy" has the potential to significantly strengthen state policy for protecting wetlands and riparian areas. The SDRWQCB will participate in the

development of the proposed Policy with the goal of ensuring that it would be effective in helping to protect wetlands and riparian areas in the San Diego region.

Implementation Results:
During the period of July 2008 – June 2009, the SDRWQCB continued to participate in development of the proposed SWRCB "Wetland and Riparian Area Protection Policy." The SDRWQCB plans to continue this activity for as long as the various phases of the proposed Policy are under development. During this period, obligatory staff furloughs impeded this activity.

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. These would more effectively protect wetlands and riparian areas and increase the functional success of compensatory mitigation. The SDRWQCB will review these recommendations and determine which are applicable to the San Diego region; which can be implemented by the SDRWQCB; which are the most important to implement; how to implement such recommendations; and then to implement those selected recommendations.

Implementation Results:
During the period of July 2008 – June 2009, the SDRWQCB made changes in several parts of its CWA section 401 certification program to improve both protection of wetlands and riparian areas and mitigation of impacts to those areas. These included:

a. Improving mitigation requirements;
b. Improving information management;
c. Improving permit clarity;
d. Improving assessment of "no net loss;" and
e. Improving coordination with other agencies.

The SDRWQCB plans to continue this activity for the foreseeable future.

During this period, staff turnover, staff absences, and obligatory staff furloughs impeded this activity.

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. The SDRWQCB will meet with individuals and groups that have these concerns, identify problematic procedures and requirements of the SDRWQCB CWA section 401 certification program, and, where possible and appropriate, revise such procedures and requirements to minimize impediments to the restoration of wetlands and riparian areas.

Implementation Results:
The SDRWQCB has not yet initiated this activity. Initiation of this activity may be postponed until after obligatory staff furloughs end.

Activity 9.1.d.: Regulation
The SDRWQCB will continue to conduct routine CWA section 401 certification program regulatory work, including CEQA document review, pre-application meetings, application processing, compliance inspections, and enforcement.

Implementation Results:
During the period of July 2008 – June 2009, the SDRWQCB continued to conduct routine CWA section 401 certification program regulatory work, as reported in its semiannual progress reports. In the period of July 2009 – June 2010, the SDRWQCB is planning to begin reporting wetland and riparian area losses and gains associated with this work. This will provide a more meaningful (albeit imperfect) indication of the outcome of this activity than "bean counts" of the number of applications processed, inspections conducted, enforcement actions taken, etc.). The SDRWQCB plans to continue to use this activity for as long as CWA section 401 certification program resources are inadequate to do routine CWA section 401 certification program regulatory work. During this period, resistance to enforcement actions, staff turnover, staff absences, and obligatory staff furloughs impeded this activity

Activity 9.1e: Participate in Working Groups
The SDRWQCB will continue to participate in various groups working on protection, restoration, and monitoring of wetlands and riparian areas and/or hydromodification (e.g., Southern California Wetlands Recovery Project, California Wetlands Monitoring Workgroup, Integrated Wetlands Regional Assessment Program, Statewide Hydromodification Working Group, City of San Diego Wetlands Advisory Board, etc.)

Implementation Results:
During the period of July 2008 – June 2009, the SDRWQCB continued to participate in these working groups. During this period, obligatory staff furloughs and other state budget problems impeded this activity.

Initiative 9.2.: Agriculture
If / when sufficient additional CWA section 319 / NPS program resources are available to the SDRWQCB, the SDRWQCB would like to devote additional resources to ensuring that agricultural activities in the San Diego region are conducted in a manner that ensures protection of water quality and beneficial uses. The SDRWQCB would develop a more detailed plan for how it would use additional resources if / when there are indications that additional resources might become available.

Implementation Results:
No work will be done on this initiative until sufficient additional resources are available.

Initiative 9.3.: Forestry
If / when sufficient additional CWA section 319 / NPS program resources are available to the SDRWQCB, the SDRWQCB would like to devote additional resources to ensuring that wildfire prevention and post-wildfire cleanup activities in the San Diego region are conducted in a manner that ensures protection of water quality and beneficial uses. The SDRWQCB would develop a more detailed plan for how it would use additional resources if / when there are indications that additional resources might become available.

Implementation Results:
No work will be done on this initiative until sufficient additional resources are available.

Initiative 9.4.: Marinas and Recreational Boating
If / when sufficient additional CWA section 319 / NPS program resources are available to the SDRWQCB, the SDRWQCB would like to devote additional resources to ensuring marina

and recreational boating activities in the San Diego region are conducted in a manner that ensures protection of water quality and beneficial uses. The SDRWQCB would develop a more detailed plan for how it would use additional resources if / when there are indications that additional resources might become available.

Implementation Results:
No work will be done on this initiative until sufficient additional resources are available.

Performance Review: The SDRWQCB has and will continue to participate in various groups working on protection, restoration, and monitoring of wetlands and riparian areas and/or hydromodification (e.g., Southern California Wetlands Recovery Project, California Wetlands Monitoring Workgroup, Integrated Wetlands Regional Assessment Program, Statewide Hydromodification Working Group, City of San Diego Wetlands Advisory Board, etc.)

The SDRWQCB will also continue to conduct routine CWA section 401 certification program regulatory work, including CEQA document review, pre-application meetings, application processing, compliance inspections, and enforcement.

Appendix 1

Acronyms

BMP:	Best Management Practice
BOF:	Board of Forestry
CAFOs:	Combined Animal Feeding Operations
CASQA:	California Association of Southern
CAW:	Conditional Agricultural Waiver
CAWALUP:	California Water and Land Use Partnership
CCAMP:	Central Coast Ambient Monitoring Program
CCAs:	Critical Coastal Areas
CCC:	California Coastal Commission
CCLEAN:	Central Coast Long-Term Assessment Program
CenCOOS:	Central Coast Ocean Observation System
CEQA:	California Environmental Quality Act
CRAM:	California Rapid Assessment Method
CMAP:	California Monitoring Assessment Program
CMP:	Clean Marinas Program
CRMPs:	Coordinated Resource Management Program
CV-SALTS:	Central Valley Salinity Initiative
CWA:	Clean Water Act
DFA:	Department of Finance Administration (in SWRCB)
DWR:	Division of Water Rights
GAMA:	Groundwater Ambient Monitoring Assessment
IACC:	Interagency Coordinating Committee
ICFD:	Imperial County Farm District
IID:	Imperial Irrigation District
ILRP:	Irrigated Lands Regulatory Program
IRWMP:	Integrated Regional Watershed Management Projects
LID:	Low-Impact Development
MAA:	Management Assistance Agreement
MFAC:	Minimum Frequency of Assessment and Collection
MMs:	Management Measures
MPs:	Management Practices
MRP:	Monitoring and Reporting Program
NDZ:	No Discharge Zone
NEMO:	Nonpoint Education for Municipal Officials
NOAA:	National Oceanic and Atmospheric Administration
NPDES:	National Pollutant Discharge Elimination System
NPS:	Nonpoint Source (pollution)
OC:	Organochlorine pesticide
POTW:	Publicly Owned Treatment Works

RCD:	Resource Conservation Districts
RWQCB:	Regional Water Quality Control Board
SEPs:	Supplemental Environmental Projects
SRF:	State Revolving Fund
SWAMP:	Surface Water Ambient Monitoring Program
SWRCB:	California State Water Resources Control Board
THPs:	Timber Harvest Plans
TMDL's:	Total maximum daily loads
U.S. EPA:	United States Environmental Protection Agency
USFS:	United States Forest Service
WDR:	Waste Discharge Requirement
WQC:	Water Quality Certification
WQMP:	Water Quality Management Plan