California State Water Quality Control Board
Nonpoint Source Program Five-Year Plan
July 1, 2008- June 30, 2013

State Water Resources Control Board (SWRCB)
Regional Water Quality Control Boards (RWQCB's)
California Coastal Commission (CCC)

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Introduction

History of the Fifteen-Year Strategy and Five-Year Implementation Plans

In 1998, the State of California began the implementation of its Fifteen-Year Program Strategy (Strategy) for the Nonpoint Source Pollution Control Program (NPS Program), as delineated in the *Plan for California's Nonpoint Source Pollution Control Program* (NPS Program Plan). The Strategy described the vision and goals of the NPS Program, including the basic NPS Program process elements of planning, coordination, implementation, monitoring and tracking, and assessment and reporting of NPS Program activities. The NPS Program Plan also divided the fifteen-year Strategy into three, five-year implementation periods, with direction towards achieving the goals and objectives of the NPS Program, culminating in complete management measure (MM) implementation by the year 2013.

The first five-year implementation plan was developed by the State Water Resources Control Board (State Water Board), the Regional Water Quality Control Boards (Regional Water Boards), and the California Coastal Commission (Coastal Commission) as part of the NPS Program Plan. This implementation plan focused on the activities of these three "core agencies". The inclusion of activities from the over twenty (20) other State agencies identified in the Strategy with NPS related authorities and responsibilities began with the creation of the Interagency Coordinating Committee (IACC) in 2001, already three years into the five-year implementation period. The IACC agencies involved in that process submitted to the SWRCB their tabulated list of activities that could be included in *the Second Addendum to the First, Five-Year NPS Implementation Plan* (Second Addendum). The Second Addendum was completed in September 2001, less than 18 months prior to beginning development of the next five-year implementation plan. Although this proved to be an important beginning to the cooperative process between NPS-related agencies through the IACC, the timing created an abbreviated period during which the participating agencies could work through their NPS-related activities, incorporate collaborative processes with other agencies, or otherwise adjust activities and develop improvements.

The process of developing the *NPS Program Five-Year Implementation Plan (2003-2008)* (2003-08 NPS Implementation Plan) began in February 2002, and included the consideration of what had been accomplished during the first, five-year period. Other than the ability to begin the planning process before the implementation period actually began, there were several additional changes that took place in this process. They included:

1. The development of NPS Implementation Plan Objectives, which were drafted through the IACC subcommittees for the six NPS land use categories (e.g.; agriculture; forestry (silviculture); urban areas; marinas and recreational boating; hydromodification; and wetlands, riparian areas, and vegetated treatment systems. This was a significant effort at collaboration that had not taken place during the development of the Second Addendum.

2. The consideration of ”performance measures” that could be utilized to evaluate success in meeting the NPS Implementation Plan Objectives at the end of the second, five-year implementation period. This process also utilized the IACC subcommittee structure.

3. The development of a database for the NPS Implementation Plan to be used by all of the participating IACC agencies. The database included all of the agency activity information as function of land use category, MM, and process element, as well as available fields to be used for contact, funding, location, watershed, pollutant/stressor, deliverables, and other information that will be essential in the development of collaborative processes.

FYP Mini- Assessments for July 1, 2003 – June 30, 2008

Summary

Before laying out goals and objectives for the upcoming 5 year planning period, the planning team consulted with experts in the various land use areas upon which our nonpoint source pollution work focuses. We asked for short and pithy “mini-assessments” to summarize the basic accomplishments from the current 5-year planning period. This chapter encompasses these brief assessments. You will see that several themes run through our NPS work across agencies in the past five years. Our intention is to incorporate these “lessons” from past efforts into our new five year plan, in hopes of ratcheting up nonpoint source pollution efforts in California.

Successful projects across all land use categories have several elements in common. First, effective cross-agency coordination and inclusion of the impacted citizens has contributed to the success of any project that involves researching, testing, or implementing management measures and management practices. This ensures that the experts are at the table, and that the impacted land use group will become part of the solution. Second, documenting successful efforts in management measure or TMDL implementation and tracking results is necessary for expanding the successful efforts. Finally, disseminating the results and providing technical support is essential to ensuring that the next generation of projects uses the best management measures available.

Challenges for the nonpoint source programs across the agencies remain, and some of them are still large. Methods for tracking management measure implementation are incomplete and awkward, making it difficult for the program to market and expand the use of effective management measures. Better coordination among agencies would help us avoid the problem of projects that are repeated without purpose, and help to promote wider use of the best management practices. Finally, keeping the nonpoint source pollution work that is being done in dozens of agencies focused on the highest priority issues, chosen with sufficient information to make smart choices, continues to be a challenge.

Current Five-Year Plan (2008-2013)

For the current and final five-year plan to implement the original 1998 nonpoint source strategy, the state is again focusing its attention on the core agencies of the State Board, the Regional Boards and field offices, and the CCC. Without dismissing the extensive efforts of the IACC agencies, the State Board has found it necessary to assert its goal-making authorities more narrowly and realistically, in order to make the best use of shrinking resources. The IACC agencies continue to be major players in the reduction and prevention of nonpoint source pollution in the state; but their efforts will not be represented in this document.

This plan represents a renewed focus on the State Board, Regional Boards and field offices, and the CCC as central implementers of the states nonpoint source program. It reflects the progress made in the program thus far, discuss additional tools made available to the State and Regional Boards, and look at the need for prioritizing resources and efforts. The goals of the five-year plan are similar to those of the past five-year plan, with a closer focus on the following activities:

- 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 or waste discharge requirement (WDR);
- Concentrating nonpoint source 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.

We do not expect to fully implement all management measures in the coming five years. We do expect to have a fully integrated database of existing and tested management measures and management practices, many success stories based on proper implementation and maintenance of these measures and practices, cleanup programs well-established based on actions taken pursuant to theNPS Implementation Policy, and a good handle on the remaining nonpoint source pollution problems in the state. The State Board will be well-positioned to take another long-term look at the future of nonpoint source pollution cleanup.

The Regional Boards, State Board and CCC conducted an abbreviated assessment of accomplishments from the past 5-Year Plan as a starting point for this new 5-Year Plan. We are not including the documentation of this effort, rather the results are incorporated into the revised priorities and goals. The set of questions guiding the assessment included the following three statistical and two analytical questions:

1. What Management Measures under each land-use category has been the focus of effort?
2. What key activities have been done relating to those Management Measures?

3. Where we have existing, easily accessible and assessable information, do we have qualitative and/or quantitative information that documents a) implementation of management measures; b) environmental results of that implementation; and c) can you identify other less available information that could be helpful in the future?
4. What is working, based on the information gathered in questions #1-3?
5. Is the way the NPS program is working appropriate; that is, within each land use category, is our level of involvement correct and are we effective; and will we see success if we continue down this road?

Vision and Goals

Vision

To reduce and prevent nonpoint source (NPS) pollution so that all waters of the State support water quality standards, beneficial uses, and associated water quality objectives.

Goals

1. Restore the beneficial uses of waters of the State impaired by sources of NPS pollution.

2. Protect waters of the State currently meeting water quality standards from both existing and potential impacts of NPS pollution.

Objectives

1. Promote the implementation of the 61 MMs identified in the NPS Program Plan and the development of new ones in order to prevent non-point source pollution and meet the goals of TMDL implementation plans.

2. Strategically target the personnel and financial resources of the NPS Program's principal agencies – the State Water Board, Regional Water Boards, and the Coastal Commission, to achieve measurable NPS pollutant load reductions and water quality improvements.

3. Leverage interagency and private partnerships to bring various skills and expertise to bear on the prevention and clean-up of nonpoint source pollution.

4. Promote the transfer of knowledge, including program success, implementation activities, outreach and education on NPS issues.

5. Promote consistent application throughout the State of the NPS Implementation Policy.

6. Assess and report on an annual basis the NPS Program's progress toward preventing and cleaning up NPS pollution.

STATEWIDE NPS PROGAM FOCUS AREAS

There are a several major areas that the "core agencies" of the California NPS Program will concentrate on during this five-year implementation planning period to ensure that the NPS Program's Vision and Goals are satisfied. Some of these activities are specific to those aspects of the NPS Program for which the "core agencies" are solely responsible, and others take a broader approach and utilize multi-agency collaboration to address NPS pollution control. The purpose of this section is to delineate these six (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 a needs statement or justification for inclusion of the focus area; the focus area goals and the planned activities to achieve those goals for the five-year implementation planning period; and the method to be used to assess the performance of NPS Program in achieving the focus area goals.

1. Education, Outreach, and Technical Assistance

This section addresses education, outreach, and technical assistance activities for the California NPS Program. Funding from the USEPA, various State programs, and bonds have been used to provide technical assistance to the Regional Boards, and watershed and other groups who compete for these funds. Grants and contracts have funded the compilation of management measure (MM) and management practice (MP) technology, and the transfer of this information to other interested parties. Funds and other technical assistance are also provided to other State, and local programs, irrigated agriculture coalitions, and discharger groups. We coordinate this assistance with the SWRCB's CWA 404/401 Program, the National Pollutant Discharge Elimination System (NPDES) Storm Water Program, the Regional Board's irrigated agriculture waiver programs, University California Cooperative Extension, California Water Board's Training Academy, and others.

Needs Statement

Monitoring indicates that nonpoint source pollution is the leading cause of water quality impairments in California. Tracking and monitoring this pollution is a challenge. At this time, there is no statewide coordinated effort to compile and disseminate technologies or on-the-ground management practices for nonpoint source pollution. Since 1990, CWA Section 319 has provided over $90 million to the CA NPS Program and state bonds are now investing $100's of millions more. Much of this funding goes to support implementation projects that result in information on MPs, and environmental results.

Proposed Activities

Activity 1.1. Reprogram the existing MP Miner so that it can be used as an online tool for discharger selection of MPs and as a moderated blog. It is anticipated that the State Board will evaluate and enter 200 information sources (e.g.; studies, project results) for MPs per year.

Activity 1.2. Coordinate with the State Water Board – Division of Financial Assistance (DFA) so that MP information generated by implementation project grants will be required to be loaded into the MP Miner by the project grant recipients.

Activity 1.3. Modernize the NPS Encyclopedia using Wikipedia as a model. Offer quick access to essential information from a variety of sources by providing direct hyperlinks to relevant resources.

Activity 1.4. Participate in grower meetings, conferences, commodity group meetings, and others to demonstrate the MP Miner tool and NPS Encyclopedia – providing demonstrations at approximately ten (10) meetings per year.

Activity 1.5. Work with partner agencies to develop grant proposal concepts which include evaluation of MPs as part of their overall environmental objectives.

Activity 1.6. Sponsor 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.

Performance Review

On an annual basis the CA NPS Program will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in technical assistance, education, and outreach have benefited the NPS Program and related efforts to improve water quality.

2. 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.

Needs Statement

Over the last decade, financial resources available to address NPS water quality impairments in California have been inadequate to address the full measure of the task.

Funds have been made available from the federal and State government, in addition to the $4 – 5 million CWA Section 319 funds directed toward restoring impaired waters annually, the State has also received funding through bond measures. In addition, State Revolving Fund (SRF) loans, and opportunities to leverage compliance penalties or settlement funds, such as Supplemental Environmental Projects (SEPs) have also been available. However, NPS pollution programs have had limited success in accessing the latter programs. And while the federal funds available are significant relative to that provided other states, they are generally only enough to address isolated programs or projects rather than comprehensively cover the tremendous NPS pollution needs of this large and diverse state. 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 administer numerous grant and loan funding programs intended to improve water quality and implement watershed programs. Grant and loan programs from Propositions 13, 40, 50, and 84 have funded projects for watershed protection, NPS pollution MM/MP implementation, clean beaches, agricultural water quality, flood control, storm water, Areas of Special Biological Significance (ASBS), dairies, and others. From 2002 to 2007, the State and Regional Boards awarded $1.25 billion of these state bond funds. Since then, many projects have been completed, a number are in the process of being implemented with remaining and additional funds to be awarded during the next five years.

1. Estimated funding for NPS control projects from Proposition 84 that may be available during the next five years to be administered by the Water Boards include:

2. Agricultural Water Quality Grants for projects that reduce discharge of pollutants from agricultural operations to surface waters ($13.7 million);

3. Clean Beaches Initiative Grants for projects to improve water quality at public beaches, sewer collection and septic system upgrades for restoration/protection of coastal water quality, and storm water and runoff pollution reduction/prevention ($33.9 million);

4. Santa Monica Bay Restoration Commission for projects implementing priority actions specified in Santa Monica Bay Restoration Plan ($16.5 million);

5. ASBS Grant Program for projects that reduce/eliminate discharges into ASBSs to comply with discharge prohibitions in the California Ocean Plan ($33.2 million); and the

6. Storm Water Grant Program for projects that reduce or prevent storm water contamination of rivers, lakes and streams ($82 million).

Additional funding programs exist throughout the State's administrative departments, some of which may be available to fund NPS pollution MM implementation. For example, through Proposition 84, the California Department of Water Resources (CA DWR) will administer $1 billion in its Integrated Regional Water Management (IRWM) program for both water quality and water supply projects over the next several years. Another $130 million for San Francisco Bay-Delta water quality improvement projects, $590 million in flood control projects and $18 million in urban streams restoration projects will also be funded through Proposition 84. Other California agencies administering Proposition 84 funds for grant projects include the Department of Fish and Game (DFG), the Wildlife Conservation Board, the Department of Parks and Recreation, and numerous State Conservancies. Finally, Proposition 1E will raise funds of over $4 billion for flood control, flood protection and storm water flood management projects, also administered by DWR.

The NPS Program will work to improve access to existing funding programs, and to increase and diversify funding sources available for NPS pollution implementation projects. These funds will be directed towards implementing NPS pollution MMs and monitoring their results.

Goals

The following four (4) goals for the financial assistance aspects of the NPS Program have been identified for the five-year implementation planning period:

Goal 2.1.: Provide funding to support MM implementation through CWA section 319 funds, and state funding sources to restore beneficial uses of impaired waters, and to protect high quality waters.

Goal 2.2.: Direct California nonpoint source pollution funding to support priority areas as defined in this plan's Program Objectives.

Goal 2.3.: Diversify and leverage public funding of NPS pollution implementation projects.

Goal 2.4.: Evaluate the effectiveness of funding programs, specifically implementation grants, for restoring and protecting water quality.

Anticipated Activities

The following activities have been identified by the NPS Program to achieve the goals specified above:

Activity 2.1: Work with partner agencies to ensure that the state's NPS pollution program objectives are supported in grant, or "assistance agreement", solicitations and contracts.

Activity 2.2: Manage the annual project solicitation to fund NPS pollution implementation projects specifically targeted toward the restoration of impaired waterbodies or watersheds. (Estimated $11 million per year for 5 years).

Activity 2.3: Expand the use of the SRF in California to include NPS MM implementation projects. Provide outreach and education to the NPS pollution community to encourage and explain the use of SRF as a 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 such as the Lake Tahoe Regreen, or the Lake Tahoe BMP Retrofit. This effort will include working with key SRF management to include priority nonpoint source pollution implementation projects on the SRF project lists (Appendix 2).

Activity 2.4: Increase the use of enforcement mitigation and settlement funds such as SEPs to implement NPS pollution MMs (Appendix 2).

Activity 2.5: Conduct a solicitation to fund "post-implementation" monitoring in watersheds for watersheds where management measures have been completed and/or on the ground for over 5 years and have pre-project data, to demonstrate the water quality results of implementation.

Activity 2.6: Work with IRWMP groups to ensure that eligible nonpoint source pollution projects are included in the integrated watershed plans, and have access to targeted watershed funds.

Activity 2.7: Participate in setting criteria for grant programs and selection of project grants to ensure nonpoint source pollution program goals and objectives are supported.

Performance Review

On an annual basis the CA NPS Program will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in financial assistance have benefited the NPS Program and related efforts to improve water quality.

3. 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.

Needs Statement

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.

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 five 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 five 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 enforcement tools.

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.

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 §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 §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 which 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 §13241 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 §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 North Coast and San Francisco Bay Regional Water Boards.

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. The 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 supply, and protect and restore the environment.

Atmospheric Deposition

Gases and particulates released to the atmosphere from combustion sources such as motor vehicle emissions, slash burning, and industrial sources, contain nitrogen, sulfur, and metal compounds, which eventually settle to the ground as dust or fall to the earth in rain and snow. Other potential sources such as the motor vehicle brake pads (e.g.; copper) and drift from aerial applications of pesticides can add additional pollutants into the environment. These pollutants may be deposited directly into waterbodies, filter slowly into ground water, or in urban areas, be washed from roads, rooftops, and parking lots into surface waters. The gradual effect can be acidification of waters to a point where the natural buffering capacity of receiving waters is exceeded and aquatic life is threatened. Toxins, such as dioxins, furans, polychlorinated biphenyls, and polycyclic aromatic hydrocarbons, transported by atmospheric processes eventually accumulate in sediments, to the detriment of bottom-dwelling organisms and fish and their consumers.

To understand the challenge posed by atmospheric deposition requires an awareness of the mechanics of the phenomenon. It also requires an understanding of the relevant regulations and the monitoring and modeling techniques developed over the years. It is expected that an overall understanding of the issue will only increase support for a coordinated approach that considers both air and water pollution control strategies. Atmospheric deposition is a problem involving both air and water; the search for solutions, therefore, must be similarly integrated.

Goals

In order to address the needs previously identified needs, the following goals have been developed:

> **Goal 3.1.:** To coordinate with other State agencies to ensure effective implementation of the CA NPS Program through the development and implementation of related plans and policies.
>
> **Goal 3.2.:** To ensure that the Regional Water Board NPS regulatory programs are consistent with the NPS Implementation Policy.
>
> **Goal 3.3.:** To initiate incorporation of water quality elements related to NPS pollution prevention into the Water Plan.

Goal 3.4.: To provide training and technical support for implementation of the Stream and Wetlands Policy.

Goal 3.5.: To promote MMs/MPs that address potential water quantity and quality problems associated with climate change and aerial deposition.

Anticipated Activities

The following activities are proposed to achieve the goals established for this section:

NPS Implementation and Enforcement Policy

Activity 3.1.: Work with the Regional Boards and agriculture-related partner agencies (e.g.; California Department of Food and Agriculture, California Department of Pesticide Regulation [CDPR]) 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.

Activity 3.2.: Participate as a member of the advisory group for the Central Valley Regional Board's Long-term Irrigated Agriculture Program to ensure that the requirements of the NPS Implementation Policy are addressed appropriately.

Activity 3.3.: Support the development and implementation of a MM/MP tracking database to be used by the Regional Board's ILRPs to demonstrate implementation effectiveness consistent with the requirements of the NPS Implementation Policy.

State Water Plan - Water Quality Planning

Activity 3.4.: Develop 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 no 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.

Stream and Wetland Systems Protection Policy

Activity 3.5.: Work with State Water Board Stormwater Program and DFA in the grant selection process and serve on the technical advisory committee during the development of a riparian buffer sizing tool. This two year CalFED grant will be awarded by June 2009 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.

Activity 3.6.: Develop 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 should be tailored to each Regional Water Boards particular climate, hydrology, and other unique issues.

Climate Change

Activity 3.7.: Use the Water Boards regulatory authorities and programs to ensure that MMs/MPs are implemented that minimize the impact of climate change on water quality such as increased use of irrigation efficient methodologies (e.g.; agriculture and urban land use categories); LID technology to encourage sub-surface infiltration consistent with predevelopment hydrology; and pollutant control technologies to minimize pollutant transfer to surface and ground waters increased intensity of rainfall.

Atmospheric Deposition

Activity 3.8.: Coordinate with the California Air Resources Board (Air Resources Board) and the Water Board's TMDL Program to develop methodologies for determining load allocations resulting from this cross-media problem.

Activity 3.9.: Collaborate with the Air Resources Board to make use of their regulatory authorities to control atmospheric deposition sources.

Activity 3.10.: Coordinate with the California Brake Pad Partnership to address the release of copper into the atmosphere from everyday vehicle use and brake wear through education and outreach and appropriate state legislation.

Activity 3.11.: Collaborate with the CDPR to develop more effective methods of aerial pesticide application that minimizes problems associated with pesticide drift and volatilization.

Performance Review

On an annual basis the CA NPS Program will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in plan and policy development and implementation have benefited the NPS Program and related efforts to improve water quality.

Interagency Coordinating Committee

This section of the Five-Year Plan (2008 – 2013) focuses on the Interagency Coordination portion part of the approved California Nonpoint Source Pollution Control Program (NPS Program).

Needs Statement

- 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 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.

Goals

- Continue developing effective partnerships among state agencies to address NPS.
- Build better relationships with local land use and water quality agencies to reduce the impacts of NPS.
- Develop and support efforts to share information on protecting water quality from NPS with government agencies and others.

Anticipated Activities

1. Continue supporting and working with the California Water and Land Use Partnership (WALUP) to provide technical information on the impacts of land use on water quality.

2. Continue facilitating meetings where state and local agencies can communicate about efforts to reduce the impacts of NPS, identify areas for coordination and minimize redundant efforts.

3. Work with local government staff to implement NPS management measures (e.g., through the Marinas and Wetland workgroups and the CCA pilot program).

4. Work with local government to implement management measures in land use decisions (e.g. through amendments to General Plans and Local Coastal Plans) and share information on reducing the impacts of NPS (e.g., through public workshops).

Performance Review
On an annual basis the CA NPS Program will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in interagency coordination have benefited the NPS Program and related efforts to improve water quality.

California Coastal Commission: Critical Coastal Areas

This section of the Five-Year Plan (2008 – 2013) focuses on the Critical Coastal Areas program that is part of the approved California Nonpoint Source Pollution Control Program (NPS 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 Nonpoint Source (NPS) pollution, by developing and implementing a NPS Watershed Assessment and Action Plan.[1]

The goal of the CCA program is to ensure that effective long-term NPS Management Measures of California's NPS Plan are implemented to protect or restore water quality in coastal watersheds identified as CCAs. Management Measures are goals for the control and prevention of polluted runoff, through application of NPS pollution control practices, technologies, processes, siting criteria, operating methods, or other alternative actions.

Representatives from 15 state agencies, plus NOAA, USEPA, the Ocean Conservancy, and California Coastkeeper Alliance participate in the Statewide CCA Committee, which oversees the program. State agency participants include the Coastal Commission (the lead agency), the State Water Resources Control Board, the six coastal Regional Water Quality Control Boards, Dept. of Fish & Game, State Parks, Coastal Conservancy, San Francisco Bay Conservation and Development Commission (BCDC), Dept. of Forestry & Fire Protection, State Lands Commission, and Caltrans. The Committee has been meeting at least twice annually since 2000, mainly by teleconference call.

Need Statement
The federal Coastal Zone Act Reauthorization Amendments of 1990 required states to identity Critical Coastal Areas (CCAs)where development on land threatens or has adversely impacted coastal waters and to implement management measures to protect

[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.

or restore those waters. The California Nonpoint Source Program Plan has committed to this goal. This is important in a state where coastal resources are disproportionably impacted by the density of population and infrastructure near the coast.

While some states identified their whole coast as critical in this sense, state agency staff participating in this aspect of the state's NPS program decided against that strategy because of the long extent of the California coast and because California already has specific legislation addressing development in the coastal zone. These state agency staff identified 66 areas along the coast where public processes had previously identified coastal waters high resource value threatened or impacted by polluted runoff. In addition, 34 coastal water areas identified by the state as Areas of Special Biological Significance were used to identify the adjacent coastal watersheds as CCAs. Of these 100 CCAs the state has provided funding for planning and implementation for ten CCAs through the Integrated Coastal Watershed Management grant program and the CWA 319 (h) program.

Vision

The CCA program will provide a model for the protection and restoration of coastal water resources from the impacts of nonpoint source pollution generated by land development in the watersheds of those coastal waters. The program will support the implementation of the California Nonpoint Source Program by assessing watersheds and applying appropriate management measures where there are highly visible threats or impacts to coastal waters.

Goals

- Protect coastal waters and marine resources from the impacts of land use.
- Accelerate the implementation of appropriate management measures in coastal watersheds that threaten or impact coastal waters.
- Use the CCA pilot program to identify strategies to protect or restore coastal resources that are threatened or being impacted by watershed sources of nonpoint source pollution.
- Prioritize efforts on the value of the impacted (or threatened) coastal resources, not just the watershed size, land uses or degree of development.
- Develop and implement watershed action plans that address nonpoint source pollution in critical coastal areas.
- Document the value of management measure implementation in protecting coastal waters and share that information with coastal watershed stakeholders.

Anticipated Activities

- Complete the CCA Pilot Program
- Share successful watershed assessment and management measure implementation techniques with stakeholders in all California coastal watersheds through workshops or website development.
- Transition leadership of coastal watershed protection efforts at CCA pilot projects from state agencies to local stakeholders so that they can implement watershed protection action plans with state agency support.

- Evaluate the success of the pilot projects and identify appropriate strategies to improve watershed assessment, management measure implementation, and action plan development for coastal watersheds that threaten or are impacting coastal watersheds.

Performance Review

- Complete five pilot projects and present results in workshops, conferences and webpages.
- Document the commitment of at least ten local sponsors to implement watershed action plans that address the impacts of watershed development (especially nonpoint source impacts) on coastal resources implementation.
- Document restoration or significant improvements in the protection of beneficial uses and coastal resources in at least ten critical coastal areas.

6. Monitoring

This section of the Five-Year Plan (2008 – 2013) focuses on water quality monitoring activities for the California Nonpoint Source Pollution Control Program (NPS Program). The activities are designed to enhance information needed for implementation at many levels (e.g., from local watershed organizations to state and federal agencies and the private sector) and among various programs. The monitoring activities of the NPS Program will be coordinated with the Water Boards' Surface Water Assessment and Ambient Monitoring Program (SWAMP) and other related efforts. They address the biological, chemical, physical and ecosystem aspects of tracking and monitoring, including surface and ground waters, freshwaters, estuarine, and marine environments in California. Therefore, these activities will encourage comprehensive, watershed-based, and cross-programmatic monitoring.

Needs Statement

Monitoring indicates that nonpoint pollution is the leading cause of water quality impairments in California. (add more info here – e.g., total number os stream miles impaired and % that is nps) Therefore, numerous entities have identified the need and importance for continued work toward coordinating and improving water quality monitoring. Improved monitoring is essential to identify NPS sources, provide a further understanding of their impacts, guide control efforts and ultimately prove the value of the controls as well as examining whether the implement control measures (management practices (MPs) are improving water quality Congress, the State Legislature and others are increasingly emphasizing the need to tie assessments of our NPS programs and corresponding public expenditures to improvements in water quality. Since 1990, CWA Section 319 has provided over $90 million to the CA NPS Program and state bonds are now investing $100's of millions more. Several NPS related programs (TMDLs, Conditional Waivers for Irrigated Agriculture, water bonds, CWA Section 319, etc.) have tracking and monitoring requirements and it is important to coordinate with these efforts. The NPS Program has developed monitoring objectives (see attachment) to clarify information needs and to guide the development of related

activities that will provide information to better guide continued and improved implementation of nonpoint source pollution control measures.

Vision

The NPS Program will continue to work closely with the State's Surface Water Ambient Monitoring Program **(**SWAMP). In past five years, the NPS has helped to develop a statewide monitoring framework by supporting a probabilistic monitoring design incorporating land use classes to allow for the assessments of status and trends in aquatic life beneficial use protection in streams. This data was used in the 2006 CWA 305b Report of California surface water quality statewide.

In 2008, an expanded statewide streams survey will be implemented in SWAMP's Aquatic Life Uses Assessment for perennial streams. This effort, aimed at developing a coordinated and comprehensive statewide monitoring design, would integrate bioassessment efforts with additional of indicators (e.g., periphyton, California Rapid Assessment Methodology (CRAM) to determine riparian conditions) currently funded through SWAMP and the NPS Program with existing local and regional bioassessment efforts. A key feature of the design would be to identify relationships between land-use stressors and response indicators.

In addition, SWAMP will be implementing an Integrated Assessment Framework project that will assess streams at targeted sites larger watershed. The goal of this long-term trends monitoring effort is to detect meaningful change in the concentrations of stream-borne contaminants and their effects in large watersheds at time scales appropriate to management decision making. Indicators in this study will include sediment toxicity tests, sediment chemistry and temperature.

Goals

In order to address the needs previously identified, the following goals have been developed:

Goal 6.1.: Help strengthen and carry-out a state monitoring strategy (SWAMP).
Goal 6.2.: Establish mechanisms to correlate land use activities and water quality.
Goal 6.3.: Support and encourage the utilization of new monitoring and assessment methods and techniques, as appropriate (e.g., probabilistic sampling, bioassessment, etc.).
Goal 6.4.: Document the extent and effectiveness of NPS implementation, and ultimately the value of implementation of pollutant control measures for the preservation of designated uses and water quality.
Goal 6.5.: Enhance coordination, communication and collaboration among various tracking and monitoring programs for data collection, data management, data sharing and assessment.
Goal 6.6.: Provide consistent and scientifically defensible water quality monitoring data.

Goal 6.7.: Strengthen project monitoring (e.g., bond & 319 funded “on-the ground” projects).

Anticipated Activities

The following activities are proposed to achieve the goals established for this section:

Activity 6.1.: Provide consistent and scientifically defensible water quality monitoring data. Support and encourage the utilization of new monitoring and assessment methods and techniques, as appropriate (e.g., probabilistic sampling, bioassessment, etc.).
Activity 6.2.: Assess supporting an Indicator Assessment Framework that will focus on smaller, more homogeneous watersheds. 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.
Activity 6.3.: Continue efforts to enhance regional monitoring consistent with statewide SWAMP framework. Build on focused efforts in the Klamath, Central Coast, Central Valley and San Joaquin regions. In addition, to expand successful pilot projects to other areas of the State.
Activity 6.4.: Enhance data management, exchange and compatibility through developing capacity of the SWAMP data centers.
Activity 6.5.: Participate in the California Monitoring Council (SB 1070) to advocate NPS monitoring needs at various levels consistent with NPS monitoring objectives.
Activity 6.6.: Establish and test methodologies to track NPS implementation. Build on work in Central Coast Monitoring and Assessment Program related to the irrigated agricultural waiver and transfer those tools to other area of the state.
Activity 6.7.: Target monitoring to track implementation, particularly in terms of EPA strategic measures such as SP-12 (Watershed Improvement) and WQ-10 (NPS Success Stories).
Activity 6.8.: Promote efforts to examine and track existing and background data in areas where control measures have been implemented to determine whether improved water quality conditions, and collect data where pollutant control measure have been implemented.
Activity 6.9.: Sponsor water monitoring technical workshops that will transfer knowledge to improve water quality and restore, maintain. and preserve beneficial uses.
Activity 6.10: Integrate local and volunteer monitoring with state/regional programs.
Activity 6.11: Help prepare a CA NPS Program annual report based on tracking and monitoring data to identify data gaps, and monitoring and assessment needs.

Activity 6.12: Focus future CWA 319(h) grant proposals on monitoring projects that have been implement for at least five year and that have pre-implementation background date.

Performance Review

On an annual basis the CA NPS Program will review its performance to evaluate monitoring progress and plan annual activities and direction. This review will include consideration of whether the monitoring activities benefit NPS Program and related efforts to improve water quality and will be contained in the California NPS Program Annual Report.

Regional Board Initiatives and TMDL Implementation

Regional Boards implement performance-based Nonpoint Source (NPS) programs to create healthy, functioning watersheds, coastal ocean environments, and groundwater basins through leveraged efforts to generate on-the-ground change. Through documentation of program implementation and analysis of environmental change, 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 nonpoint source 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 also responsible for implementing the Enforcement Policy, and are currently developing programs and policies to address this responsibility.

Region 1: North Coast Regional Water Board – NPS Program Initiatives and TMDL Implementation

Introduction

The North Coast Regional Water Board (Region 1) has organized its NPS Program Initiatives as a function of the six (6) 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.

Initiative 1.1.: Agriculture

The agriculture sector is a high priority for the Regional Board'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 some success with a perhaps 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, and that focus of complaint response and outreach has been vineyards, dairies, and some grazing operations. Through the vineyard enforcement program, Regional Board staff have implemented outreach and education efforts, both one–on-one and in cooperation with other agencies, grape grower industry groups, and specific grape growers; performed new project reviews and pre-development consultations; and undertaken multi-agency enforcement efforts, including and a number of high profile enforcement cases. This has raised the water quality awareness in the vineyard community and has helped to reduce the magnitude and frequency of water quality problems from vineyards. The Regional Board is optimistic that focused attention on other sectors of the agricultural community in the Region will prove similarly successful.

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

- Smith River Watershed - Easter lily and miscellaneous agricultural production areas (Del Norte County)
- 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 sprinkling and flood irrigation (Scott River and Shasta River watersheds, Butte Valley, Tulelake, and the Upper Lost River areas).
- Dairy issues, including the Laguna de Santa Rosa and southern Sonoma County, Humboldt Bay and Eel River Delta areas.
- Vineyards, (primarily Sonoma and southern Mendocino Counties)
- Floral production (Arcata, Crescent City, including large industrial-style facilities
- Marijuana farms (random distribution; remote portions of the Region, primarily in Mendocino and Humboldt Counties)
- Grazing (throughout the Region)
- Miscellaneous non-concentrated agricultural activities (throughout the Region)

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 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 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.

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 Opration regulations.

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.

Medium Priorities

Inititative 1.1.d.: Laguna de Santa Rosa – Region 1 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.

Initiative 1.1.e.: Smith River agricultural area – Region 1 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.

Inititative 1.1.f.: Large-scale flower producers – Region 1 staff will review wastewater quantity and composition from these facilities, assess the threat to water quality, and determine appropriate action(s).

Inititative 1.2.: Forestry (Silviculture)

Forestry has, and will continue to be, a high priority water quality concern for Regional Board 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 nonpoint source 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 this region 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 and Non-industrial THPs as part of the CDF Review Team; reviewing US Forest Service timber sales; 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; reviewing conversion of timberlands to non-timber uses; and responding to complaints regarding illegal logging and small (less than 3 acre) conversions.

With the timber division's development of, and the Regional Board's adoption of general WDRs and waivers for timber harvest and related activities on both Federal and non-Federal lands, nearly all new logging activities should now be covered under a NPS Implementation Policy-compliant regulatory tool. These waivers expire this year and are on track for renewal and adoption this fiscal year.

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.

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.

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 the Region. 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.

Regional Board 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 5C 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.

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), Regional Board 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 proved highly effective. Also, the Regional Board management has reorganized the CWA section 401 certification program with timber harvest staff in a new 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 hope to be able to utilize this system for tracking impacts to wetlands in Region 1.

Initiative 1.6.: Hydromodification

Hydromodification 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. In particular, because the State Board has been responsible for certifications of diversion projects, our Regional Board staff has not typically been involved in reviewing water diversions.

In addition, the State Water Board's Division of Water Rights (DWR) is currently reviewing all diversions in the Russian River watershed pursuant to CA Assembly Bill 2121. This review has revealed a large number of illegal diversions and illegally constructed reservoirs. Following completion of the DWR Russian River effort,

Regional Board staff will work with the other agencies and the public, and may recommend inclusion of a task or tasks on this priority list related to this issue.

Performance Review

On an annual basis the North Coast Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether the efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 2: San Francisco Bay Regional Board - Regional Initiatives and TMDL Implementation

Introduction

The primary causes of NPS pollution impairment or threat in the San Francisco Bay Region 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 NPS pollution regulation, while urban runoff pollution is primarily addressed through our stormwater NPDES permit program (both Phase I and Phase II).

The staff of the Region 2 will be working on three (3) major NPS initiatives in the next five years that are related to our high priority NPS issues: 1) working in conjunction with Region 1 to develop an amendment to the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region to protect stream and wetland systems, 2) developing a waiver of WDRs for grazing lands, and 3) developing WDR/Waiver for vineyards. Staff will also focus on NPS implementation activities for selected high priority TMDLs (grazing land and vineyard WDR waivers are part of TMDL implementation as well).

Initiative 2.1.: Stream and Wetland Systems Protection Policy

Current stream and wetland conditions in California and in the San Francisco Bay Region differ significantly from their historic, pre-development conditions. Although there are gaps in our current knowledge of streams and wetlands, it is clear from the available data that a large majority of stream and wetland resources have been lost or degraded as a result of human land use activities that have modified the natural environment. Historic changes in resource conditions provide a context for identifying and quantifying existing impacts, for guiding future restoration activities, and for evaluating and addressing concerns associated with potential and proposed land use changes and activities. In addition, current observed degradation of stream and wetland resources

also provides a necessary context for proposing increased protection and restoration of these resources.

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. This should help address the need for increased coordination where there is overlapping jurisdiction between the Water Boards and other agencies, and conflicting regulatory requirements. 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. The amendment as proposed will include new beneficial uses and water quality objectives, and an implementation plan that sets forth actions needed to attain the new water quality standards.

Currently we expect that the draft policy language and staff report will be completed in spring 2009, external peer review will be done in summer 2009, public review and comment will be completed in late summer to fall, and Regional Board adoption hearing will take place by December 2009 (though these dates are subject to change). After adoption of the Regional Wetland Policy, the Regional Board will continue to develop high-priority implementation tools for staff and the regulated community. 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 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 next five year NPS implementation period of 2008-2013. By the beginning of 2010, staff expects to have the Basin Plan amendment approved by the Regional Board with approval by the State Water Board and U.S. EPA expected in early 2011. Subsequently implementation guidance documents will be developed for local governments. Regional board staff anticipates having numeric criteria for Regional Board permits in place and model language for general plans in place by mid-2011, with a target of 50% of municipalities having adopted model language by 2013.

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 has adopted a WDR waiver to regulate this source of NPS pollution in the larger Tomales Bay Watershed. The waiver was written to address the NPS Implementation Policy, the Tomales Bay Pathogen TMDL 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 initially applied to facilities larger than 50 acres. 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 will be required to submit a Report of Waste Discharge, or equivalent document, by January 31, 2009. Over the

five year period Regional Board milestones will 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) extending the waiver to Napa and Sonoma County watersheds.

Initiative 2.3.: Waste Discharge Requirements Waiver for Vineyards

Another the 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. Mature conifers intercept a significant proportion of the total rainfall in a storm, greatly reducing the rate of delivery (and in some cases total amount) of rainfall that enters the soil. 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 five years. The goal for management of existing vineyards is to reduce peak storm runoff rates into actively eroding gullies, landslide areas, or other potentially unstable areas. When new hillside vineyards are proposed, the design review process should incorporate rigorous hydrological analysis to predict potential change in peak runoff rates and the potential for off-site channel enlargement. The Science Advisory Group to the Fish Friendly Farming Program has recommended that peak storm runoff rates following hillside vineyard development (at all sites) should not increase by more than 10 to 15 percent above pre-project rates, to reduce the risk of off-site channel enlargement to an acceptable level. Effective design features should then be incorporated to reduce off-site erosion risk to this acceptable level. For example, an effective means of reducing sediment delivery from sheet-wash erosion would be for all vineyards to meet the performance standards specified under the Napa County Conservation Regulations. At gently sloping or flatland sites, it may also be possible to control sediment delivery to channels through establishment and maintenance of vegetated buffers adjacent to engineered and natural channels.

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, by application of existing state regulatory authorities (WDRs or waivers of WDRs), and/or by adoption of some of the revisions to the Conservation Regulations that were recommended by the Napa River Watershed Task Force. The Regional Board proposes to continue working on all these avenues,

including a plan to develop WDRs (or conditional waivers) for vineyards in the Napa River and Sonoma Creek Watersheds in the 2009-10 period. It is expected 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, identification of site-specific erosion control measures needed to achieve performance standard(s), and a schedule for implementation of identified erosion control measures. Regional Board staff expect to be able to track progress by numbers of acres enrolled in the Fish Friendly Farming Program, number of MPs in place, 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 our 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 next five years are provided in Table 1.

Table 1: San Francisco Bay Regional Board TMDLs Scheduled for Implementation During the 2008-13 NPS Program Implementation Planning Period

TMDL	Pollutant	Source	Date Adopted*	Timeline of Implementation Activities
Napa River	Pathogens	On-site sewage systems, animal facilities, municipal treatment systems, wildlife	September 2007	2007-2013
Napa River	Sediments	Roads, vineyards, grazing, urban runoff	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	September 2005; Basin Plan	2008-2013

TMDL	Pollutant	Source	Date Adopted*	Timeline of Implementation Activities
		systems, wildlife	amendment February 2007	
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	2008-09	2009-2013
Coastal San Mateo Watersheds	Pathogens	Septic systems, animal facilities, wildlife	FY 2010/11	20012-13
Lagunitas Creek	Sediment	Roads, bank failures, erosion	FY 2009/10	2011-13
Napa River	Nutrients	Vineyards, ag lands	FY 2008-09	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.

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

each source category. For the pathogen TMDLs this includes: (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) developing grazing lands waivers for Tomales Bay Watershed (as noted above); (3) developing grazing waivers for Napa and Sonoma Counties; (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 considered), 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 TMDL implementation plan. 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, 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.

All of the above TMDLs include Regional Board staff working closely with a variety of local stakeholders 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

On an annual basis the San Francisco Bay Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 3: Central Coast Regional Board - Regional Initiatives and TMDL Implementation

Introduction

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.

Currently approximately 1,700 growers are actively enrolled in the program. As of 2007, the growers completed 1,285 farm water quality plans and 17,824 hours of water quality education. In parallel, Regional Board staff began inspection of farming operations to determine compliance with the conditional waiver for irrigated lands. Along with the inspection goal of 90 farming operations, inspections other facilities based on complaints and/or water quality concerns were completed. In the last six months twenty-five (25) farming operations have been inspected totaling more than 3,200 acres. As part of the program education outreach effort, Regional Board staff work with multiple partners to raise awareness about the impact of new food safety requirements on water quality and wildlife.

The program includes an enforcement effort. In 2007, Notice of Violation (NOV) letters were sent to growers who failed to pay monitoring fees and NOV and Administrative Civil Liability (ACL) Complaints to farm operations that failed to enroll in the Conditional Waiver for Irrigated Lands.

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.

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 intend 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 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
- Number of Regional Board staff presentations
- Number of farm plans completed.
- Number of inspections and findings from inspections.
- Level of farm plan implementation for inspected sites.
- Number of acres implementing erosion control practices, irrigation MPs, nutrient MPs, and pesticide MPs.
- Trends in water quality data

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.

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 associated 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 nonpoint source 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:
    - Assessment report for Coastal Confluences trend monitoring data, including analysis of upstream land use influences
    - CCAMP data to TMDL staff to assist in pollutant source allocations and the development of specific numeric objectives for impaired waterbodies
    - CCAMP data utilized in 303(d) /305(b) assessment process
    - 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
    - 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 2.

Table 2: 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
Chorro Creek	Nutrients Dissolved Oxygen	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 2016. Nonpoint source funding will run through 12-31-08	Attain Basin Plan nutrient and dissolved oxygen objectives. (Reference Water Board Resolution No. R3-2006-044. Reduce sediment, nutrients, and pathogen loads in Chorro Creek.
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.

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result
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 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 2012. Nonpoint source funding will run through 12-31-08	Attain Basin Plan numeric targets for Fecal Coliform as documented in Water Board Resolution No. R3-2002-0017. Reduce sediment, nutrients, and pathogen loads in Morro Bay.
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.
Watsonville Slough	Pathogens	Construct vegetative treatment systems	The target date to achieve the TMDL is 2017. Nonpoint source funding will run through 12-31-08	Attain Basin Plan numeric targets for Fecal Coliform as documented in Water Board Resolution No. R3-2006-0025. Reduce pathogen loads

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result
			There are funds from proposition 40, 50, and 84 that will continue to support implementation of management actions beyond 2008.	in Watsonville Slough.
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 beyond 2008.	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)
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	Attain Basin Plan drinking water nitrate objective 10 mg/L nitrate as N. Reduced nitrate loads in Pajaro River (Including Llagas Creek).

Waterbodies	Constituents	NPS Implementation Action	Time Frame	Expected Result
			continue to support implementation of management actions beyond 2008.	
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 implementation of management actions beyond 2010.	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).
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.

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 coordinate 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

On an annual basis the Central Coast Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 4: Los Angeles Regional Board - Regional Initiatives and TMDL Implementation

Introduction

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 by Regional Board staff 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 2009.

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.

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.

   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.

   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.

   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.

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

   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.

   Anticipated implementation timeline: 12/09-12/19

Performance Review

On an annual basis the Los Angeles Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 5: Central Valley Regional Board - Regional Initiatives and TMDL Implementation

Introduction

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 (6) Regional 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; (3) dairies; (4) runoff from irrigated lands; and (5) 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. As such, protecting Delta beneficial uses is one of the Central Valley Water Board's highest priorities.

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 contributes significantly to the loads of these constituents to the Delta.

This initiative spans multiple Regional Board NPS 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.

To ensure that all Water Board programs and policies related to the Delta are coordinated, the Region Board, the State Water Board Division of Water Rights (DWR), and the San Francisco Bay Regional Water Board formed a Delta Team. The Delta Team will develop a strategy for coordinating Delta activities that encompasses all relevant Water Board programs including the NPS Program. In June 2008, the Delta Team will presented a strategic workplan that outlined initial actions needed to protect beneficial uses in the Delta to the State Water Board. The strategic workplan is a first step toward developing a comprehensive strategy for the Delta. By the end of the five 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.

Initiative 5.2.: Central Valley Salinity: CV-SALTS

Over the years, the Regional Board has been aware of the growing problem of increasing salinity in the Central Valley, but many of the key decisions that must be made in order to control Valley salinity are outside of the Regional Board's jurisdiction. Other stakeholders and decision makers will need to be involved in order to develop a comprehensive, sustainable salinity management program for the Central Valley and for the State of California.

When water runs across the land, salts are left behind. When a field is irrigated, a managed wetland is flooded, an industrial facility conducts some water-requiring process, and someone showers, we contribute to the salinity problem because the water we use and release has a higher salinity concentration than what we started with. Sometimes this is because we add salt intentionally (home water softeners, plant fertilizers), but even when no salts are added to the system, evaporation and consumptive use act to concentrate unused salts. Additionally, salts move with water

so that salts originating in one basin will turn up in another. This is a significant problem when the receiving basin has no reliable way of disposing of salt, as is the case in the Tulare Lake Basin; or has only limited capacity to discharge salt, which is the case in the San Joaquin River Basin. We know today that salinity impacts are being felt in the Central Valley and that these impacts are increasing.

The Regional Board has taken a two-step approach to the problem. First, there is a concerted effort to update the Board's permits and orders so that salinity is addressed in a consistent manner. Typically, permits are renewed on a five-year cycle so by the end of this five-year NPS implementation cycle, all permits and orders should be consistent regarding salinity. Second, since regulation alone is not the most efficient or effective way to achieve water quality improvements, a salinity policy group has been formed to begin to develop a beyond-regulatory approach to the problem. Over the next year, the primary focus of the group's committees will be to develop an entity or entities capable of designing, funding and implementing a comprehensive salt management plan that will serve as a basis for updating the Sacramento and San Joaquin River and Tulare Lake Basin Plans and the Delta Plan. It is hoped that in five years a fully functional salt management organization will have completed much of the data compilation and new studies needed as a starting point to update the aforementioned plans and begin implementing regional and local salinity management projects.

Full implementation of a comprehensive salinity plan is anticipated to take decades. Collecting the information needed to update the basin plans is likely to take 6-10 years. In the interim, project success will be measured by the number of permits and orders reviewed and (when needed) updated to include consistent salinity requirements; salt loads reduced or salinity concentrations successfully managed as a result of grant-funded projects managed by Regional Board staff, management participation in stakeholder efforts and projects aimed at controlling salinity; and progress made by the salinity policy group to develop a viable salinity management entity.

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 are leached to the underlying ground water.

The Regional Board adopted general WDRs in May 2007 to control the discharges from the 1,550 existing milk cow dairies in the Central Valley. In five years, the Regional Board expects that the milk cow dairies that existed as of December 31, 2007 will be in full compliance with these general WDRs.

The general WDRs provide for a phased approach with several milestones that culminate with Discharger Certifications of facility retrofit and implementation of the Nutrient Management Plan. 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. The California Dairy Quality Assurance Program, with assistance from Regional Water Board staff, has developed and held workshops to provide education and outreach to help dairy producers comply with the general WDR. The first milestone was the submittal of the existing conditions report by December 31, 2007. As of mid-January 2008, the Regional Board had received 1,450 submittals and more were coming in.

Initiative 5.4.: Irrigated Lands Regulatory Program Initiative

The Irrigated Lands Regulatory Program (ILRP) was established in 2002 in response to amendments to the CWC section 13269, which required the termination of waivers of WDRs 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 CWC and the NPS Implementation Policy. As of December 2007, 5.1 million of the total 7.2 million acres in the Central Valley were included under the ILRP. The 5.1 million acres is a compilation of 71,000 parcels of land and 28,000 participants. We can extrapolate the non-participating as 2.1 million acres, 29,000 non-participating parcels and 12,000 non-participants.

Within the next five years, a revised 2008 Monitoring and Reporting Program (MRP) will be 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 more refined monitoring to identify pollutant sources and evaluate MP implementation effectiveness; and improve communication of data to the Regional Board and public.

It is anticipated that the ILRP will improve water quality through the implementation of the 2008 MRP on the irrigated lands, both currently participating in the program and those yet to be determined as non-complying dischargers. The discharges to surface waters from irrigated lands have been monitored by the previous Coalition groups MPR Plans, the University of California contracts and through SWAMP. The new Coalition MRP Plans will monitor approximately 300 sites on a monthly basis. The intent of the monitoring is to ensure that the beneficial uses of the waters of the State are/have been protected. In the event that water quality objectives have been exceeded (2 exceedances in a 3 year period), the Regional Board then requires the discharger(s) to develop a Management Plan. A Management Plan must identify the source (s) of the

pollutant, implement MPs to remove the Constituent of Concern(s) from the discharge(s) and then provide monitoring data to ensure compliance.

Future tasks for the ILRP include: a long-term regulatory program that will address both surface and groundwater; 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; addressing a Petition to the State Water Board and a lawsuit by environmental interests challenging the Conditional Waivers; and, initiating the Delta Participation Pilot Project.

Initiative 5.5.: Watershed Program

Support of management programs that are implemented by locally directed watershed partnerships (i.e. Resource Conservation Districts [RCDs], conservancies, California Coordinated Resource Management Planning groups, councils, alliances, etc) is a key approach to addressing dispersed sources of pollutants such as nutrients, sediment, temperature, salt, pathogens, and other stressors to the aquatic environment. These pollutants are discharged by a range of commercial and noncommercial activities such as livestock management, agricultural and construction related soil disturbance, stream channel modification, wildfire, and many other common land use activities. These activities and the resulting water quality impairment are not easily addressed by traditional regulatory mechanisms (e.g. permits or TMDLs). However, they must be addressed to significantly reduce overall pollutant loads and achieve our water quality and beneficial use objectives. Support of local watershed management programs that promote better land-use practices and work to restore degraded watercourse condition is a key component of the Regional Boards' program.

In the recent past numerous local, grass roots efforts have been initiated 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 the Sacramento River watershed area, there are now approximately 50 locally directed watershed management programs that are working to improve water quality and aquatic habitat conditions. Regional Board staff works with local watershed groups whose objectives are to improve water quality and aquatic habitat conditions. Staff provides guidance and technical support to these local watershed program activities. In this role, Regional Board staff representatives frequently attend watershed group, RCD, and community meetings, participate on technical advisory committees, review project plans and designs, and evaluate the performance of implemented projects. These local partnerships are at various stages of program development. Some are just beginning to assess their watersheds, while others have completed watershed management plans, and are implementing MPs, stream restoration projects, and other MMs for NPS

pollution control. Active Regional Board involvement is time consuming but necessary for the long term sustainability and success of the local programs.

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. The Regional Board's goal over the next five years is to continue and increase support of local partnerships leading to the establishment of a comprehensive network of grass roots organizations throughout the Central Valley Region working to protect and improve water quality/beneficial uses.

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 3: 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
Cache Creek Mercury	mercury/resource extraction (abandoned mines), riparian habitat modification	2011	monitoring and identification of hot spots for further remediation
Clear Lake Mercury	mercury/resource extraction (abandoned mines)	2023	monitoring and working with local stakeholders to implement actions to meet TMDL requirements
Delta Mercury	mercury/resource extraction (abandoned mines)	2030 (tentative)	characterization and control studies of wetlands and irrigated agriculture
San Joaquin River chlorpyrifos/diazinon	diazinon and chlorpyrifos/agriculture, urban runoff, POTWs	12/1/2010	monitoring and assessment, review management plans, track BMP implementation
Delta chlorpyrifos/diazinon	diazinon and chlorpyrifos/agriculture, urban runoff, POTWs	12/1/2011	monitoring and assessment, review management plans, track BMP implementation
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	Pollutants/Sources	Compliance Date	2008-2013 Activities
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
Grassland marshes Selenium TMDL	selenium/agriculture	2010	monitoring for TMDL compliance
Salt slough Selenium TMDL	selenium/agriculture	2010	monitoirng for TMDL compliance
San Joaquin River Selenium TMDL	selenium/agriculture	2010	monitoirng for TMDL compliance
Clear Lake Nutrients	phosphorus/agriculture, timber, urban	9/1/17 (review 9/1/12)	monitoring and implementation plan, monitoring and assessment, update Clean Lakes report
San Joaquin River Dissolved Oxygen	nutrients/agriculture, POTWs	12/31/2011	monitor and oversee studies required by TMDL

Performance Review

On an annual basis the Central Valley Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether our efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 6: Lahontan Regional Board - Regional Initiatives and TMDL Implementation

Introduction

The overall goals of the Lahontan Regional Water Board (Regional Water Board) 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. 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. 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.

In 2008-2013, the Lahontan Water Board will complete the second phase with the adoption of the TMDL slated for 2009. After that, the third phase will begin (although many implementation and monitoring projects are already underway in the Lake Tahoe Basin.)

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. Thirteen water body segments out of forty-three CWA 303(d)-listed water bodies (or segments of 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 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.

Inititiative 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 by October 2008. 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**.**

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.

The State of California acquired the Mine site in the early 1980s to address these water quality problems caused by the historic mining. Jurisdiction over Leviathan Mine rests with the Lahontan Water 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.

In 2008 to 2013, Lahontan Water Board will continue to implement AMD abatement activities including pond water treatment.

Initiative 6.5.: TMDL Implementation

In 2008-2013, the Lahontan Water Board will implement the five TMDLs adopted to date. The five adopted TMDLs are provided in Table 4.

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

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

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	March 2009	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,	January 2011	2011-2013

TMDL	Pollutant	Potential Source(s)	Expected Date of Adoption	Expected Timeline of Implementation Activities
		marinas/boating, septic tanks, recreation, urban runoff		
Bodie Creek	Mercury	unknown	June 2010	2010-2013
Twin Lakes, Mono Owens HU	nitrogen phosphorus	agriculture, grazing, land development, urban runoff, atmospheric deposition	June 2011	2011-2013
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 (Christmas Valley)	pathogens	grazing, recreation, natural sources	June 2013	2013
West Fork	pathogens	grazing, agricultural	June 2013	2013

TMDL	Pollutant	Potential Source(s)	Expected Date of Adoption	Expected Timeline of Implementation Activities
Carson River		runoff, irrigation tailwater		

Performance Review

On an annual basis the Lahontan Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether the efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 7: Colorado River Basin Regional Board - Regional Initiatives and TMDL Implementation

Introduction

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.

Regional Board staff has regularly met 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 will work together to establish a method of determining which Water Quality Control Plans/Sediment Control Programs are being updated annually.

The State 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.

Measures taken to educate and promote Imperial Valley farmers/growers will include using various media sources (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:

- *Alamo River Silt TMDL*
- *New River Silt TMDL*
- *Imperial Valley Silt TMDL*
- *New River Pathogen TMDL*
- *New River Trash TMDL*

The Regional Board is currently developing the following TMDLs:

- *Coachella Valley Stormwater Channel Bacteria Indicators TMDL*
- *New River Dissolved Oxygen TMDL*
- *Alamo River Chlorpyrifos TMDL*

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.

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.

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 2008. The TMDL review schedule is shown below.

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

On an annual basis the Colorado River Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether the efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 8: Santa Ana River Basin Regional Board - Regional Initiatives and TMDL Implementation

Introduction

For the next five years and beyond, the primary Santa Ana River Regional Board (Regional Board) NPS efforts will be focused on developing and carrying out programs necessary to implement TMDLs and to implement MMs to improve water quality in the Region's CWA 303(d) listed waters. In priority order, NPS program priorities that have been identified by Santa Ana Regional Board staff for action over the next five years include: (a) management of pollutant loads from agricultural operations, both irrigated and dry-farmed; (b) oversight of programs to control NPS discharges in marinas throughout the Region; and (c) management of NPS pollutant loads from forested areas of the Region.

Initiative 8.1.: 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 CWA 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.

Regional Board staff are developing a program of conditional waivers of WDRs 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 MMs, ranging from raising awareness and voluntary installation of controls to individual WDRs.

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 MPs are in place. For more information on the TMDL, see http://www.waterboards.ca.gov/santaana/html/elsinore_tmdl.html

Goals/Activities for the San Jacinto River Watershed CWAD for SFY 2008-09:

Activity 8.1a - Develop and adopt the CWAD for the San Jacinto River watershed. The CWAD 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 Region Basin Plan.

Activity 8.1b - Identify potential enrollees in the CWAD. The initial contact list for the CWAD program in this watershed is being prepared by the Western Riverside County Agriculture Coalition of stakeholders for the Canyon Lake and Lake Elsinore TMDL implementation working group.

Goals/Activities for the San Jacinto River Watershed CAW for SFY 2009-10:

Activity 8.1c – Develop information on hydrologic conditions resulting from enrollee operations. Obtain baseline information about the quantity and quality of runoff discharges from the enrollee's operations;

Activity 8.1d - Obtain and verify information about the enrollee's irrigation runoff control practices. In cooperation with other appropriate agencies, provide outreach opportunities to advertise the availability of and advance the use of appropriate agricultural runoff NPS pollutant control management measures;

Activity 8.1e – Database development. Develop a database to support implementation of the San Jacinto River watershed CWAD.

Target: That at a minimum 50% of the agricultural operators that have been identified by the TMDL group are enrolled in San Jacinto River watershed CWAD.

Goals/Activities for the San Jacinto River Watershed CAW for 2010 - 2012:

Activitiy 8.1f - Further identification and enrollment of irrigated agricultural operators. In cooperation with other appropriate agencies, conduct outreach inspections at targeted discharger facilities to assist CWAD enrollees to identify and apply appropriate agricultural runoff NPS pollutant control management measures.

Activity 8.1g - Enforcement activities and database development. Conduct escalating enforcement of agricultural operators who fail to enroll in the CAW and CAW

enrollees who fail to comply with CAW conditions. Build the San Jacinto River watershed CAW database.

Target: All of the agricultural operators that have been identified by the TMDL working group and greater than 90% are enrolled in San Jacinto River watershed CWAD.

The final goal for the San Jacinto River watershed CWAD program includes full financial participation in TMDL implementation programs by all the agricultural operators required to do so, 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, an additional CWAD (or multiple conditional waivers) 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 the Middle Santa Ana River (at 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) . Through a 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. Lessons learned from development and implementation of the San Jacinto River watershed CWAD project should make the process of crafting subsequent Santa Ana Basin conditional waivers more efficient.

Initiative 8.2.: Controlling NPS Discharges in Marinas

State Water Board 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 CWA 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 CWA section 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 of compliance with General Order No. 2004-0017-DWQ 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 are considering a pilot program to assess whether inland recreational boating and marinas are, or have the potential to become, a significant NPS load. If this program is carried out, Regional Board staff will also use it to 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.

Goals for the SFY 2008-09 marina oversight program include conducting inspections that follow up 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.. 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.

Goals for SFY 2009-10 marina oversight program may include monitoring implementation of recommendations and follow-up actions arising from the 2008-09 marina inspection project, 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

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 by and for Regional Board staff show that on average antifoulant-coated hulls discharge approximately 50 to 70 pounds of copper per year. A 319(h) grant has been awarded to the Orange County CoastKeeper for a project to implement alternatives to copper-based anti-foulant coatings.

Initiative 8.3.: Management of NPS Pollutant Loads from Forested Areas Under U.S. Forest Service 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

(http://www.waterboards.ca.gov/santaana/html/big_bear.html), 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 of forest land 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 in and uses of the Region's national forests that have the potential to contribute large NPS pollutant loads to receiving waters include ski resorts, operation of unpaved USFS roads, authorized and unauthorized recreational off road vehicle use, 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. Although 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. USFS areas affected by wild fires have been a high priority for implementing sediment control management measures.

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.

Performance Review

On an annual basis the Santa Ana Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether the efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

Region 9: San Diego RWQCB – NPS Program Initiatives and TMDL Implementation

The San Diego Regional Board staff have prioritized wetlands, riparian areas and hydromodification as the major areas of focus for 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 Regional Board for preventing further loss and degradation of wetlands and riparian areas, and for ensuring appropriate, adequate, and successful mitigation is the CWAl 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 Regional Board 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 Regional Board 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 Regional Board plans to devote most of its NPS Program staff resources to protection and restoration of wetlands and riparian areas. This work can be categorized as follows: strengthening policies and standards; improving protection and mitigation; removing obstacles to restoration; and regulation.

Activity 9.1a.: Strengthening policies and standards

Existing policy and standards in support of protecting wetlands and riparian areas are not comprehensive. The proposed State Water Board statewide “Wetland and Riparian Area Protection Policy” has the potential to significantly strengthen state policy for protecting wetlands and riparian areas. Regional Board staff will participate in the development of the Policy with the goal of ensuring that it would be effective in helping to protect wetlands and riparian areas in the San Diego region.

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. Regional Board staff will review these recommendations and determine which are applicable to the San Diego Region; which can be implemented by the Regional Board; which are the most important to implement; how to implement such recommendations; and then to implement those selected recommendations.

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. Regional Board staff will meet with individuals and groups that have these concerns, identify problematic procedures and requirements of the Regional Board 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.

Activity 9.1d.: Regulation

Regional Board staff 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.

Performance Review

On an annual basis the San Diego Regional Board will review its performance to evaluate progress and plan annual activities and direction through the CA NPS Program Annual Report. This review will include consideration of whether the efforts in outlined in this section have benefited the NPS Program and related efforts to improve water quality in the Region.

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

Appendix 2

Detailed Information on Nonpoint Source Pollution Funding

CWA Section 319 Funds – Estimated $11 million available in annual funding for Project Implementation Grants

- $4 million (CWA 319 Funds)
- $7 million (State Bond funds as match to CWA 319 grant)
- To be directed toward implementation of NPS MMs to improve water quality.

State Water Bond Funding

Funding allocations from these bond measures administered by the State and Regional Water Boards are:

- $275 million from Proposition 84 (2006)
- $650 million from Proposition 13 (2000)
- $175 million from Proposition 40 (2002)
- $527 million from Proposition 50 (2002)

State Revolving Fund

- Coordinate with SRF Program to encourage applicants to use SRF to support NPS implementation projects
- The State receives approx. $76 million per year in new SRF $, these funds are added to the revolving account (about $400 million right now) available for projects each year.
- Primary role for NPS Program would be to provide information and outreach to implementers to encourage NPS implementation project implementers to apply for inclusion on the SRF project list (Annual process typically opened in the Fall for Winter selection/ approval). From Application to loan execution process is typically 4-6 months (similar to grant cycle). Encourage innovative uses of the SRF for NPS implementation projects (e.g, Lake Tahoe Regreen, Lake Tahoe MBP Retrofit)
- Loans are typically awarded at an average of 2.5% interest (OR)
  Interest can be waived if applicant provides 20% match (this is just like grants, so this should be attractive to NPS applicants

Supplemental Environmental Projects

The State and Regional Water Board's ***Water Quality Enforcement Policy*** (2002, proposed for amendment 2008) allows a discharger to satisfy all or part of the monetary assessment imposed in an enforcement order by completing or funding one or more Supplemental Environmental Projects (SEPs.) SEPs are projects that enhance the beneficial uses of the waters of the State, provide a benefit to the public at large and are not otherwise required of the discharger. SEPs can include nonpoint source program implementation, watershed assessment, watershed management facilitation services, monitoring programs, habitat restoration or enhancement, conservation easements,

wetland, stream or other waterbody protection, restoration or creation. When appropriate, SEPs must include documented support by other public agencies, public groups and affected persons as well as documentation of compliance with CEQA. A SEP should directly benefit the area where the harm occurred or else provide a regionwide or statewide use or benefit. Regional Water Boards maintain a list of possible SEP projects.