

# California Nonpoint Source Program Implementation Plan 2014 - 2020

**AUGUST 2015**



**CALIFORNIA  
COASTAL  
COMMISSION**

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## **I. Introduction**

The California NPS Program (CA NPS Program) must conform to the requirements of the Clean Water Act (CWA) and section 6217 of the [Coastal Zone Act Reauthorization Amendments of 1990](#) (Coastal Zone Act Amendments). The core State agencies for implementing the CA NPS Program are the State Water Resources Control Board (State Water Board) (designated lead water quality agency), the nine Regional Water Quality Control Boards (Regional Water Boards) (in combination referred to as the Water Boards), and the California Coastal Commission (Coastal Commission) (designated lead coastal zone management agency). To satisfy these federal requirements the State Water Board, Regional Water Boards, and the Coastal Commission developed the Plan for California's Nonpoint Pollution Control Program (CA NPS Program Plan). As such, the CA NPS Program Plan served as both the State's "inland" NPS program plan and coastal NPS pollution control plan. The CA NPS Program Plan was approved by the United States Environmental Protection Agency (U.S. EPA) and the National Oceanic and Atmospheric Administration, the lead federal agencies that administer the CWA and the Coastal Zone Act Amendment respectively, on July 17, 2000.

The 2000 CA NPS Program Plan provided a single unified, coordinated statewide approach to address NPS pollution structured around the 61 management measures identified in the Coastal Zone Act Amendments (see Appendix A). The management measures served as general goals for the control and prevention of polluted runoff. Site-specific management practices would then be used to achieve the goals of each management measure. The CA NPS Program Plan contained a fifteen year strategy covering the period through June 30, 2013, along with the first of three nested five-year implementation plans. This planning horizon was chosen in order to be consistent with the State fiscal year. Subsequent five-year implementation plans were developed and approved by U.S. EPA – Region 9 (Pacific Southwest), with the last covering the period from July 1, 2008 through June 30, 2013 (CA NPS Program - Third Five-Year Implementation Plan).

On April 12, 2013, U.S. EPA promulgated the NPS Program and Grants Guidelines for State and Territories (NPS Guidelines). This guidance was to be used by the states to implement their CWA section 319 programs beginning in federal fiscal year 2014. The NPS Guidelines required all states to update their NPS program implementation plans by September 30, 2014. Pursuant to this requirement and with U.S. EPA – Region 9's approval, the CA NPS Program extended the use of the CA NPS Program - Third Five-Year Implementation Plan through June 30, 2014. At that time, a new six-year implementation plan was to be developed covering the period from July 1, 2014 through June 30, 2020. Although the NPS Guidelines required implementation plans with a three to five year planning horizon, the CA NPS Program chose to use a six-year period (e.g., July 1, 2014 through June 30, 2020) so that subsequent five-year implementation plans would address periods beginning and ending with each decade (e.g., July 1, 2020 through June 30, 2025, July 1, 2025 through June 30, 2030, etc.).

## II. Vision and Goals

The 2014 - 2020 California Nonpoint Source (NPS) Program Implementation Plan (NPS Program Implementation Plan) describes how the State will be using its resources to effectively prevent NPS pollution from impacting surface water and groundwater in California. The vision for the CA NPS Program is to restore and protect the beneficial uses of the State's waters through the reduction of NPS pollution and attaining water quality objectives.

This document serves as an update to the CA NPS Program Plan as approved by U.S. EPA and NOAA in 2000. As such, California will continue to implement a comprehensive statewide program working to implement management measures to address NPS pollution consistent with U.S. EPA and National Oceanic and Atmospheric Administration approval. The program continues to stress cooperation and local stewardship to resolve NPS problems, while utilizing applicable State regulatory authorities to protect and restore water quality. Program success continues to rely on the use of a wide-range of programs and authorities to foster widespread implementation of practices that will restore and maintain the chemical, physical and biological integrity of California's waters

To that end, a set of broad goals and objectives were developed to focus the efforts of the CA NPS Program during the next six years. These goals represent the "broad expectations" for the CA NPS Program with the objectives refining the goals into more specific elements consistent with the duration of the NPS Program Implementation Plan.

The broad goals and objectives are to:

Goal No. 1: Restore and protect surface water and groundwater resources from the impacts of NPS pollution.

Objective 1.01: Restore water quality sufficiently to remove a minimum of ten nonpoint impaired waterbody-pollutant combinations from the CWA section 303(d) list and report consistent with the current U. S. EPA WQ-10 Success Story guidance by 2020 (see Initiative SW 9: Water Quality Improvement Reporting and Table 17 for waters targeted for water quality improvement to support this objective).

Objective 1.02: Demonstrate watershed-wide water quality improvement for a minimum of twelve new water body-pollutant combinations and report number of HUC 12 watersheds improved consistent with the current U.S. EPA SP-12 guidance by 2020 (see Initiative SW 9: Water Quality Improvement Reporting and Table 17 for waters targeted for water quality improvement to support this objective).

Objective No. 1.03: Improve and protect the quality of critical high-value coastal waters from the impacts of local development activities (see Initiative SW1: Coastal Protection Program).

Objective No. 1.04: Improve and protect sources of public drinking water including surface water and groundwater supplies from the impacts of urban (e.g., septic systems) and agricultural activities (e.g., pesticides, nutrients) to ensure safe drinking water (see Initiative SW5.3: Addressing Nitrate Contamination in Groundwater; and RB3.2 and RB 7.2).

Goal No. 2: Implement strategies to improve watershed-based planning processes to focus implementation and funding efforts, and better communicate priorities to others including partners and stakeholders.

Objective No. 2.01: Review and, as appropriate, verify that a minimum of 20 watershed plans satisfy the requirements of a U.S. EPA nine-element watershed-based plan by 2020.

Objective No. 2.02: Ensure that total maximum daily load (TMDL) implementation plans are consistent with the requirements of nine-element watershed-based plans to the extent possible.

Objective No. 2.03: Coordinate with other State and federal agencies and organizations within the State Water Board to implement regulatory authorities to control NPS pollution consistent with the priorities established in the applicable nine-element watershed-based plans.

Objective No. 2.04: Coordinate with other State and federal agencies and organizations within the State Water Board to leverage funding consistent with the priorities established in the applicable nine-element watershed-based plans.

Goal No. 3: Improve and evaluate the effectiveness of the CA NPS Program implementation actions and communicate successes.

Objective No. 3.01: Enhance intra- and interagency coordination with government entities with NPS-related authorities and/or responsibilities (e.g., local, State, and federal) through roundtables and training opportunities.

Objective No. 3.02: Develop and utilize information management systems to track NPS pollution control implementation actions at a variety of levels (e.g., drainage, sub-watershed, watershed, programmatic) and determine their effectiveness through water quality monitoring.

Objective No. 3.03: Reduce the redundancies in required State and federal water quality improvement reporting through the development of a streamlined reporting method.

These goals and objectives provide the basis for the State Water Board, Regional Water Boards, and Coastal Commission activities described in subsequent sections of this document.

### **III. Structure of the CA NPS Program**

The purpose of this section is to provide a summary of the CA NPS Program and how the regulatory authorities that created the Water Board and the Coastal Commission influence both the structure of the program and the NPS Program Implementation Plan.

#### **A. Structure of the Water Boards and the Coastal Commission**

The physical and regulatory structure of the CA NPS Program is a function of the legal authorities that created the core agencies for the program (e.g., State Water Board, Regional Water Boards, and the Coastal Commission (core agencies)). This section describes both the physical and regulatory structure for each of the core agencies.

##### **1. State Water Board and Regional Water Boards**

The State Water Board and Regional Water Boards (the Water Board) were created by the California State Legislature (Legislature) in 1967 through the [Porter-Cologne Water Quality Control Act](#) (Porter-Cologne Act). The mission of the Water Boards is to ensure the highest reasonable quality for waters of the State, while achieving the optimum balance of beneficial uses. The joint authority of water allocation and water quality protection enables the Water Boards to provide comprehensive protection for California's waters.

The State Water Board consists of five full-time members with each filling a different specialized position (representing the public, engineering expertise, water quality expertise and water supply). The members are appointed to four-year terms by the Governor and confirmed by the California State Senate (Senate). There are nine Regional Water Boards statewide (see Figure 1). Regional boundaries are based on watersheds and water quality requirements are based on the unique differences in climate, topography, geology and hydrology for each watershed. The jurisdictional boundaries of the coastal Regions extend three nautical miles into the Pacific Ocean from the line of mean lower low water on the mainland and each offshore island, marking the seaward limits of inland waters.

The Regional Water Boards are semi-autonomous and are comprised of seven part-time board members appointed by the Governor and confirmed by the Senate. Each Regional Water Board makes critical water quality decisions for its Region, including setting water quality standards, issuing permits (waste discharge requirements [WDRs]), determining compliance with those requirements, and taking appropriate enforcement actions.

The Porter-Cologne Act is the principal law governing water quality control in California. It establishes a comprehensive program to protect water quality and the beneficial uses of waters of the State. The Porter-Cologne Act applies broadly to all State waters, including surface waters, wetlands, and ground water; it covers waste discharges to land as well as to surface and groundwater, and applies to both point and NPSs of pollution.

Through the Porter-Cologne Act the Legislature has declared that it is the policy of the State that:

1. The quality of all the waters of the State shall be protected;
2. All activities and factors that could affect the quality of State waters shall be regulated to attain the highest water quality that is reasonable; and
3. The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act is administered regionally, within a framework of statewide coordination and policy involving the Water Boards. The State Water Board adopts State policy for water quality control and statewide water quality control plans in addition to regulations that are binding on the Regional Water Boards. The Regional Water Boards adopt regional water quality control plans (Basin Plans) for their respective Regions. Basin Plans are reviewed and updated on a triennial basis. The State Water Board must approve Basin Plans, or any amendments thereto, before they become effective. Statewide plans adopted by the State Water Board supersede any Regional Water Board adopted plans to the extent of any conflict. The State Water Board adopts statewide general permits. The State Water Board also reviews Regional Water Board decisions on petitions for review. The primary point of contact for dischargers and other interested parties to receive information regarding the laws, regulations and programs related to NPS pollution control is at the Regional level.

The Porter-Cologne Act was amended in 1999 to require the State Water Board to develop guidance to enforce the state's NPS pollution control program. The State Water Board complied by adopting the [NPS Implementation and Enforcement Policy](#) (NPS Policy) on May 20, 2004. The NPS Policy explains how Porter-Cologne Act mandates and authorities delegated to the Water Boards will be used to implement the CA NPS Program. These authorities include WDRs, waivers of WDRs, and Basin Plan prohibitions. Waivers of WDRs must be renewed every five years. This policy also provides a bridge between implementation of the CA NPS Program Plan and the State Water Board's [Water Quality Enforcement Policy](#) adopted in 2002. The NPS Policy assists all responsible and/or interested parties in understanding how the California's NPS water quality control requirements will be implemented and/or enforced. The parties involved include the Water Boards, federal, state and local agencies, dischargers, designated third-party participants and any other interested public and private parties.



## 2. California Coastal Commission

The Coastal Commission was established by voter initiative in 1972 (Proposition 20) and later made permanent by the Legislature through adoption of the [California Coastal Zone Conservation Act of 1976 \(CA Coastal Act\)](#). The Coastal Commission, in partnership with coastal cities and counties, plans and regulates the use of land and water in the coastal zone. The coastal zone was specifically mapped by the Legislature. On land the coastal zone varies in width from several hundred feet in highly urbanized areas up to five miles in certain rural areas, and offshore the coastal zone includes a three-mile-wide band of ocean.

The Coastal Commission is an independent, quasi-judicial state agency. It is composed of twelve voting members, appointed equally (four each) by the Governor, the Senate Rules Committee, and the Speaker of the Legislature. Six of the voting commissioners are locally elected officials and six are appointed from the public at large. Three ex officio (non-voting) members represent the California Resources Agency, the California Department of Transportation, and the State Lands Commission.

Along with the [San Francisco Bay Conservation and Development Commission](#), and the [California Coastal Conservancy](#), the Coastal Commission is one of California's three designated coastal management agencies for the purpose of administering the federal Coastal Zone Act Amendments. The Coastal Commission manages development along the California coast except for San Francisco Bay, where the [San Francisco Bay Conservation and Development Commission](#) oversees development. One of the most significant provisions of the federal Coastal Zone Act Reauthorization Amendments is that it provides state coastal management agencies regulatory control (federal consistency review authority) over all federal activities and federally licensed, permitted or assisted activities, wherever they may occur (i.e., landward or seaward of the respective coastal zone boundaries fixed under state law) if the activity affects coastal resources.

California's coastal management program is carried out through a partnership between state and [local governments](#). These local government partnerships are enhanced through the Coastal Commission's water quality program located at their six district offices (see Figure 1). The implementation of CA Coastal Act policies is accomplished primarily through the preparation of [Local Coastal Programs](#) (LCPs) that are required to be completed by each of the 15 counties and 61 cities located in whole or in part in the coastal zone. Completed LCPs must be submitted to the Coastal Commission for review and approval. An LCP includes a land use plan which may be the relevant portion of the local general plan, including any maps necessary to administer it, and the zoning ordinances, zoning district maps, and other legal instruments necessary to implement the land use plan. Coastal Act policies are the standards by which the Coastal Commission evaluates the adequacy of LCPs. Amendments to certify LCPs only become effective after approval by the Coastal Commission.

Development within the coastal zone may not commence until a coastal development permit has been issued by either the Coastal Commission or a local government that has a Coastal Commission-certified local coastal program. After certification of an LCP, coastal development permit authority is delegated to the appropriate local government, but the Coastal Commission retains original permit jurisdiction over certain specified lands (such as tidelands and public trust lands). The Coastal Commission also has appellate authority over development approved by local governments in specified geographic areas as well as certain other developments.



Figure 1. Regional Water Board Boundaries with State Water Board and Regional Water Board Offices and California Coastal Commission Headquarters and District Offices

## **B. Structure of the CA NPS Program and the CA NPS Program Implementation Plan**

The purpose of this section is to describe the structure of the CA NPS Program and how the CA NPS Program Implementation Plan is a key component in successfully restoring and protecting the State's surface water and groundwater.

The purpose of the NPS Program Implementation Plan is to provide a comprehensive strategy to achieve the goals and objectives presented in Section II. To that end, the core agencies developed a series of initiatives that address goals and objectives presented in Section II. These initiatives group the NPS implementation activities that each of the core agencies will be focusing on during the next six years.

The statewide initiatives for the State Water Board and the Coastal Commission are presented in Section IV and for the Regional Water Boards in Section V. The initiatives are primarily programmatic by nature and delineate each agency's efforts to: (1) develop and exercise their regulatory authorities; (2) provide technical and financial assistance; and (3) leverage intra- and inter - agency resources (e.g., personnel, regulatory authority, and financial assistance). As such, milestones (e.g, dates) are provided for these programmatic activities to demonstrate the coherence needed for an encompassing and successful NPS Program.

Waters to be tracked for water quality improvement and possible CWA section 303(d) de-listings, and where CA NPS program resources have been invested, are presented in Section VI, Table 17. More detailed information for these are presented in Tables 18-26, by Regional Water Board, Information is provided with respect to: (1) short term (by 2020) and long term (by 2040) performance measures (e.g., surrogate and/or water quality); (2) method(s) used to evaluate meeting the short and long term performance measures; and (3) Regional Water Boards' initiative actions and other coordinated implementation actions contributing to achieving these improvements in surrogate and/or water quality performance measures.

## C. Reporting

Reports provide a mechanism to measure and evaluate what the NPS Program is doing and how the environment is responding to our actions. Types of reports produced by the CA NPS Program include semiannual progress reports, annual report, SP-12 (formerly referred to as Measure W), and WQ-10 (Success Stories). Many of these reports are similar to other performance measure reports prepared by the Water Board. To maximize reporting efficiency while still meeting U.S. EPA and other commitments, the State Board will coordinate strategy to streamline reporting to more efficiently, and effectively demonstrate progress on milestones, performance measures, and achievements.

The semiannual report, due twice annually, summarizes the progress of the California Water Boards in completing the milestones and carrying out tasks identified in the annual 319 workplans. The annual workplan identifies the task and activities of the California Water Boards' NPS Program supported by the year's CWA section 319 grant. The first semiannual progress report covers progress made during the first half of the state fiscal year (July through December). The second semiannual progress report covers progress made during the second half of the state fiscal year (January through June).

The CA NPS Program produces annual reports to summarize its progress and achievements implementing the CA NPS Program Implementation Plan to inform the public, U.S. Congress and U.S. EPA on the state's progress in the area of the NPS water pollution abatement. The annual reports focus on accomplishments during the state fiscal year. Some of these activities are specific to those aspects of the NPS Programs and other activities show a broader approach that utilizes multi-agency collaboration to address NPS pollution control. To address California's NPS Problems, the State, along with many landowners, private non-profit groups, various federal and local agencies are involved in many efforts to reduce and prevent NPS pollution. The annual report will provide updates on the performance measures for the targeted waterbody-pollutant combinations NPS Program Implementation Plan delineated in Section VI: Targeting Waterbody Pollutant Combinations for Demonstrating Success.

Several federal performance measures are used to demonstrate the success of a state's NPS program relative to water quality improvement. Two of these are WQ-10 and SP-12. SP-12s track where watershed quality conditions have improved by utilizing a watershed approach. Success stories document how restoration efforts have improved primarily NPS impaired waterbodies. Water quality improvements are demonstrated through the achievement of water quality standards for one or more pollutants. Water quality improvement updates will also be provided through the Water Board's water quality report cards (see [Initiative SW9: Water Quality Improvement Monitoring](#)) and/or U.S. EPA reporting measure SP-12 and, as appropriate, WQ-10 (Success Stories).

## **D. Future CA NPS Program Implementation Plan Evaluation and Development**

In late 2018, the CA NPS Program will begin developing the next five-year iteration of the NPS Program Implementation Plan. A key component of this effort will be to evaluate the effectiveness of the program using a systematic approach such as the logic model approach. In this context the “logic model approach” refers to assessing a program’s desired outcomes (e.g., what change or benefits result from the outputs – in this case environmental improvements like water quality) and then identifying the necessary resources of time and technical expertise, financial resources, etc. and outputs (e.g., what is produced from these resources – such as the development of regulatory mechanisms, implementation of management measures and management practices) to achieve the outcomes.

Since the CA NPS Program is comprised of a myriad of Water Board and Coastal Commission programs (e.g., agriculture and irrigated lands, forestry, TMDL, coastal protection, etc.), it is imperative to coordinate with these respective programs in this evaluation. The effectiveness of the CA NPS Program collectively is dependent on the effectiveness of the individual programs and the ability of these programs to integrate and coordinate. To that end, the CA NPS Program intends to work with the aforementioned programs to evaluate program effectiveness individually and as a whole (See initiative SW4.1).

The outputs from this review will be used to inform future implementation plan evaluation and development, and will serve as a basis for future program reviews. This process will be oriented towards program and outcome improvement and will be summarized as part of the Annual Report. The results of these evaluations and any recommended CA NPS program improvements will be part of on-going discussions with U.S. EPA – Region 9 (Pacific Southwest) and provide the basis for the next “five-year” iteration of the NPS Program Implementation Plan.

## E. CA NPS Program Priorities

Priorities are established for the CA NPS Program as a function of two categories of goals. The first category is programmatic goals, which are programs that fall under initiatives that have been given priority over other initiatives. The second category of priorities is geographic, waterbodies that the CA NPS Program has identified as statewide priorities.

Programmatically, the CA NPS Program has identified the following statewide priorities:

1. The agricultural and irrigated lands regulatory program;
2. Forestry and rangelands activities program;
3. NPS-related TMDL implementation programs; and
4. Monitoring to determine implementation action effectiveness and water quality improvement.

In order to address the emphasis of U.S. EPA's "303d Vision" on being inclusive of all CWA programs, the CA NPS Program management will work to ensure the ongoing integration and coordination of point and NPS efforts within the structure of the TMDL and watershed based planning development and implementation programs.

Additionally, the CA NPS Program will continue to prioritize restoration of impaired waters; however in some cases, the program may invest in limited protection of threatened and high quality waters where called for in appropriate nine element watershed based plans.

Finally, the CA NPS Program emphasizes its commitment to contributing to larger efforts within the State Water Board and the Regional Water Boards to create a more coherent and cohesive monitoring structure across the state. While the CA NPS Program has no ability to affect policy or programmatic decisions within other projects and institutions, it will actively seek to assist in the creation, support and sustenance of an improved system of water quality monitoring in California for the purpose of ensuring the efficacy of CWA programs.

Geographically, the CA NPS Program has identified the following waterbodies as statewide NPS priorities:

1. Klamath River;
2. Napa River;
3. Sacramento-San Joaquin River Delta; and
4. Lake Tahoe.

Additional regional priorities are discussed within Section V, Regional Water Board Priorities.

## IV. Statewide Nonpoint Source Initiatives

### A. Introduction

The State Water Board and the Coastal Commission, in coordination with the nine Regional Water Boards, are the co-lead agencies for the development and implementation of the CA NPS Program Plan. As such, the remainder of this document presents selected activities that each of these organizations will be implementing during the planning period to satisfy the vision, goals, and objectives of the CA NPS Program Plan.

#### 1. Description of the Initiative Concept

The next two sections address the statewide (State Water Board and Coastal Commission) and regional (Regional Water Board) initiatives. These initiatives group the NPS implementation activities that each of the core agencies will be focusing on during the next six years. Each of the core agencies will also be addressing a number of other NPS-related initiatives and activities. Although not included in this document, those activities are also critical to their respective efforts to restore and protect the State's valuable water resources from NPS pollution.

For each statewide and regional initiative the following is provided: (1) background – pertinent information that presents a backdrop for the initiative; (2) needs statement – why does the organization need to implement this initiative; (3) goals and objectives – what is the organization trying to accomplish through implementing the initiative; (4) initiative description - a brief summary of the initiative; (5) proposed activities – the actions that the organization will be implementing to achieve the desired goals and objectives; and (5) performance measures – how is the organization going to measure its success in meeting the goals and objectives.

#### 2. Performance Measures

Per the NPS Program Guidelines – Appendix B, states are required to use three quantitative federal measures to demonstrate the success of their NPS programs. These U.S. EPA National Water Program Guidance measures are referred to as: (1) WQ – 9a, b, and c which tracks the estimated annual load reductions of nitrogen, phosphorus, and sediment achieved by CWA section 319(h) funded projects as entered in to the federal Grants, Reporting, and Tracking System (GRTS); (2) WQ-10 (Success Stories) which tracks the number of waterbodies identified by states as being primarily NPS-impaired that have been partially or fully restored as a result of restoration efforts; and (3) SP – 12 which demonstrate watershed-wide improvement in water quality resulting from



implementation of the watershed approach within 12-digit hydrologic unit codes (HUC-12) watersheds.

Appendix B also allows the states to adopt other measures of progress and success for their NPS programs and provides examples of these optional indicators. As such, the CA NPS Program will be using three levels of performance indicators or measures, which are consistent with those provided in Appendix B, to gauge the progress and success of the CA NPS Program. The first is referred to as a “milestone”. These are specific actions and /or outputs that the core agencies have committed to complete by a specific date. In California, these actions often involve the Core Agency using their legal authorities to develop a regulatory tool or output that requires the affected parties to implement appropriate management measures and management practices. The timeline for developing and/or renewing these regulatory tools is often legislatively mandated, such as the requirement for a Regional Water Board to renew an existing waiver of WDRs every five years.

The second level is the “interim measure”. At this level the regulatory tool is being implemented by the Core Agency and requires specific measurable actions on their part and the regulated dischargers. For example, under a waiver of WDRs for agricultural activities the Regional Water Board interim performance measures could be the number of annual facility inspections conducted, the number of farm water quality management plans reviewed, the number of monitoring and reporting plans reviewed, the percentage of total producers/dischargers subject to the waiver that are enrolled; and/or the percentage of total acreage subject to the waiver that are enrolled. At the “interim level” the Regional Water Board would also be able to make reasonable estimations of the type and quantity of management measures and management practices that are being implemented through the waiver program. The third and final level of performance is “water quality improvement”. At this level improvements in water quality that can be attributed in part to the State’s NPS program are used to demonstrate success.

For the last five years the State Water Board’s Office of Research, Planning, and Performance has developed the California Water Boards’ Annual Performance Report (Performance Report). The report reflects the Water Board’s efforts to become a “performance-based” organization. A number of the “interim measures” discussed above are presented in the Performance Report. As appropriate, the CA NPS Program intends on using the “interim measures” already reported through the Performance Report to measure programmatic progress for annual reporting. Part of the Performance Report also addresses the State’s progress in improving water quality through implementation actions. The water quality improvements are documented through water quality report cards. The Cal NPS Program will use the water quality report cards for the targeted waterbody/pollutant combinations in Chapter VI to track and demonstrate water quality improvement. This is discussed in more detail in Initiative SW9: Water Quality Improvement Reporting.

## B. Initiative SW1: Coastal Protection Program

### 1. Background

The primary causes of NPS pollution impairment along the California coast are from activities associated with hydromodification, agriculture, legacy mining, forestry, marinas and recreational boating, and urban runoff. The 61 management measures identified in the Coastal Zone Act Amendments (see Appendix A) serve as general goals for the control and prevention of these sources of NPS pollution in coastal waters. While State and Regional Water Boards address urban runoff pollution primarily through their stormwater national pollutant discharge elimination system (NPDES) permit programs, the Coastal Commission's mission is to protect all coastal resources, including water quality, from the impacts of development, broadly defined. As such, the Coastal Commission addresses urban runoff, in addition to other sources of NPS pollution, through their coastal NPS program. Coastal Commission staff has focused efforts on several land uses that are included in this implementation plan including marinas and recreational boating, wetlands, urban areas and critical coastal areas (CCAs). Promoting coordination between California Coastal Commission, the State Water Board, and nine Regional Water Quality Control Boards will help with NPS Program statewide implementation and water quality protection efforts. Abatement of known water quality impairments from NPS pollution and prevention of significant threats to coastal water quality from present and future land use activities will depend upon a coordinated effort between federal, State, local government, and citizens groups and accelerated implementation of existing or new management measures to protect or restore coastal waters.

### 2. Initiatives

The NPS initiatives listed below promote a balanced approach that emphasizes statewide coastal NPS program strategies and integrates these with on-the-ground efforts by local governments and other state agencies.

#### *a. Initiative SW1.1: Identify and Protect Critical Coastal Areas*

##### Needs Statement

There are many locations along the California coast where marine areas recognized as having high resource value are threatened or impaired by NPS pollution from adjacent watersheds. The CCA Program is a non-regulatory program to foster collaboration among local stakeholders and government agencies, to better coordinate

resources and focus efforts on addressing polluted runoff in the coastal watersheds that flow to these high resource-value marine areas. The CCA Program's goal is to ensure that effective NPS management measures are implemented to protect or restore water quality in these critical coastal watersheds.

The criteria used to identify the current 101 CCAs relied on existing State designations of impaired waters (i.e., the CWA section 303(d) list), as well as existing State, Federal, or local government designations of marine and estuarine areas with high resource value (e.g., California Marine Managed Areas [MMAs]). The Coastal Commission led the effort to identify the current list of CCAs, and has recently proposed revisions to the CCA list to reflect updates in the State designations that were used in the identification criteria.

The identification criteria for the current list of CCAs included: (1) coastal watersheds that flow into impaired bays and estuaries on the 1995 CWA section 303(d) list; (2) coastal watersheds where impaired waters on the 1998 CWA section 303(d) list flow to the coast adjacent to a MMA, or a Wildlife Refuge or Waterfront Park/Beach specified in the San Francisco Bay Plan; and (3) coastal watersheds that flow to the coast adjacent to an Area of Special Biological Significance.

Coastal Commission staff recently proposed adding a new CCA identification criterion in order to better protect Marine Protected Areas (MPAs) from NPS pollution. MPAs are a subset of MMAs that are primarily intended to protect or conserve marine life and habitat, and thus MPAs are more appropriate to use for identifying marine or estuarine areas with high resource value than are MMAs. California's system of MPAs has been reorganized in recent years, and as a result, new MPAs have been designated, some MPAs have been discontinued, and some MPAs have been renamed.

The proposed new CCA identification criterion would identify as CCAs those "coastal watersheds where an impaired waterway flows to the coast adjacent to an MPA." As a preliminary threshold, an MPA was defined as "adjacent" to an impaired waterway if the MPA is located within one mile along the shoreline from an impaired waterway, and within one mile offshore. This proposed new CCA identification criterion would add 13 new CCAs, in areas where a 2010 CWA section 303(d)-listed impaired waterway flows to the coast adjacent to (i.e., within one mile of) an MPA, and the MPA is not adjacent to (i.e., within one mile of) an existing CCA.

Coastal Commission staff also recently proposed a second new CCA identification criterion that would identify as CCAs those "coastal watersheds where an impaired waterway is, or flows into, a Principal Bay or Estuary" as designated in the California Department of Fish & Wildlife's list of Principal Bays and Estuaries of California, in the 2001 publication "California's Living Marine Resources: A Status Report." Combining the results of applying the two proposed new criteria would add 20 new CCAs.

Coastal Commission staff will hold outreach sessions with state agency members of the Statewide CCA Committee, which developed the initial CCA identification criteria, to ensure the agencies' approval of the two proposed new criteria. Once the new identification criteria are approved, Coastal Commission staff will map the newly identified CCAs, and will identify potential sources of polluted runoff in these coastal watersheds, so that effective NPS management measures can be implemented to protect the adjacent marine waters.

Over the next six years, Coastal Commission staff will also evaluate current water quality impairments and potential impacts of projected future development patterns for at least two CCA watersheds in each of the six coastal Regional Water Boards' jurisdictions.

As the co-lead agency for the CA NPS Program, the Coastal Commission is committed to implementing NPS management measures throughout the State, but has specific authority to address the impacts of development in the California Coastal Zone. In the Coastal Zone, local governments' LCPs, certified by the Coastal Commission as meeting the requirements of the California Coastal Act, are a key mechanism for achieving a high standard for coastal water resource protection. The Coastal Commission's Water Quality Program staff will continue to assist in updating LCPs to include policies, standards, and ordinances that establish NPS water quality protection strategies and priorities for development, both during construction and over the life of a project.

The Coastal Commission's Water Quality Program staff will also continue to ensure that Coastal Development Permit (Coastal Permits) projects are planned, designed, and managed to minimize potential adverse impacts to coastal resources from changes in the site's runoff quality and runoff flow regime.

### Goals and Objectives

The goals and objectives of this initiative are to:

Goal SW1.1.01: Identify specific areas of the coast where high resource-value marine and estuarine waters (e.g., MPAs) are threatened or adversely impacted by runoff from land-based development in adjacent CCA watersheds.

Goal SW1.1.02: Identify and promote implementation of all appropriate management measures, and where necessary identify additional management measures, to protect these high resource-value coastal waters from impacts due to runoff from adjacent CCA watersheds.

Objective SW1.1.01: Produce a statewide map showing the boundaries of the current and proposed new CCAs.

Objective SW1.1.02: Identify the CCAs where there is a high risk of adverse impacts to high resource-value coastal waters due to runoff from development in the CCA.

Objective SW1.1.03: Identify the status of LCPs' NPS water quality protection elements, for high-risk CCAs.

Objective SW1.1.04: Identify appropriate management measures that should be implemented in high-risk CCAs.

Objective SW1.1.05: Identify areas of the coast where there is a high risk of adverse impacts to state MPAs due to runoff from development in adjacent CCA's watershed.

### *Initiative Description*

This initiative will continue the Coastal Commission's efforts to identify: (1) specific areas of the coast where high resource-value waters are threatened or adversely impacted by land-based development; (2) the status of LCPs' NPS water quality protection elements in these areas; and (3) appropriate management measures that should be implemented in these areas. Maps will be developed showing the boundaries of the CCAs, extending inland to the Coastal Zone boundary.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW1.1.01: Produce a map of all existing and proposed new CCAs.

Activity SW1.1.02: Hold outreach sessions to gain Statewide CCA Committee members' approval of revised criteria to identify Critical Coastal Areas.

Activity SW1.1.03: Develop procedures for gathering information on potential future development patterns within CCAs.

Activity SW1.1.04: Evaluate the potential impact to high resource-value marine and estuarine waters due to runoff from development in adjacent CCAs in the following locations: (1) North Coast Regional Water Board - Noyo and Albion rivers; (2) San Francisco Bay Regional Water Board - Fitzgerald Marine Reserve and Pescadero Creek; (3) Central Coast Regional Water Board - Morro Bay and Elkhorn Slough; (4) Los Angeles Regional Water Board - Malibu and Topanga creeks; (5) Santa Ana Regional Water Board - Upper Newport Bay and Irvine Coast Marine Life Refuge; and (6) San Diego Regional Water Board - Batiquitos and San Elijo lagoons.

Activity SW1.1.05: Make recommendations for implementation of specific management measures and management practices in CCAs with a high risk of adverse impacts due to runoff from land-based development.

Activity SW1.1.06: Develop tools (e.g., maps, site investigation check list) for coastal planners to evaluate potential water quality impacts due to runoff from CCAs in their jurisdiction. This activity may include incorporating by reference existing information or plans that may have been developed by other agencies.

Activity SW1.1.07: Consult with appropriate state agencies (e.g., State and Regional Water Boards, Ocean Protection Council, and Department of Fish and Wildlife) for concurrence with the proposed new CCA identification criteria designating additional CCAs where an impaired waterway flows to the coast adjacent to a state Marine Protected Area.

### Performance Measures

The following performance measures are proposed for this initiative:

Performance Measure SW1.1.01: Map showing all current CCAs and adjacent high resource-value marine and estuarine waters, by 2016.

Performance Measure SW1.1.02: Written procedures for identifying CCAs where runoff from development presents a high risk of adverse impacts to adjacent high resource-value marine and estuarine waters, by 2016.

Performance Measure SW1.1.03: Map showing current CCAs, and any new CCAs identified using proposed new identification criteria, by 2016.

Performance Measure SW1.1.04: Written procedures for identifying the status of LCPs' NPS water quality protection elements, for high-risk CCAs, by 2017.

Performance Measure SW1.1.05: Identification of the status of LCPs' NPS water quality protection elements for high-risk CCAs, by 2018.

Performance Measure SW1.1.06: Tools (e.g., maps, site investigation check list) for coastal planners to evaluate potential water quality impacts due to runoff from CCAs in their jurisdiction, by 2018.

Performance Measure SW1.1.07: Written report on the most common sources of adverse runoff impacts to coastal waters, considering geographic, development and other differences that may regionally affect runoff impact, and recommendations on management measures that should be a high priority to implement, by 2020.

## ***b. Initiative SW1.2: Local Coastal Government Coordination and Implementation***

### **Needs Statement**

Most coastal development in California that may adversely impact water quality is regulated by local government agencies, subject either to policies and standards of a certified LCP or the Coastal Act. Since LCPs certified by the Coastal Commission as being consistent with the Coastal Act become the “standard of review”, they are important controls on the types of development and development standards required near the coast. Many of these LCPs were certified in the 1970’s and 1980’s and they do not reflect the mandates of current state stormwater programs or the federal approval of the Coastal Program, integrated into CA NPS Program Plan, which was completed in the year 2000. The Coastal commission has no authority to require regular updates to LCPs. Updating LCPs is a resource intensive process and local agencies generally take on this challenge only when the existing LCP is restricting needed development or when resources for advanced planning activities are made available.

Updating the water quality policies of LCPs may be a low priority for local governments, since they are already regulated by the Regional Water Boards through stormwater permits. Nevertheless it is important for LCPs to be updated in order that developers, planners and permit writers all have a clear understanding of the water quality policies and standards that apply to land use in the Coastal Zone. Whether local agencies are required by state issued stormwater permits to update their stormwater ordinances or choose to update their requirements for development, their workload can be significantly reduced by clear guidance.

In 2014, Coastal Commission staff conducted a review of LCP policies and standards (elements of ordinances) that have been approved over the last ten years. This work was motivated by an update to the municipal stormwater permit applicable to communities on the California central coast (Central Coast) and will result in recommended policies and standards for LCPs that are consistent with the new stormwater permit. The model language will be used as a starting point for coordination with other areas of the coast, but may need to be revised or expanded to address the different geography, land use and regulatory environments outside of the Central Coast.

### **Goals and Objectives**

The goals and objectives of this initiative are to:

Goal SW1.2.01: Protect coastal water quality from impacts of development by coordinating with local planning agencies to encourage updating LCPs with policies

and standards that are consistent with the management measures of the 2000 CA NPS Program Plan and applicable state regulations.

Goal SW1.2.02: Support local coastal governments in efforts to update their LCPs by providing recommended water quality policies and standards based on the 2000 CA NPS Program Plan and applicable state regulations.

Objective SW1.2.01: Complete compilation of water quality policies and standards that are recommended for use by local governments on the California coast and make the recommendations available to local government agencies.

Objective SW1.2.02: Provide technical support to local government staff to tailor the recommended policies and standards to the environmental and land use conditions for that portion of the coast, starting with the Central Coast local jurisdictions.

Objective SW1.2.03: Use the lessons learned and guidance materials developed on the Central Coast to support coordination with other local jurisdictions along the California coast.

### *Initiative Description*

This initiative continues the current efforts of the Coastal Commission to review their LCP policies and standards (elements of ordinances) that have been approved over the last ten years. The LCP review will result in recommended policies and standards for future LCPs that will be consistent with the requirements of the recent update of the stormwater permits in the Central Coast. The model language will be used as a starting point for coordination with other areas of the coast, but may need to be revised or expanded to address the different geography, land use and regulatory environments outside of the Central Coast.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW1.2.01: Completing the comprehensive review of LCP policies and standards approved over the last decade.

Activity SW1.2.02: Complete the list of recommended LCP policies and standards, including a review by Coastal Commission senior staff with extensive experience working with LCPs and local governments.

Activity SW1.2.03: Develop tools and methods to share the recommended policies and standards with local governments on the Central Coast of California.



Activity SW1.2.04: Work with Central Coast local agencies to support them in updating their LCPs and learn from them how the recommended language can be tailored to fit their local needs.

Activity SW1.2.05: Modify the recommended policies and standards for use in other regions of the California coast based on applicable state and local regulations and lessons learned on the Central Coast.

### Performance Measures

The following performance measures activities are proposed for this initiative:

Performance Measure SW1.2.01: Sixty percent of the LCPs in the Central Coast are amended to include updated water quality policies and standards by 2016

Performance Measure SW1.2.02: Ten LCPs in other parts of the State are amended to include updated water quality policies and standards by the 2018.

### ***c. Initiative SW1.3: Coastal Commission Water Quality Program Review and Technical Transfer***

#### Needs Statement

The Coastal Commission has been implementing the California NPS Program Plan since its federal approval in 2000 through Coastal Permits, LCP amendments, resolution of appeals of local coastal development actions, and review of the consistency of federal actions with the California Coastal Management Plan. Since the authority of the Coastal Commission is focused on the planning and permitting of appropriate coastal development, there are usually few resources available for assessment of the results of those actions. In order to determine the effectiveness of their efforts through use of their permitting authorities, the Coastal Commission needs to determine to what extent the management measures and management practices that have been required are protecting coastal water quality.

#### Goals and Objectives

The goals and objectives of this initiative are to:

Goal SW1.3.01: Protect coastal water quality from impacts of development by determining whether the water quality requirements in Coastal Permits over the last decade have resulted in design, construction, and maintenance of management practices that protect coastal water quality.

Goal SW1.3.02: Ensure that planners and permit writers for coastal development projects have access to permit requirement language that will achieve the expected coastal water quality protection.

Objective SW1.3.01: Work with the State Water Board in the development and implementation of new and existing water quality plans and policies, (e.g. new stormwater permits and waste discharge requirement addressing NPS pollution) to ensure consistency and coordination with the Coastal Commission staff's water quality recommendations in Coastal Permits.

Objective SW1.3.02: Determine if the requirements imposed in permits and LCPs approved by the Coastal Commission over the last fifteen years have been effective at implementing the management measures and management practices of the California NPS Plan.

Objective SW1.3.03: Develop tools (e.g., check-lists, model permit requirements, and examples of approved permit requirements) for state and local planners and regulators to use in order to protect coastal water quality through Coastal Permits and LCPs.

### *Initiative Description*

The Coastal Commission recently received a grant from the federal Coastal Impact Assistance Program to review the results of permitting and planning actions over the past decade, and to recommend updates to water quality requirements in Coastal Permits. This program review will start with a general consideration of current state water quality policies and how they inform Coastal Commission staff's recommendations for development requirements. The review will then focus on a variety of water quality issues (e.g., permeable pavements, and bluff-top developments), researching where permit requirements have been imposed by the Coastal Commission, what permit requirement language has been used, the basis for variations in the language over time and in different geographic regions, and ultimately whether the permit requirement language achieved the desired result on the ground.

The results of this research will be shared with state and local agency staff to share lessons learned and suggestions of ways to improve permit requirements, LCP planning policies, and LCP implementation standards. From that information, Coastal Commission Water Quality Program staff will develop guidance for planning staff and make recommendations to the Commission on ways to improve permitting and LCP planning actions going forward.

### *Proposed Activities*

Activities proposed for this initiative are to:

Activity SW1.3.01: Review current state water quality policies for their application to Coastal Commission decisions regarding coastal development.

Activity SW1.3.02: Research Coastal Commission permit requirements for language used to achieve specific management practice implementation in different parts of the coast over the last decade.

Activity SW1.3.03: Find completed projects that are available for site inspections, and have adequate documentation of the required management practices.

Activity SW1.3.04: Conduct on-the-ground site investigations and, if necessary, interviews with project managers to evaluate the results of the requirement language imposed in Coastal Permits and identify opportunities for greater environmental protection.

Activity SW1.3.05: Use the results to develop new recommendations for permit requirement language.

Activity SW1.3.06: Conduct workshops in at least six locations along the coast to share recommendations and take input from permit writers.

Activity SW1.3.07: Develop tools and methods to share the recommended permit requirement language and make the final results widely available.

### *Performance Measures*

The following performance measures activities are proposed for this initiative:

Performance Measure SW1.3.01: Complete a search of past Coastal Commission permit decisions, identifying at least 600 permits with requirements incorporated to protect water quality in at least 6 types of coastal developments, by 2016.

Performance Measure SW1.3.02: Identify at least 60 Coastal Permits for which the project has been completed, is available for site inspection, and has adequate documentation of the required management practices, by 2016.

Performance Measure SW1.3.03: Conduct site investigations and follow-up analysis of at least 30 development projects, by 2016.

Performance Measure SW1.3.04: Develop recommended permit requirement language to address water quality protection in at least four types of development (e.g., parking lots and residential developments), and communicate those recommendations in at least six workshops along the California coast, by 2016.

Performance Measure SW1.3.05: Make the final recommended permit requirement language available to State and local planners, as well as to coastal developers, by 2016.

## C Initiative SW2: Nine-Element Watershed-Based Planning

### 1. Background

The CA NPS Program embraces as the most effective approach to address NPSs of pollution the development, verification, and implementation of watershed-based plans. A watershed-based plan is a strategy and workplan for achieving water resource goals that provide assessment and management information for a geographically defined watershed.

For developing and implementing watershed-based plans, California will be relying on EPA guidance (e.g., [“Handbook for Developing Watershed Plans to Restore and Protect Our Waters”](#) [March 2008] and the more recent [“A Quick Guide to Developing Watershed Plans to Restore and Protect Our Waters”](#) [May 2013]) (referred to as a Nine Element Watershed-based Plan). The CA NPS Program has made use of existing plans, often in combination with each other. The watershed planning process is especially critical in guiding investments for more efficient and effective water quality improvements as demonstrated Elements 3 and 4 (Figure 2)

Examples of plans that are being used in California include local watershed plans, coordinated resource management plans, TMDL implementation plans, comprehensive conservation and management plans, and the Regional Water Board’s Basin Plans.

The nine-element watershed-based planning components are presented in Figure 2. Plans addressing these elements are required for receiving CWA section 319(h) planning and implementation project funding (see Initiative SW7: Financial Assistance).

While a number of the elements of a nine-element watershed-based plan are met by California’s TMDL and Implementation Plans, the CA NPS Program has been working with the CA TMDL Program to expand the TMDL staff report associated with implementation of the TMDL to incorporate more of the nine -elements not currently included. However, not all of the nine elements can be addressed by CA’s TMDL’s and not all watershed plans have TMDL’s developed.

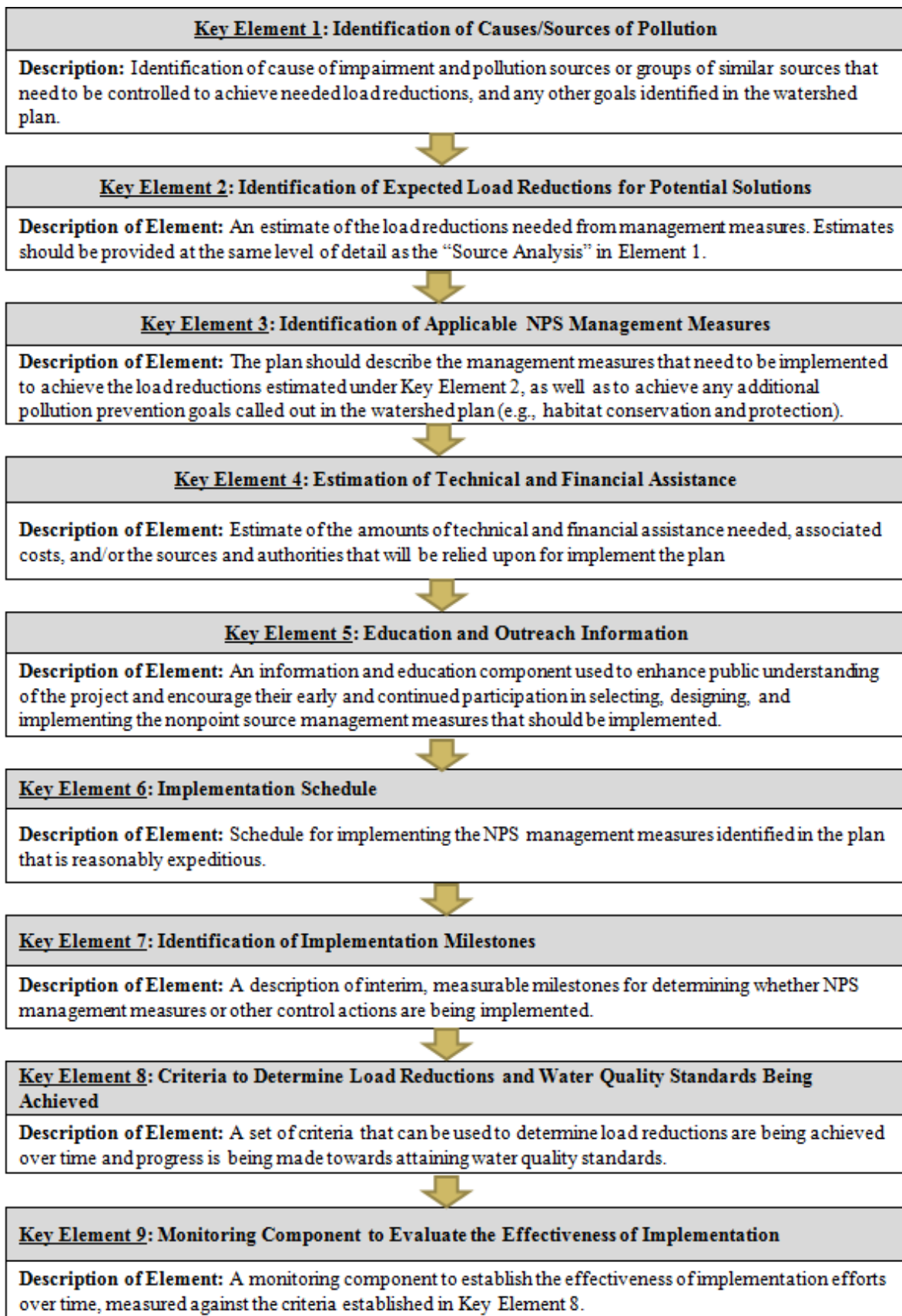


Figure 2: Nine-elements watershed-based plan

## 2. Initiatives

The following initiative is presented to address the needs of the CA NPS Program with respect to nine-element watershed-based plans.

### ***a. Initiative SW2.1: Targeted Development of Nine-Element Watershed-Based Plans***

#### **Needs Statement**

Although the CA NPS Program has determined that the most effective method to address NPS pollution is through the development and implementation of nine-element watershed-based plans, there is no consistent statewide effort to develop and implement these plans. Instead the State relies on the TMDLs to provide the core planning documents and additional documentation provided by interested grant applicants. This creates two difficulties. First, watershed based plans are of inconsistent quality. Second, there is no currently recognized mechanism to identify and/or develop watershed based plans outside of a TMDL nor a clear process to share them with the public. This latter difficulty is especially critical in protecting and/or restoring historically high quality watersheds that are threatened (i.e. from recent fire damage), but are not yet listed as impaired or have a developed TMDL.

As such, the CA NPS Program needs to develop a strategy that will address these needs. The nine-element watershed-based plan strategy needs to: (1) address those waterbody-pollutant combinations targeted by the Regional Water Boards for the six-year planning horizon (see Section VI: Regional Water Board Targeted Waterbody – Pollutant Combinations); (2) apply the recently developed "review matrix" procedure to verify that the nine-element watershed-based plans have been met for the targeted watersheds or identify specific elements that need improvement; (3) provide expertise and/or funding to address element gaps; and (4) with the applicable Regional Water Board, develop strategies to fill the gaps, to facilitate implementation in priority watersheds. This is especially critical for Elements 3 and 4 used to guide future implementation investments and Elements 8 and 9 used to determine management measure implementation and effectiveness and resulting water quality improvements. Once the CA NPS Program has identified the nine-element watershed-based plan gaps, they need to make the information available to stakeholders and partners. CA NPS Program will also provide the pertinent information to U.S. EPA Grants Reporting and Tracking System, per CWA section 319 requirements.

#### **Goals and Objectives**

The goal and objectives for this initiative are to:

Goal SW2.1: In consultation with EPA, develop and implement a strategy for the CA NPS Program to assess the contents of nine-element watershed-based plans to satisfy U.S. EPA requirements.

Objective SW2.1.01: Finalize criteria for reviewing and verifying watershed plans as meeting the federal nine-element watershed-based plan requirements.

Objective SW2.1.02: Coordinate with the Regional Water Boards to develop a strategy for prioritizing, reviewing, and verifying nine-element watershed-based plans.

Objective SW2.1.03: Review and verify as appropriate, watershed plans as meeting the nine-element watershed-based plan requirements.

Objective SW2.1.04: Identify “element gaps” determined in the review and verification process for nine-element watershed-based plans.

Objective SW2.1.05: Provide public accessibility to the verified nine-element watershed-based plan.

Goal SW2.2: Improve development of watershed-based plans that are actively used by stakeholders and partners to identify and carry out implementation priorities.

Objective SW2.2.01: Improve Water Board development of nine-element watershed-based planning efforts.

### *Initiative Description*

To implement this effort, the CA NPS Program will develop criteria for prioritizing, assembling and reviewing existing documents that would contribute to watershed-based plans to assess gaps within the nine-element watershed-based plans. This effort will include: (1) coordinating with the Regional Water Boards to develop a strategy for prioritizing the watershed plans that will be reviewed and verified by the CA NPS Program; (2) finalizing the criteria for reviewing documents contributing to nine-element watershed-based plans; (3) using the “review matrix” to identify the section(s) of previously developed documents that can be used by the State Water Board to determine that the nine-element watershed-based plan requirements have been met; and (4) identifying and filling “element gaps” determined in the Nine Element Plan verification process; and (5) incorporating the pertinent information into the Grants Reporting and Tracking System, and the [CA NPS Program website](#). Following on the identification of “element gaps” in watershed-based planning, (6) two or more priority elements gaps will be identified, (7) a strategy for addressing those prioritized elements will developed and implemented, and (8) Water Board staff will bring improved approaches to least two watershed based plans under development.



### Proposed Activities

The following activities are proposed for this initiative:

Activity SW2.1.01: Finalize criteria for reviewing and verifying existing watershed-based plans consistent with the federal requirements of a nine-element watershed-based plan.

Activity SW2.1.02: Coordinate with the Regional Water Boards to develop a strategy for prioritizing, reviewing, and verifying nine-element watershed-based plans.

Activity SW2.1.03: Coordinate with the Regional Water Boards to identify and prioritize watersheds that require a Nine Element Plans consistent with the waterbody-pollutant combinations identified by the Regional Water Boards in Section VI: Regional Water Board Targeted Waterbody-Pollutant Combinations.

Activity SW2.1.04: Identify the section(s) of previously developed documents that can be used by the State Water Board to determine that the nine-element watershed-based plan requirements have been met.

Activity SW2.1.05: Review and verify, as appropriate, watershed plans as meeting the requirements of a nine-element watershed-based plan.

Activity SW2.1.06: Identify “element gaps” that prevent the watershed plan from being verified as a nine-element watershed-based plan and identify methods to fill these gaps either through internal development (e.g., CA NPS Program) and/or providing funding for external development (e.g., work with stakeholders or contract with other entities) through the CA CWA section 319 program.

Activity SW2.1.07: Address “element gaps” through either internal and/or external processes.

Activity SW2.01.08: Upload verified nine-element watershed-based plans into the GRTS and CA NPS Program website. (Note: Ongoing as the nine-element watershed-based plans are verified.)

Activity SW2.1.09: Continue to work with the Water Board’s TMDL program to ensure that the TMDL implementation plans developed by the Regional Water satisfy, to the extent possible, the requirements of a nine-element watershed-based plan.

Activity SW2.1.10: Conduct an annual evaluation of programmatic requirements for developing watershed based plans to ensure the development of effective watershed based plans.

Activity SW2.2.01: From Goal SW.2.1.01 (identification of element gaps), select at least two common and high priority weaknesses from identified strengths and weaknesses found in the Goal SW.2.1.01 nine-element watershed based plan reviews.

Activity SW2.2.02: Working with the NPS Roundtable (or a sub-group) and others as applicable, develop processes to address the two selected priority weaknesses.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW2.1.01: Criteria for reviewing and verifying nine-element watershed-based plans consistent with U.S. EPA requirements by March 2016.

Performance Measure SW2.1.02: A strategy for reviewing and verifying nine-element watershed-based plans by April 2016.

Performance Measure SW2.1.03: Review and verify, as appropriate, a minimum of three nine-element watershed-based plans per year with a minimum of twenty reviewed and verified, as appropriate, by 2020.

Performance Measure SW2.1.04: Provide technical assistance and identify strategies for addressing “element gaps.”

Performance Measure SW2.1.05: Verified nine-element watershed-based plans uploaded into the GRTS and CA NPS Program website. (Note: Ongoing as the nine-element watershed-based plans are verified.)

Performance Measure SW2.2.01: Working with the NPS Round Table, identify priority element gaps effecting watershed-based planning and the guiding of watershed restoration from identified strengths and weaknesses found in the Goal SW.2.1.01 nine-element watershed based plan reviews, by 2017 (based on initial six reviewed plans) and continue to identify and prioritize element gaps based on ongoing reviews (See Performance Measure SW2.1.03).

Performance Measure SW2.2.02: Develop strategies to address each of the identified two priority weaknesses, such as providing technical assistance, working with plan writers to understand and incorporate the necessary elements, and/or training for Waterboard staff (TMDL writers, and NPS program staff including ILRP, forestry, etc.) and partners contributing to watershed-based plan development, by 2018.

Performance Measure SW2.2.03: Work with Regional Board staff to implement approaches to demonstrate improved planning by engaging meaningfully in development of at least two watershed-based plans (as lead or as collaborator), by 2019.

## D. Initiative SW3: Implementation of Total Maximum Daily Loads

*TMDLs in California remain an effective planning tool to restore and protect impaired waters. There are lessons to be learned from previously developed TMDLs, a need to develop a process for targeting the vast numbers of pollutants and geographic areas, tracking the incremental progress, assessing/evaluating the progress in the States waters addressed through traditional and alternative methods and then making that information available to all (including the CA NPS Program) in a useful and meaningful way.*

### 1. Background

In California, TMDLs are established at the level necessary to implement the applicable water quality standards. A TMDL requires that all sources of pollution and all aspects of a watershed's drainage system be reviewed, not just the pollution coming from discrete conveyances (point sources), such as a discharge pipe from a factory or sewage treatment plant, but from NPSs of pollution as well.

In California, state law (Porter-Cologne Act section 13000 et. seq.) requires inclusion of implementation actions when TMDLs are incorporated into Regional Water Board Basin Plans. The Porter-Cologne Act requires each Regional Water Board to formulate and adopt water quality control plans for all areas within its region. It also requires that a program of implementation be developed that describes how water quality standards will be attained. TMDLs are a program of implementation for achieving a water quality standard. The program of implementation must be designed to implement the TMDL and achieve the water quality standard.

In the 1960's and 1970s, point source pollution was considered to be the most significant problem affecting water quality in rivers and streams. In California, the State and Regional Water Boards used State authorities provided by the Porter-Cologne Act to implement corrective actions for NPS pollution. By the late 1980s, the programs focusing on industrial and sewage treatment facilities resulted in better controls of point source pollution. The concerns over general water quality were elevated once again, due to the growing impacts of NPS pollution.

In a recent U. S. Government Accountability Office survey of TMDLs nationwide, it was noted that long-established TMDLs generally did not include factors which would be most helpful for attaining water quality standards, especially for NPS pollution. It was also noted that a high percentage of the TMDLs had achieved their targets for point sources, but there was a very low achievement for NPSs. Ensuring that TMDLs and the

associated TMDL implementation plans are consistent with the nine-element watershed-based plan is a crucial step to successful implementation

In the 2010's coordinating TMDL implementation across regulatory programs is a significant driving force in TMDL development and is fundamental to achieving water quality improvements. It is possible to work through technical assessments of the total load without concern for implementation. However, in developing allocations to various sources it is imperative to consider the possible mechanisms by which pollution can be reduced.

California has dedicated itself to pursuing TMDL development and implementation, to ensure water quality standards (water quality objectives and beneficial uses) are met, along with a current focus on statewide consistency.

Currently, there are over 3,489 water body/pollutant combinations on the State's CWA section 303(d) list (2010), which represents an increase of 36 percent from the 2006 list. Water Board staff currently are assessing new data for the next list. The Water Boards have developed and U.S. EPA has approved 210 TMDLs that address over 1,500 of the, leaving over 2,100 existing listings to be addressed. As mentioned above, TMDLs are implemented through regulation of discharges including wastewater treatment plants (1,349 facilities), storm water runoff from municipalities (548 entities) and industrial facilities (9,353 facilities), runoff and return flows from agricultural areas (over 49,000 operations), etc. Over 60,000 facilities could potentially be regulated by TMDL requirements. As the number of the dischargers and actions continue to increase, accurately tracking impairments, TMDLs and implementation efforts, will require a centralized tracking mechanism in order to provide up-to-date status information. The NPS program is especially interested in TMDL implementation as it relates to NPS control actions to improve water quality in order to report on successful watershed restoration efforts.

## **2. Initiatives**

The following section delineates the water quality improvement and protection initiatives that the TMDL program will be focusing on during the next six-year planning period.

### ***a. Initiative SW3.1: Information Management System for Tracking TMDL Implementation***

### Needs Statement

Within California, TMDL's are foundational documents used to develop watershed based plans and identify control strategies for both point and non-point sources. Funding for implementation of TMDLs is often provided through 319 Grant funds. In order to be good stewards of state and federal funds it's critical for The State Water Board, to be able to assess and communicate to the public, the Legislature and EPA how effective the Water Boards water quality management programs, including TMDLs, are in improving and protecting water quality. Improving monitoring coordination is a critical component of evaluating program effectiveness and is discussed further in SW8. However, just as important is being able to track implementation measures. Currently there is no single place that compiles all of the TMDLs, their load allocations, waste load allocations, or implementation provisions such as NPS management measures. Several data systems at the state board contain elements of the information desired, but there is no single system that currently contains all of the needed information. This creates a number of difficulties for TMDL and NPS managers. First, under the current process it is difficult and time consuming to collect information and generate reports to inform the public on the status of a waterbody subject to a TMDL or alternative method, and to determine if progress towards restoring water quality is being made. More importantly, distributed TMDL development across Regional Boards combined with the lack of a central repository has resulted in gaps in implementation or conflicting TMDLs that complicate statewide permitting. As an example, in 2014, a team of nearly a dozen State and Regional Boards staff spent several months trying to harmonize conflicting TMDL requirements that needed to be implemented in a statewide general permit.

In order to develop a TMDL information management system to meet these requirements, the State Water Board TMDL program needs to coordinate with the Information Technology Division to meet the State requirements for an information technology project specified by CA Technology Department. The approval and development process for an information technology project is detailed in section SW5.2: Irrigated Lands Information Management Project. The resulting information management system would benefit the TMDL, NPDES and NPS programs, allowing for better interprogram coordination and oversight.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal 3.01: Increase the effectiveness of the TMDL program through the development and use of a Coordinated TMDL Implementation information system (or equivalent method(s)) for tracking implementation activities (e.g., required and completed) and the resulting water quality improvements.

Objective SW3.1.01: Coordinate with appropriate State and Regional Water Board programs to develop the business driver concept paper for the Coordinated TMDL Implementation Information System by 2013 - complete.

Objective SW3.1.02: Coordinate with appropriate State and Regional Water Board programs and the vendor contracted by the Information Technology Division to develop the feasibility study report for the Coordinated TMDL Implementation Information System by 2016.

Objective SW3.1.03: Ensure that the Coordinated TMDL Implementation Information System is designed to link existing databases to allow interface and access to the various types of data populated in those databases (i.e.; California Water Quality Assessment, California Integrated Water Quality System (CIWQS) , California Environmental Data Exchange Network (CEDEN), Storm water Multi Application Reporting and Tracking System, GeoTracker Monitoring System, and other Water Board databases by 2017.

Objective SW3.1.04: Coordinate with appropriate State and Regional Water Board programs and the vendor contracted by the Information Technology Division to develop and test the Coordinated TMDL Implementation Information System by 2024 (Note: Outside of planning horizon).

Objective SW3.1.05: Provide public access, as appropriate, to electronic documents and real time data associated with the TMDL program by 2030 (Note: Outside of planning horizon).

### *Initiative Description*

Through this initiative a Coordinated TMDL Implementation Information System will be developed consistent with the requirements of the CA Technology Department. During the design and development process the CA NPS Program will work closely the State Water Board TMDL coordinator to ensure that the tracking and reporting needs of the CA NPS Program are adequately addressed. The information system will be designed to link existing databases to allow interface and access to the various types of data populated in those databases (i.e.; California Water Quality Assessment, CIWQS, CEDEN, Storm water Multi Application Reporting and Tracking System, GeoTracker Monitoring System, and other Water Board databases). Through this linking with existing databases and those currently being developed, the Coordinated TMDL Implementation Information System can pull together the information necessary to demonstrate the effectiveness of TMDL implementation..

### *Proposed Activities*

The following activities are proposed (assuming necessary funding is available):

Activity SW3.1.01: Coordinate with the Regional Water Board TMDL programs, the CA NPS Program, other applicable State Water Board Programs, and the vendor contracted by the Information Technology Division to develop the feasibility study report for the Coordinated TMDL Implementation Information System.

Activity SW3.1.02: Coordinate with the Regional Water Board TMDL programs, the CA NPS Program, other applicable State Water Board Programs, and the vendor contracted by the Information Technology Division to develop and test the first phase of the Coordinated TMDL Implementation Information System.

Activity SW3.1.03: Coordinate with the Regional Water Board TMDL programs to populate and implement the first Phase of the Coordinated TMDL Implementation Information System.

Activity SW3.1.04: Begin design & development of Phase 2 of the Coordinated TMDL Implementation Information System

### Performance Measures

Performance Measure SW3.1.01: Feasibility study report completed by contracted vendor by 2016.

Performance Measure SW3.1.02: Phase 1 of the Coordinated TMDL Implementation Information System developed and tested by 2024.

Performance Measure SW3.1.03: Coordinated TMDL Implementation Information System populated and operational by 2030. (Note: Outside of planning period.)

### ***b. Initiative SW3.2: Total Maximum Daily Load Program Training***

#### Needs Statement

The close coordination between the NPS program and the TMDL program requires that NPS both programs have a high level of understanding of each other's requirements. State and Regional Water Board staff has access to numerous training modules, provided through the Water Board's own training academy (Training Academy), through U.S. EPA web-based trainings, and other similar opportunities. Training for TMDL and other Water Board staff (e.g., point source permitting programs, such as NPDES and Storm Water programs; the Irrigated Lands Program; CA NPS Program, etc.) is needed to increase coordination and improve understanding of the various programs needs and requirements as they pertain to development of effective TMDLs and implementation plans.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal SW3.2: Provide trainings for TMDL, NPS and other Water Board program staff to increase the level of coordination, improve understanding of the various programs needs and requirements, and to create a new inclusive approach to developing TMDLs which are easily implemented.

Objective SW3.2.01: Coordinate with the Regional Water Board TMDL staff, Training Academy, and pertinent State Water Board programs (e.g., CA NPS Program, Storm Water, NPDES permitting, Irrigated Lands Program, legal, public participation, CWA section 303(d) listing, water quality standards, Basin Planning, Office of Research, Planning, and Performance, etc.) to develop training courses to improve coordination between programs.

Objective SW3.2.02: Ensure effectiveness of training sessions, their relevance to the attendee's respective programs, and impact on NPS implementation activities.

### *Initiative Description*

Through this initiative the State Water Board TMDL program coordinator will work with the NPS Program manager, Regional Water Board TMDL coordinators, other pertinent State Water Board programs, and the Training Academy to develop a TMDL training for Water Board staff. The training will address needs identified by the respective State and Regional Water Board programs that can impact the timely and effective implementation of TMDLs.

### *Proposed Activities*

The following activities and related performance measures are proposed:

Activity SW3.2.01: Coordinate with the Regional Water Board's TMDL programs and other pertinent State Water Board programs to identify subject areas where increased coordination is needed.

Activity SW3.2.02: Coordinate with the Training Academy to identify resource needs (e.g., staff, funding, meeting space) and the availability of those resources.

Activity SW3.2.03: Coordinate with the Regional Water Board's TMDL programs, other affected State Water Board programs, and the Training Academy to develop an agenda, identify speakers, and reserve required space.

Activity SW3.2.04: Conduct training for State and Regional Water Board staff based on the needs identified in SW3.2.01 and resources identified in SW3.2.02.



Activity SW3.2.05: Coordinate with the Training Academy to determine the effectiveness of the training through the use of a questionnaire provided to the attendees at the end of the training program and six months to a year later to determine if and how the training improved TMDL implementation efforts in their respective programs.

Activity SW3.2.06: Use the attendee responses from Activity SW3.2.05 to begin coordination efforts for subsequent TMDL training sessions.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW3.2.01: A report summarizing the results of the attendee questionnaire and the impact of the training on improved TMDL implementation within 18 months of completion of the TMDL training.

## E. Initiative SW4: Inter- and Intra-agency Coordination

### 1. Background

Building cooperative relationships among agencies at every institutional level, as well as with stakeholders, is essential to the success of a sustainable effort to protect and restore the quality of the State's surface water and groundwater. Depending on the agencies involved, these are referred to as either intra-agency or interagency coordination efforts. For purposes of this document, intra-agency partnerships are defined as cooperative efforts within the State Water Board and between the State Water Board and the Regional Water Boards. Collaborative efforts that involve the State Water Board, Regional Water Boards, and other agencies are then considered interagency coordination. The level of involvement and the number of agencies involved in these collaborative relationships will determine whether it is considered to be intra-agency or interagency coordination for this discussion. As such, the purpose of this section is to provide information on the various types of intra-agency and interagency coordination efforts that the CA NPS Program will be involved in during the six-year planning horizon. In addition, it includes activities to address coordination priorities focused on improving collaboration among the State Board, Regional Water Boards and U.S. EPA through the NPS Roundtable; working with U. S. Department of Agriculture - Natural Resource Conservation Service (NRCS) to better leverage Farm Bill resources; and outreach to other key agencies to further integrate and utilize watershed plans, TMDLs and local stewardship to guide investments while leveraging other funding sources.

### 2. Initiatives

The following section details the CA NPS Program initiatives related to interagency and intra-agency coordination.

#### *a. Initiative SW4.1: CA NPS Program Intra-Agency Coordination*

##### Needs Statement

Intra-agency coordination is needed so that actions taken within the Water Boards do not work at cross-purposes. This is especially important for the CA NPS Program where the coordination between the State and Regional Water Boards, in general, and within the State Water Board, in particular, is paramount. At the State Water Board numerous policies, projects, and programs are being developed and/or implemented that can directly impact the CA NPS Program at a variety of planning levels (e.g., local, watershed, statewide). As such, it is imperative that the CA NPS Program

coordinate effectively with the developers and implementers of these various policies, projects, and programs to minimize potential conflicts and effectively leverage resources.

Although a number of these programs within the Water Boards are part of the CA NPS Program (e.g., irrigated lands regulatory program, TMDL Program, forest activities program, CWA section 401 program, surface water ambient monitoring program [SWAMP]), in reality they operate independently of each other. Thus it is critical to establish more formal means of coordination to assure the needs of the CA NPS Program are adequately addressed over time.

### Goals and Objectives

The goal and objectives of this initiative are to:

Goal SW4.1: Ensure that effective communication and cooperation is maintained with the developers and implementers of the various policies, projects, and programs within the Water Boards that can directly impact the implementation of the CA NPS Program.

Objective SW4.1.01: Continue involvement of the NPS Implementation Unit in the various NPS related intra-agency roundtables and their related sub-committees so that specific CA NPS Program needs are addressed (e.g., nine-element watershed-based plans, Water Quality Report Cards, design and implementation of effective surface water quality monitoring networks).

Utilize these forums in a manner that will assist in improving the efficiency and effectiveness of the program and preparing the next five-year NPS Program Plan more efficiently and consistent with California's unique institutional and ecological complexity and challenges.

Objective SW4.1.02: Ensure that actions resulting from the various policies, projects and programs are consistent with requirements of the NPS Implementation Policy.

### Initiative Description

This initiative focuses on the efforts of the NPS Implementation Unit to: (1) coordinate with the developers and implementers of various policies, projects, and programs within the Water Boards in order to improve the implementation of the CA NPS Program and (2) ensure consistency with the requirements of the NPS Implementation Policy. These coordination activities are especially critical in the Irrigated Lands, TMDL, Forestry programs and SWAMP. These programs are crucial to meeting the CA NPS Program goals of increased and effective implementation of management measures and management practices and the ability to measure resulting

water quality improvements. Because of their importance in implementation of the CA NPS Program, each of these programs is discussed separately in subsequent statewide initiatives (e.g., SW5 -Irrigated Lands Regulatory Program; SW6 – Forest Activities Program; SW3 – TMDL Implementation; and SW8 - Monitoring). As part of these roundtables, NPS Implementation Unit staff will also work with the program managers to ensure that the requirements of the NPS Implementation Policy are followed in the development of any regulatory tools to be used by these programs.

### Proposed Activities

The following activities are proposed for this initiative:

Activity SW4.1.01: NPS Implementation Unit staff will lead and/or participate in the various roundtables and sub-committees that are for the most part internal to the Water Boards (e.g., Irrigated Lands Program, SWAMP; Wetlands Program; TMDL Program, Forestry Program [lead]). This will include the development of a specific strategy for enhancing the NPS Roundtable to achieve a stronger working partnership among the State Board, Regional Water Boards, Coastal Commission and U.S. EPA to support the goals and objectives of this Program Plan.

The CA NPS Program will leverage the Roundtable Review Process to evaluate and increase NPS Roundtable effectiveness to achieve a strong working partnership among the State Board, Regional Water Boards, Coastal Commission and U.S. EPA to support the goals and objectives of this implementation plan. Specifically, the annual review will address the following:

1. What was planned (Work Plans and Implementation Plans)
2. What actually happened (Objectives, Activities and Performance Measures)
3. Successful Strategies
4. Areas for Improvement
5. Opportunities for coordination with other agencies

This evaluation will be conducted periodically (nominally annually) through the NPSs Roundtable and will begin with a review of the NPS roundtable itself.

Activity SW4.1.02: Work with the developers and implementers of other Water Board policies, projects, and programs to ensure that they are consistent with requirements of the NPS Implementation Policy. These policies and programs include, but are not limited to, those summarized in Table 1. This involvement includes participating in the development and review of policies, plans, projects and programs as they relate to CA NPS Program. (Note: Although these policies, projects, and programs are considered internal to the Water Board, they are ultimately vetted through a public stakeholder process when verified by the State Water and/or Regional Water Board members.)

Activity SW4.1.03: Promote and develop partnerships to improve coordination between the Division of Water Quality and the Division of Water Rights. Support the divisional cross-over as it relates to the restoration and protection of water quality and maintaining in-stream flows in northern California coastal streams (State Water Board Resolution No. 2010-0021).

Activity SW4.1.04: Promote and support cross-divisional integration with Division of Drinking Water to help implement [Safe Drinking Water Plan](#) by protecting surface water and groundwater sources of drinking water from non-point sources of pollution.

### *Performance Measures*

The performance measure for this initiative is to track, assess and report in the CA NPS Program Annual Report the impacts on implementation resulting from selected intra- agency coordination activities.

**Table 1. Policies, Plans, and Programs Considered Part of the CA NPS Program Intra-Agency Coordination Activities**

<b>Type of Activity</b>	<b>Description</b>
Policy	<p>Wetland and Riparian Area Protection Policy - The implementation of the Wetland and Riparian Area Protection Policy (Wetland Policy) will help reverse historic trends in wetland loss, mitigate future risks to aquatic resources, and produce measureable improvement in the abundance, diversity and health of the State’s wetland and riparian resource. The Wetland Policy will be “rolled out” in three phases. Phase 1 will include producing a definition of a wetland, a wetland delineation method, a wetland monitoring and assessment framework, and regulations pertaining to the discharge of dredged or fill material. Phase 2 will include definitions for wetland beneficial uses, water quality objectives, and an implementation program. Phase 3 will address the protection of riparian area water quality related functions, beneficial use definitions and water quality objectives and an implementation program. The State Water Board NPS Program staff has been and will continue to participate in the development and implementation of this policy.</p> <p>Additional information can be found at the State Water Board’s <a href="#">Wetlands and Riparian Area Protection Policy</a> website.</p>
Policy	<p>Nutrient Policy for Inland Surface Waters - The State Water Board is initiating the process to develop a nutrient policy for inland surface waters (<a href="#">Nutrient Policy</a>), excluding inland bays and estuaries in California. The Nutrient Policy could include objectives and control strategies to help improve water quality in aquatic habitats by providing the benchmarks that describe conditions necessary to protect beneficial uses. Creating the Nutrient Policy will assist in supporting the State Water Board’s mission to preserve, enhance and restore the quality of California’s water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.</p> <p>The State Water Board intends to develop narrative nutrient objectives, with numeric guidance to translate the narrative objectives. This numeric guidance, could include the nutrient numeric endpoint framework which establishes numeric endpoints based on the response of a water body to nutrient over enrichment (e.g., algal biomass, dissolved oxygen, etc.). The use of this approach is detailed in previous efforts funded by U.S. EPA – Region 9 (Pacific Southwest) and the State Water Board for the <a href="#">Klamath River</a> (North Coast Region), <a href="#">Malibu Creek</a> (Los Angeles Region), <a href="#">Chorro Creek</a> (Central Coast Region), and the <a href="#">Santa Margarita River</a> (San Diego Region). With the technical foundation of the nutrients for freshwater lakes and streams completed, the State Water Board is initiating public scoping and peer review.</p>

<b>Type of Activity</b>	<b>Description</b>
Policy	<p>Toxicity Policy - The <a href="#">Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California</a> (CA Toxics Policy) applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries subject to regulation under the Porter-Cologne Act and the federal CWA. Such regulation may occur through the issuance of national pollutant discharge elimination system permits (NPDES Permit[s]) or other regulatory approaches (e.g., WDRs and waivers of WDRs). The CA Toxics Policy establishes a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency. Currently, a draft CA Toxics Policy is under development, which includes an analysis of the test of significant toxicity (Significant Toxicity Test). The Significant Toxicity Test is a statistical approach developed by the U.S. EPA for analyzing whole effluent and ambient toxicity data. A draft toxicity amendment is currently undergoing internal review at the State Water Board. Another comment period will begin once these documents are released. Staff will provide an update schedule once more information becomes available.</p> <p>More information is available at the <a href="#">Proposed Policy for Toxicity Assessment and Control</a> website.</p>
Project	<p>Bacteria Standards Development - The State Water Board is developing proposed statewide bacteria water quality objectives and a control program to protect human health in waters designated for water contact recreation from the effects of pathogens. The bacteria objectives would be adopted as amendments to the Inland Waters, Bays, and Estuaries Plan and the California Ocean Plan. Staff plans to release draft documents for public review and comment in September 2015.</p> <p>Further information concerning the Water Boards efforts can be found at the State Water Board's <a href="#">Bacteria Objectives</a> website.</p>

<b>Type of Activity</b>	<b>Description</b>
Project	<p>Grazing Regulatory Action Project - The grazing regulatory action project (Grazing Project) is a work team formed to determine the most effective methods to address grazing related NPS pollution issues in California. The work team is under the lead of the Lahontan Regional Water Board executive officer and related staff with active participation from staff at the North Coast, San Francisco Bay, Central Coast, Los Angeles, Central Valley, Colorado River, and Santa Ana Regional Water Boards and the State Water Board - Division of Water Quality. The overall goals of the Grazing Project work team are to develop an approach that efficiently addresses water quality impairments associated with grazing operations – an approach that will help to streamline the process of addressing impairments, conserve valuable resources, and give implementing parties the clarity and consistency they deserve.</p> <p>The Grazing Project team is working to identify how to balance statewide consistency with regional autonomy, and will take into account regional differences in hydrology, grazing practices and other distinguishing factors as it develops recommendations. As the work team moves forward, it will consider public comments on draft policies and other products. Any statewide approach for complex water quality issues, such as grazing, will most certainly require careful examination, evaluation and stakeholder input during development and implementation. Staff will ensure that all interested stakeholders are included in future outreach efforts. Focused listening sessions with stakeholders were conducted in the fall of 2014. The purpose of the focused listening sessions was to encourage open and honest discussions among stakeholders of similar interests.</p> <p>Additional information concerning the Grazing Project can be found at the State Water Board’s <a href="#">NPS Pollution Control</a> website.</p>
Program and NPS-related Policies	<p>State Water Board – Division of Water Rights</p> <p>The State Water Board administers California’s water rights program through the Division of Water Rights. Water is protected for the use and benefit of all Californians. California’s waters cannot be owned by individuals, groups, businesses, or governmental agencies. But permits, licenses, and registrations give individuals and others the right to beneficially use reasonable amounts of water. In California a water right is defined as legal permission to use a reasonable amount of water for a beneficial use such as domestic, swimming, fishing, farming, and industry Through the Division of Water Rights, the State Water Board ensures that the State’s water resources are developed, conserved and utilized equitably and that vested rights, water quality and the environment are protected. This responsibility is accomplished through the regulation and enforcement of water rights, water rights adjudications, waste and unreasonable use decisions, San Francisco Bay –San Joaquin Delta (Bay-Delta) planning, and instream</p>



Type of Activity	Description
	<p>flow policies.</p> <p>Specific responsibilities of and decisions made through the Division of Water Rights that relate to the CA NPS Program are detailed below.</p> <p><u>The San Francisco Bay/Sacramento – San Joaquin Delta Estuary Program</u></p> <p>The Bay-Delta includes the Sacramento-San Joaquin Delta, Suisun Marsh, and San Francisco Bay. California’s two major rivers, the Sacramento and the San Joaquin, converge in the Delta and meet incoming seawater from the Pacific Ocean in San Francisco Bay. Water diversions from the Delta supply a portion of the drinking water to over two thirds of Californians and for millions of acres of farmland.</p> <p>The State Water Board holds dual responsibilities of allocating surface water rights and protecting water quality. The State Water Board allocates water through an administrative system that is intended to maximize the beneficial uses of water while protecting the public trust, serving the public interest, and preventing the waste and unreasonable use or method of diversion of water. State water quality law requires the adoption of Water Quality Control Plans that identify existing and potential beneficial uses of waters of the state and establish water quality objectives to protect these uses. The plans also contain implementation, surveillance and monitoring elements. While most water quality control planning is done by the Regional Water Boards, the State Water Board has authority to adopt statewide water quality control plans and adopts the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) because of its importance as a major source of water supply for the State. The Bay-Delta Plan protects water quality in the region and includes water quality objectives to protect municipal and industrial, agricultural, and fish and wildlife beneficial uses.</p> <p>The Bay-Delta Program resides in the Division of Water Rights because of the critical importance of flow objectives in the Bay-Delta Plan. The Bay-Delta Program also oversees implementation of the <a href="#">State Water Board’s and Central Valley and San Francisco Bay Regional Water Boards’ 2008 Strategic Workplan for Activities in the Bay-Delta</a>. This workplan identifies a broad, integrated list of water right and water quality activities. Additional information concerning the Bay-Delta Program can be found at the <a href="#">Bay-Delta Program</a> website.</p> <p><u>The Policy for Maintaining In-stream Flows in Northern California Coastal Streams</u></p> <p>The Policy for Maintaining Instream Flows in Northern California Coastal Streams (Instream Policy) establishes principles and guidelines for maintaining instream flows for the protection of fishery resources, while minimizing water supply impacts on other beneficial uses of water, such as irrigation, municipal use, and domestic use. The geographic scope of the Instream Policy encompasses coastal streams from the Mattole</p>

<b>Type of Activity</b>	<b>Description</b>
	<p>River to San Francisco and coastal streams entering northern San Pablo Bay, and extends to five counties: Marin, Sonoma, and portions of Napa, Mendocino, and Humboldt counties. The Instream Policy applies to applications to appropriate water, small domestic use, small irrigation use, and livestock stockpond registrations, and water right petitions.</p> <p>The Instream Policy does not establish specific instream flow requirements for particular rivers or streams. Nor does it approve any particular water diversion projects, or specify the terms and conditions that will be incorporated into water right permits, licenses, or registrations. Instead, the Instream Policy establishes guidelines for evaluating the potential impacts of water diversion projects on stream hydrology and biological resources. The Instream Policy includes principles to ensure that new water appropriations and changes to existing water right permits and licenses will not affect the instream flows needed for fish spawning, migration and rearing, or the flows needed to maintain natural flow variability, which protects the various biological functions that are dependent on that variability. The Instream Policy also contains principles to ensure that migration paths to spawning and rearing habitats are not blocked.</p> <p>Additional information concerning the Instream Policy can be found at the <a href="#">Instream Flows Policy</a> website.</p> <p><u>California Drought</u></p> <p>California is facing one of the most extreme droughts on record and the governor declared a drought state of emergency in January 2014 and directed State officials to take all necessary actions to prepare for water shortages. When there is not enough water to meet all water right holders' needs, State law requires that junior water-rights holders stop diverting water so that there is water available to more senior water-rights holders: those with rights dating to before 1914 and those on riparian land directly abutting a waterway. Diverting water when it is not available under a specific water right priority violates State law. In January 2014 the State Water Board issued a notice of surface water shortage and potential for curtailment of water right diversions. On March 1, 2014, the governor signed a drought relief package and on April 25, 2014, a proclamation was issued by the governor continuing the state of emergency related to the drought.</p> <p>Actions taken by the State Water Board with respect to the drought are presented at the <a href="#">State Water Board Drought Water Actions</a> website.</p>

### *b. Initiative SW4.2: CA NPS Program Inter-Agency Coordination Needs Statement*

As presented in Table 2, including the nine Regional Water Boards, there are over 30 State departments, agencies, and commissions that either have regulatory authorities and/or responsibilities with respect to the lands they manage. In order for the CA NPS Program to be successful, we need to continue building upon the foundation of coordination and collaboration with stakeholders and agencies that have related roles, responsibilities and authorities to implement the management measures, solve problems, conduct monitoring, and assess program success. These partnerships can be formal through management agency agreements and memorandums of understanding between agencies or informally through interagency forums.

At present, the CA NPS Program makes use of a management agency agreements and memorandums of understanding to coordinate statewide implementation activities. These existing formal agreements will continue to be used and as appropriate amended or new agreements developed as part of this initiative. Numerous interagency forums or coordinating committees have been initiated in California. These interagency coordinating efforts include, but are not limited to, the following: (1) Marinas and Recreational Boating Interagency Coordinating Committee (Marinas Coordinating Committee), (2) Copper Anti-fouling Paint Subcommittee, (3) Monterey Bay National Marine Sanctuary Water Quality Protection Program Advisory Committee, (4) Morro Bay National Estuary Program Advisory Committee; (5) Central Coast Regional Water Board Joint effort Review Team; (6) Farm Food Safety Conservation Network; (7) Interagency Agricultural Coordinating Team; (8) Agriculture Climate Action Tiger Team; and (9) U.S. EPA and State Biosolids National Coordinators Steering Committee. A summary of the Marinas Coordinating Committee and its participants is presented in Table 3 as an example of the level of participation that can occur in these interagency forums. The CA NPS Program has and will continue to use these approaches to enhance on-going interagency coordination activities.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal SW4.2: Ensure that effective communication, cooperation, and leveraging of resources is maintained between the multiple institutional levels (e.g., State, federal, and local agencies) and statewide stakeholder groups (e.g., Tribes, disadvantaged communities, environmental justice communities) that effect and are affected by the CA NPS Program.

Objective SW4.2.01: Coordinate with the U. S. Department of Agriculture – Natural Resources (Natural Resources Conservation Service) to leverage expertise and financial resources to meet CA NPS Program water quality improvement goals.

Objective SW4.2.02: Coordinate with the California Department of Pesticide Regulation (CA Pesticide Regulation) on pesticide issues as they relate to pesticide registration and reevaluation.

Objective SW4.2.03: Improve outreach and coordination to stakeholder groups through Tribal and environmental justice programs supported by the State Water Board. (See Table 4 for more information)

Objective SW4.2.04: Coordinate with State, federal, and local entities (e.g., government agencies, watershed groups, other surface water and groundwater management groups) to address climate change and drought in California.

### *Initiative Description*

This initiative focuses on the efforts of the CA NPS Program to coordinate with other State, federal, and local entities (e.g., government agencies, watershed groups, other surface water and groundwater management groups) to leverage expertise, regulatory authorities, and financial resources. These activities will include developing relationships through amending or developing various types of formal agreements with single or multiple agencies and through formal and informal interagency forums. Enhancing these relationships will also provide the opportunity to identify how to make use of other agencies' regulatory authorities, expertise, and financial resources to more effectively implement the CA NPS Program.

### *Proposed Activities*

As presented in Table 4, there are a number of plans, projects, and programs that involve interagency coordination through the State Water Board (CA NPS Program lead agency). The following activities are detailed for this initiative and as appropriate are referenced to Table 4.

The activities for this initiative are:

#### (1) Activities with the Natural Resource Conservation Service

Activity SW4.2.01: Actively participate and contribute to the development and final acceptance of a memorandum of understanding between the State Water Board and the NRCS on how to best coordinate NPS control programs between the two agencies.

Activity SW4.2.02: Provide and/or obtain technical assistance available from Natural Resource Conservation Service technical service providers in to streamline the process of developing various management plans for producers in California.

Activity SW4.2.03: Participate in the certification and/or re-certification of Natural Resource Conservation Service conservation practice standards for consistency with water quality improvement criteria.

Activity SW4.2.04: Explore the potential of including a National Resource Conservation Service staff member in the CWA section 319 annual request for proposal review and approval of project proposals in order to improve the aligning of priorities in both agencies and ensure the most efficient, effective projects are approved.

Activity SW4.2.05: Provide cross agency trainings to better inform staff from both agencies as to the functionality, priorities, and processes in an effort to improve coordination.

Activity SW4.2.06: Explore approaches and opportunities for better coordination of Farm Bill and other NRCS resources and State financial assistance to increase likelihood of achieving water quality objectives. This would build on the use of watershed plans and TMDLs to better inform implementation. Special emphasis will be placed on actively engaging to support the National Water Quality Initiative and the Bay-Delta Initiative to maximize water quality results and to identify lessons learned that may be useful for improving overall NRCS/Water Boards coordination.

(2) California Department of Pesticide Regulation

Activity SW4.2.07: Continue to actively participate in the California Department of Pesticide Regulations Pesticide Registration and Evaluation Committee in an effort to coordinate on water quality and pesticides that are NPSs of pollution in surface waters and groundwater.

Activity SW4.2.08: Continue to conduct and participate in the Marina Interagency Coordinating Committee meetings to:

Sub-activity SW4.2.08a: Develop partnerships among entities (e.g., State, federal and local agencies) responsible for addressing NPS pollution related to boating and marinas.

Sub-activity SW4.2.08b: Make efficient use of State, federal and local resources to address this pollution by sharing information, avoiding duplicative efforts and identifying technical and policy gaps.

Sub-activity SW4.2.08c: Promote improvements to marina water quality through implementation of management practices.

Activity SW4.2.09: Provide a forum for the Antifouling Strategies Workgroup to:

Sub-activity SW4.2.09a: Facilitate the dissemination of boat antifouling strategy information.

Sub-activity SW4.2.09b: Encourage the discussion of antifouling strategy issues including (but not limited to) those relating to scientific research, socio-economic considerations, aquatic invasive species, environmental monitoring and impacts, mitigation of adverse effects, and regulations.

Sub-activity SW4.2.09c: Promote the coordination of antifouling strategy related projects and activities.

Activity SW4.2.10: As part of the current memorandum of agreement between the State Water Board and the CA Pesticide Regulation NPS staff will continue to participate in coordination meetings; sharing and reviewing of, commenting on and contributing to technical assistance for pesticide monitoring projects as they relate to NPS pollution in an effort to provide the most effective, useful and efficient projects and corresponding data.

### (3) Tribal Coordination

Activity SW4.2.11: Promote and develop improved coordination with the Tribes (both federal and non-federally recognized) in an effort to provide guidance, consultation, and opportunities for Tribal involvement in the CA NPS Program.

### (4) Climate Action Team and Climate Action Initiative

In 2009, the State adopted a statewide climate adaptation strategy (CA Climate Strategy) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: public health, biodiversity and habitat, oceans and coastal resources, water, agriculture, forestry, and transportation and energy. In 2012, the California Natural Resources Agency, in coordination with other state agencies, updated the CA Climate Strategy. The Safeguarding California Plan augments previously identified strategies in light of advances in climate science and risk management options.

The Governor of California, Edmond G. Brown Jr., recently provided additional direction through his Executive Order B-30-15. A more detailed discussion of the Water Board's efforts to address climate change is presented in Table 4.

Activity SW4.1.12: The Water Boards and the Coastal Commission will coordinate with other federal, State, and local agencies pursuant to implementation actions set forth in the Safeguarding California Plan and the Governor's Executive Order B-30-15. This will include a review of grant guidelines and criteria used to select on-the-ground projects for CWA Section 319 funding (and other applicable sources) to encourage activities that address to climate change consistent with the primary project purpose.

*Performance Measures*

The performance measures for this initiative will be:

Performance Measure SW4.1.1: Improved Roundtable meetings and demonstrated improvement in developing the next NPS Program Plan using the annual Roundtable Review process. This improvement will be briefly summarized as part of the Annual report,

Performance Measure SW4.2.1: Demonstrated improved collaboration with NRCS.

Table 2. Implementing Agencies for CA NPS Management Program

Agencies	Land Use Categories <sup>1</sup>					
	AGR	FOR	URB	MAR	HYD	WET
<b>California Environmental Protection Agency (CalEPA)</b>						
1. State Water Resources Control Board	X	X	X	X	X	X
2. Regional Water Quality Control Boards (9)	X	X	X	X	X	X
3. Air Resources Board	X	X	X			
4. Department of Pesticide Regulation	X	X	X			
5. Department of Resources, Recycling, and Recovery (CalRecycle)			X	X		
6. Department of Toxic Substance Control			X	X		
<b>California Resources Agency</b>						
7. California Coastal Commission	X	X	X	X	X	X
8. Delta Protection Commission	X					
9. Department of Boating and Waterways				X		
10. Department of Conservation	X					
11. Department of Fish and Wildlife	X	X	X	X	X	X
12. Department of Forestry and Fire Protection		X				
13. Board of Forestry		X				
14. Department of Parks and Recreation	X	X	X	X	X	X
15. Department of Water Resources	X		X		X	X
16. California State Lands Commission	X			X		X
17. San Francisco Bay Conservation and Development Commission			X	X	X	X
18. California Tahoe Conservancy			X			
19. Santa Monica Mountains Conservancy			X			
20. State Coastal Conservancy					X	X
21. Wildlife Conservation Board					X	X
<b>Other State, Regional, and Local Entities</b>						
22. Department of Food and Agriculture	X					
23. Department of Health Services	X	X	X	X	X	X
24. Department of Transportation			X			
University of California Cooperative Extension	X	X	X			
Local governments	X	X	X	X	X	X
Resource conservation districts	X	X	X		X	X
<b>Federal</b>						
Bureau of Land Management	X	X				
National Oceanic and Atmospheric Administration	X	X	X	X	X	X
Monterey Bay National Marine Sanctuary	X		X	X	X	X
Natural Resources Conservation Service	X					
U. S. Army Corps of Engineers				X	X	X
U. S. Coast Guard				X		
U. S. Environmental Protection Agency	X	X	X	X	X	X
San Francisco Bay, Santa Monica Bay, and Morro Bay National Estuary Programs	X		X	X	X	X
U. S. Department of Agriculture - Forest Service	X	X				
U. S. Navy				X		

Notes:

1. In this table, AGR = Agriculture; FOR = Forestry; URB = Urban; MAR = Marinas and Recreational Boating; HYD = Hydromodification; WET = Wetlands and Riparian Areas.



Table 3. Example of CA NPS Program Interagency Coordinating Committee

<b>Group Name</b>	Marina Interagency Coordinating Committee and Antifouling Strategies Subcommittee	
<b>Mission Statement</b>	Develop partnerships among entities (e.g., state, federal and local agencies) responsible for addressing NPS pollution related to boating and marinas and promote improvements to marina water quality through implementation of management practices.	
<b>Government Agencies Participating</b>		
<b>Lead Agency</b>	<b>Co - Lead Agency</b>	<b>Agency</b>
	X	State Water Resources Control Board - Nonpoint Source Unit
		State Water Resources Control Board - Ocean Unit
X		California Coastal Commission
		California Department of Boating and Waterways
		California Department of Pesticide Regulation
		California Department of Toxic Substance Control
		California Department of Fish and Wildlife
		California Department of Parks and Recreation
		CalRecycle
		Fish and Wildlife Service
		Local government
		Regional Water Quality Control Boards
		San Francisco Bay Conservation and Development Commission
		State Lands Commission
		U.S. Environmental Protection Agency
<b>Other Participating Stakeholders</b>		
Environmental consultants; hull cleaners; lobbyists representing recreational boaters; marina owners and operators; non-profit organizations; hull paint manufacturers; port-harbor operators; research institutions; and yacht clubs.		

**Table 4. Policies, Plans, and Programs Considered Part of the CA NPS Program Interagency Coordination Activities**

<b>Type of Activity</b>	<b>Description</b>
Policy	<p><u>Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (Onsite Treatment Policy)</u></p> <p>There are approximately 1.2 million onsite wastewater treatment systems (Onsite Systems) in California. Assembly Bill 885 amended California Water Code section 13290, which required the State Water Board to develop statewide standards or regulations for permitting and operation of onsite wastewater treatment systems (Onsite Systems). On June 19, 2012, the State Water Board adopted <u>Resolution No. 2012-0032</u>, adopting the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (<u>Onsite Treatment Policy</u>). The Onsite Treatment Policy establishes a statewide, risk-based, tiered approach for the regulation and management of onsite systems installations and replacements and sets the level of performance and protection expected from OWTS. Historically, local agencies acted as the lead regulatory authority for onsite systems. The Onsite Treatment Policy recognizes the effectiveness of that arrangement and provides a means to formalize the Tier 0 approach statewide.</p> <p>The Onsite Treatment Policy sets standards for onsite systems that are existing and operating properly (Tier 0), that are low risk new or replacement (Tier 1), that are new or replacement pursuant to a Local Agency Management Program (LAMP) (Tier 2), that are located near an identified impaired water body (Tier 3), or that are not functioning properly and need repair (Tier 4). The Onsite Treatment Policy includes minimum siting, construction, treatment and monitoring requirements. For onsite systems located near impaired water bodies, additional treatment, and monitoring requirements apply.</p> <p>The Onsite Treatment Policy became effective on May 13, 2013. Tier 3 and Tier 4 requirements became effective immediately; other portions of the Onsite Treatment Policy are implemented according to the schedule in the Policy. Regional Water Boards were required to amend their Basin Plans by May 13, 2014. Local Agencies are scheduled to submit their LAMPs by May 13, 2016. Regional Water Boards review and approve LAMPs (as appropriate) by May 13, 2017. Local Agencies adjust their program and begin implementation by May 13, 2018.</p>

<b>Type of Activity</b>	<b>Description</b>
Plan	<p><u>California Ocean Plan</u></p> <p>The State Water Board’s ocean standards program (Ocean Program) is responsible for the development and updating of statewide water quality control plans, policies, and standards involving marine waters. This includes the <u>California Ocean Plan (Ocean Plan)</u>, the California Thermal Plan, and the development of sediment quality objectives in bays and estuaries. The Ocean Program is also responsible for providing scientific support to the Water Boards and inter-agency coordination regarding marine pollution and resource management issues. Additional information is available at the <u>Ocean Program</u> website.</p> <p>The Ocean Plan prohibits discharges into <u>areas of special biological significance</u>. These are 34 ocean areas monitored and maintained for water quality by the State Water Board. They cover much of the length of California’s coastal waters and support an unusual variety of aquatic life, and often host unique individual species. Ocean Plan modifications currently under development through the Oceans Program include the: (1) <u>desalination facilities and brine disposal amendment</u> which applies to both the Ocean Plan and the inland surface waters, enclosed bays, and estuaries plan (Inland Waters, Bays, and Estuaries Plan) currently under development; (2) <u>trash amendments</u> addressing all types of trash generated through human activity (e.g., cigarette butts, paper, fast food containers, plastic grocery bags, cans and bottles, etc.) which applies both to the Ocean Plan and the Inland Waters, Bays, and Estuaries Plan; and (3) the <u>fecal coliform shellfish standard</u> which is a review of potential actions the State Water Board can take with regard to implementing a fecal coliform standard in the Ocean Plan for shellfish harvesting in state recreational waters.</p>

<b>Type of Activity</b>	<b>Description</b>
Program	<p><u>Blue-Green Algae and Harmful Algal Blooms</u></p> <p>In California, certain forms of blue-green algae have been a particular problem in the Klamath River watershed (North Coast Region) and in the Central Coast Region. Blooms of these bacteria can poison livestock, wildlife and humans through the production of cyanotoxins. Certain other nontoxic forms can impart an unpleasant taste to water, and fish. They also give off an unpleasant smell as they die off and decay.</p> <p>An algal bloom which threatens or damages the environment, human health or surrounding economies is considered a harmful algal bloom. Certain varieties can form toxins that may be accumulated by fish and shellfish, which can then pass the toxins on to humans or marine wildlife which eat those creatures. Some of these harmful toxins include domoic acid, paralytic shellfish poisoning, and cyanotoxins. That poisoning can become evident in humans as stomach and respiratory problems, brain damage or paralysis. Occasionally, depending on the specific algal species, the results can be fatal. In some cases contact can cause human respiratory and skin problems.</p> <p>The Water Boards regulate the nutrients in manmade runoff that contribute to bloom development through permits and other enforceable requirements. For example, the State Water</p> <p>Board sets water quality objectives for the Ocean in the California Ocean Plan. The Ocean Plan algal bloom objectives include requirements that discharges will not cause undesirable discoloration of the ocean surface, objectionable or dangerous growths (blooms) or concentrate organic materials in seafood at levels dangerous to humans. These objectives are then translated into requirements placed in discharge permits for facilities like wastewater treatment plants and storm drains. In addition, the Water Boards support research and monitoring to better understand algal blooms. The Water Boards work with the State Division of Drinking Water and the county health departments to post contaminated water bodies when blue green algal blooms pose a health threat.</p> <p>Further information concerning the Water Boards efforts can be found at the State Water Board's <a href="#">Blue-Green Algae and Harmful Blooms</a> or the <a href="#">California CyanoHAB Network (CCHAB)</a> website.</p>

<b>Type of Activity</b>	<b>Description</b>
Plan	<p><u>California Groundwater Strategic Workplan</u></p> <p>As the California population continues to grow, more intensive usage of the land and drought conditions increase the demands on the State’s water supply. As the surface water runoff declines due to the effects of climate change and other factors, the reliance on groundwater continues to increase. California’s aquifers are already experiencing contamination and/or overdrafting which can in turn cause or exacerbate water quality issues.</p> <p>The Water Boards are developing a Groundwater Strategic Workplan (Groundwater Workplan) that aligns its current groundwater protection efforts, the ongoing actions of other entities with groundwater management responsibilities, and potential actions that the Water Boards and other can pursue. The goal of the Groundwater Workplan is to promote collaboration and cooperation among local, regional, and State agencies and other stakeholders to help promote more effective groundwater management that supports beneficial uses over the long-term. An effective groundwater management program will generally require five key elements to be in place: thresholds, monitoring/assessment, governance/management, funding, and enforcement at the local, regional, or State level. Addressing these elements in the Groundwater Workplan and their subsequent implementation will be important in the Water Boards’ efforts to protect and restore the State’s groundwater resources.</p> <p>Further information concerning the Water Boards’ efforts with respect to groundwater can be found at the State Water Board’s <a href="#">Groundwater Workplan</a> website.</p>
Plan	<p><u>Climate Change and Water Resources</u></p> <p>California is leading the way with prevention measures to address climate impacts. Potential impacts include increased fires, floods, severe storms, and heat waves. Climate change is expected to have significant and widespread impacts on California’s economy and environment. California contains hundreds of miles of coastline, high value forestry and agriculture; snow-melt fed fresh water supply, and vast snow and water recreational opportunities that will be impacted.</p> <p>To respond to the threat of climate change, the State enacted the California Global Warming Solutions Act of 2006 which caps California’s greenhouse gas emissions at 1990 levels by 2020 and has recently been updated in the Governor’s Executive Order # B-30-15. In addition, there are steps that must be taken to protect against climate change impacts that are already occurring. Taking steps now to prepare for and adapt to climate change will protect public health and safety, the state’s economy and future.</p> <p>The Water Boards are committed to the adoption and implementation of effective actions to mitigate greenhouse gas emissions and adaptation of our policies and programs to the</p>

Type of Activity	Description
	<p>environmental conditions resulting from climate change*. The State Water Board is a member of the Cal EPA Climate Action Team, the Water Working Group of Climate Adaptation Strategies Team, and the 20x2020 Agency Team. The State Water Board is a sponsor of climate mitigation measures in the Assembly Bill 32 Climate Change Scoping Plan. In addition, Water Board staff was actively engaged in preparation and review of sections of the <a href="#">California State Water Plan Update 2013</a> (California Department of Water Resources [CA Water Resources] 2013) which incorporates climate mitigation and adaptation considerations. *This may include the use of the State Water Boards authorities and programs to increase efficient methodologies (e.g., agriculture and urban land use categories); Green Infrastructure and/or LID technology to encourage sub-surface infiltration consistent with predevelopment hydrology; and pollutant control technologies to minimize pollutant transfer to surface and ground waters.</p> <p>Further information concerning the Water Boards efforts with respect to climate change can be found at the State Water Board's <a href="#">Information about Climate Change and Water Resources</a> website.</p>
Plan	<p><u>Policy for Water Quality Control for Recycled Water</u> - The Water Board's Policy for Water Quality Control for Recycled Water (Recycled Water Policy) was approved by the State Water Board in February 2009. When recycled water is used in compliance with the Recycled Water Policy, Title 22 of the California Code of Regulations, and all applicable state and federal water quality laws, the Water Boards strongly support its use as a safe alternative to potable water for approved uses. The Recycled Water Policy encourages local water and wastewater entities, together with local salt/nutrient contributing stakeholders, to develop salt and nutrient management plans to address the water quality concerns in each basin/sub-basin in California. Where the Regional Water Board finds that the stakeholders are making substantial progress towards completion of a plan, the submittal may be extended to 2016. The Regional Water Boards will consider adoption of basin plan amendments based on the submitted salt and nutrient management plans.</p> <p>On January 17, 2014 the Governor issued a proclamation of a Drought State of Emergency, and on April 25, 2014, the Governor issued an Executive Order declaring a continued state of emergency due to severe drought conditions. Directive No. 10 of the Executive Order directed the State Water Board to adopt statewide general waste discharge requirements to facilitate the use of treated wastewater that meets standards set by the California Division of Drinking Water in order to reduce demands on surface water supplies. The State Water Board adopted General WDRs (WDRs) for Recycled Water Use (Recycled Water General Order) on June 3, 2014. The Recycled Water General Order establishes standard conditions for the use of recycled water, relieving producers, distributors and users of recycled water from the sometimes lengthy permit approval process and providing certainty around the requirements that they will be expected to meet.</p>

Type of Activity	Description
	<p>For more information concerning this Water Board program can be at the <a href="#">Recycled Water Policy</a> website.</p>
Project	<p><u>California Senate Bill x2 1, Perata (California Water Code Section 83002.5)</u></p> <p>California Senate Bill (SB) X2 1 – Perata (SB X2 1) was added to the Water Code on September 30, 2008, and required the State Water Board, in consultation with other agencies, to improve the understanding of the causes of nitrate groundwater contamination, identify potential remediation solutions and funding sources to recover costs expended by the State for the purposes of cleaning or treating nitrate contaminated groundwater, and ensure the provision of safe drinking water to all communities. Specifically, SB x2 1 also required the State Water Board to develop pilot projects in the Tulare Lake Basin and the Salinas Valley that focus on nitrate contamination. It also directed the State Water Board to create an interagency task force as needed, to oversee the pilot projects and develop recommendations for the Legislature.</p> <p>As a first step in the development of the pilot projects, the State Water Board contracted the University of California, Davis – Department of Land, Air and Water Resources (Davis – LAWR) to conduct an independent investigation in these areas and report on the findings and potential solutions for nitrate in groundwater. In fulfillment of this contract, the report <i>Addressing Nitrate in California’s Drinking Water</i> (Davis – LAWR 2012) was submitted to the State Water Board in 2012. Using the information and findings from this report, as well as from the governor’s drinking water stakeholder group (which was comprised of representatives from State agencies, environmental justice advocates, and agricultural representatives) and an interagency task force (which included representatives from SWRCB Division of Drinking Water, the California Department of Food and Agriculture (Cal Food and Agriculture), CA Pesticide Regulation, the California Environmental Protection Agency (Cal EPA) and local environmental health agencies), the State Water Board developed a legislatively mandated report in February 2013. This report was titled <i>Recommendations Addressing Nitrate in Groundwater – State Water Board Report to the Legislature</i> (State Water Board 2013). In this report the State Water Board made 15 specific recommendations to address water quality issues associated with nitrate contaminated groundwater. These recommendations reflect a comprehensive strategy focused on the following four key areas: (1) provide safe drinking water; (2) monitoring, assessment, and notification; (3) nitrogen application reporting; and (4) protecting groundwater.</p> <p>Additional information concerning the Water Board’s groundwater nitrate program can be found in Section D8: SW5 – Irrigated Lands Regulatory Program and State Water Board’s <a href="#">Nitrate in Groundwater</a> website.</p>

<b>Type of Activity</b>	<b>Description</b>
Project	<p><u>Copper Reduction Project</u> - In California, and in coastal communities throughout the United States, water quality is significantly impacted by the copper infused paint used to coat boat hulls. Copper, known as an anti-fouling coating and considered to be a pesticide, repels marine organisms that attach themselves to boat bottoms, which can cause damage to the boat's structural integrity while reducing the vessel's fuel efficiency. Passive leaching of the copper from anti-fouling coatings and periodic in-water boat hull cleaning by divers can harm the marine life living in and around marina basins.</p> <p>Consistent with the requirements of Assembly Bill 425 – Atkins, CA Pesticide Regulation recently released an acceptable leach rate for copper paint and recommended seven mitigation measures (<u>Letter from Brian Leahy, Director CA Pesticide Regulation to Assembly Member Atkins dated February 14, 2014</u>). In order to address these recommendations, the State Water Board NPS Program staff are coordinating with the Coastal Commission, CA Pesticide Regulation, and other stakeholders (e.g., State and local agencies, marina owners and operators, underwater-hull cleaners, etc.) to develop effective strategies to address copper pollution in California marinas (Copper Reduction Project). Additional information concerning the Copper Reduction Project can be found at the State Water Board’s <u>NPS Pollution Control</u> website.</p>
Program	<p><u>Environmental Justice Program</u> - Environmental justice is defined by California statute as “...the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies.” The State and Regional Water Boards are establishing an environmental justice program to promote and ensure public outreach, participation and education regarding meetings, hearings and activities for all Californians. Through an established policy, the Water Boards will provide a transparent process for communities, local governments, tribes and any interested group to learn of and participate in hearings, decisions and actions.</p> <p>Currently, the Water Boards have incorporated major components of the environmental justice goals within the Water Board’s <u>Strategic Plan</u> and have identified environmental justice as a project element. Strategies within the project include: (1) training all Water Board staff on the fundamentals of environmental justice; (2) reviewing existing public participation methods and recommending adjustments to ensure inclusion of all communities; (3) establishing a complaint process for communities to follow in alleging environmental injustice; and (4) Establishing a monitoring system to assess disparate impacts of enforcement decisions in “environmental justice communities”. The CA NPS Program has and will continue to include environmental justice as a factor in making funding decisions for CWA section 319 project funding. Additional information concerning the Water Boards’ environmental justice program can be found at the State Water Board’s <u>Education and Public Outreach</u> website.</p>



<b>Type of Activity</b>	<b>Description</b>
Program	<p><u>Impacts from Surface Water Diversions for Marijuana Cultivation</u> - In many areas of the State the production of marijuana on private lands has increased dramatically in the past five years. While some producers appear to be able to grow their crops without any substantial watershed or environmental impacts, it is apparent that many marijuana producers' clear wild lands, grade areas for cultivation, create substandard road systems, and divert large amounts of water for irrigation, especially during the dry summer season. Illegal marijuana producers also use soil amendments, fertilizers, and other treatments that can then enter the streams leading to an increase of nutrients. These streams and rivers can also have higher than normal temperatures due to reduced flows and hydromodification activities, killing fish and wildlife, producing toxic algal blooms, causing additional impairments, and CWA section 303(d) listings.</p> <p>Moreover, irresponsible marijuana cultivation practices can cause additional impacts including: sediment discharges to surface waters; chemical toxicity to land animals, birds, fish, and aquatic biota from pesticides, herbicides, and rodenticides. Currently, growers whose activities result in an unauthorized discharge to waters of the State, the diversion of water without a water right, and/or who fail to file a statement of water diversion and use when required, could be subject to administrative civil liability (fines).</p> <p>In 2014, the Water Boards were allocated new positions to improve the prevention of illegal stream diversions, discharges of pollutants into waterways, and other water quality impacts associated with marijuana production. The Department of Fish and Wildlife was also allocated additional positions to investigate and enforce violations of illegal streambed alterations and the California Endangered Species Act associated with marijuana production. The Water Boards and Department of Fish and Wildlife are coordinating these efforts, as has been requested by the governor.</p> <p>Responding to requests from the public for the Water Boards to play a larger role in addressing water quality impacts associated with the proliferation of marijuana cultivation sites, the Water Boards initiated a multi-agency effort to regulate these activities. In support of this effort, the North Coast and Central Valley Regional Water Boards have been working closely with the State Water Board and the CA Department of Fish and Wildlife. The goal of this effort is to develop a Region-wide program to regulate waste discharges from marijuana cultivation sites.</p>

<b>Type of Activity</b>	<b>Description</b>
Program	<p><u>Timber Regulation and Forest Restoration</u></p> <p>In 2012 the California Legislature enacted Assembly Bill 1492, this bill created a special fund from the revenue of a 1% tax on lumber products sold at the retail level. Appropriations from the new fund are designated for the state agency cost of regulating timber harvest activities. Under the direction of the Secretary of the California Natural Resources Agency, and in consultation with the California Environmental Protection Agency, Cal Fire, the California Department of Fish and Wildlife, California Geological Survey, and the State and Regional Water Boards are to develop and evaluate ecological performance measures. The Bill also prioritizes any additional available funds for a number of existing restoration grant programs to specifically address climate change, wildlife and water quality improvements.</p> <p>The annual joint agency reporting requirements, the development and ongoing measurement of ecological performance measures, and the administration of state funds designated to improve water quality on the state’s forested landscapes requires consistent and ongoing coordination. This coordination is not only between state agencies but can include forest and fisheries related federal agencies (i.e. USDA Forest Service, NOAA National Marine Fisheries Service) as well as the range of public stakeholders. At present the Departments and Boards have developed a set of work groups to address the multiple facets of AB 1492, the Figure 3 below is a diagram of the various work groups and entities the Water Boards are involved with in the State’s Timber Regulation and Forest Restoration Program.</p>

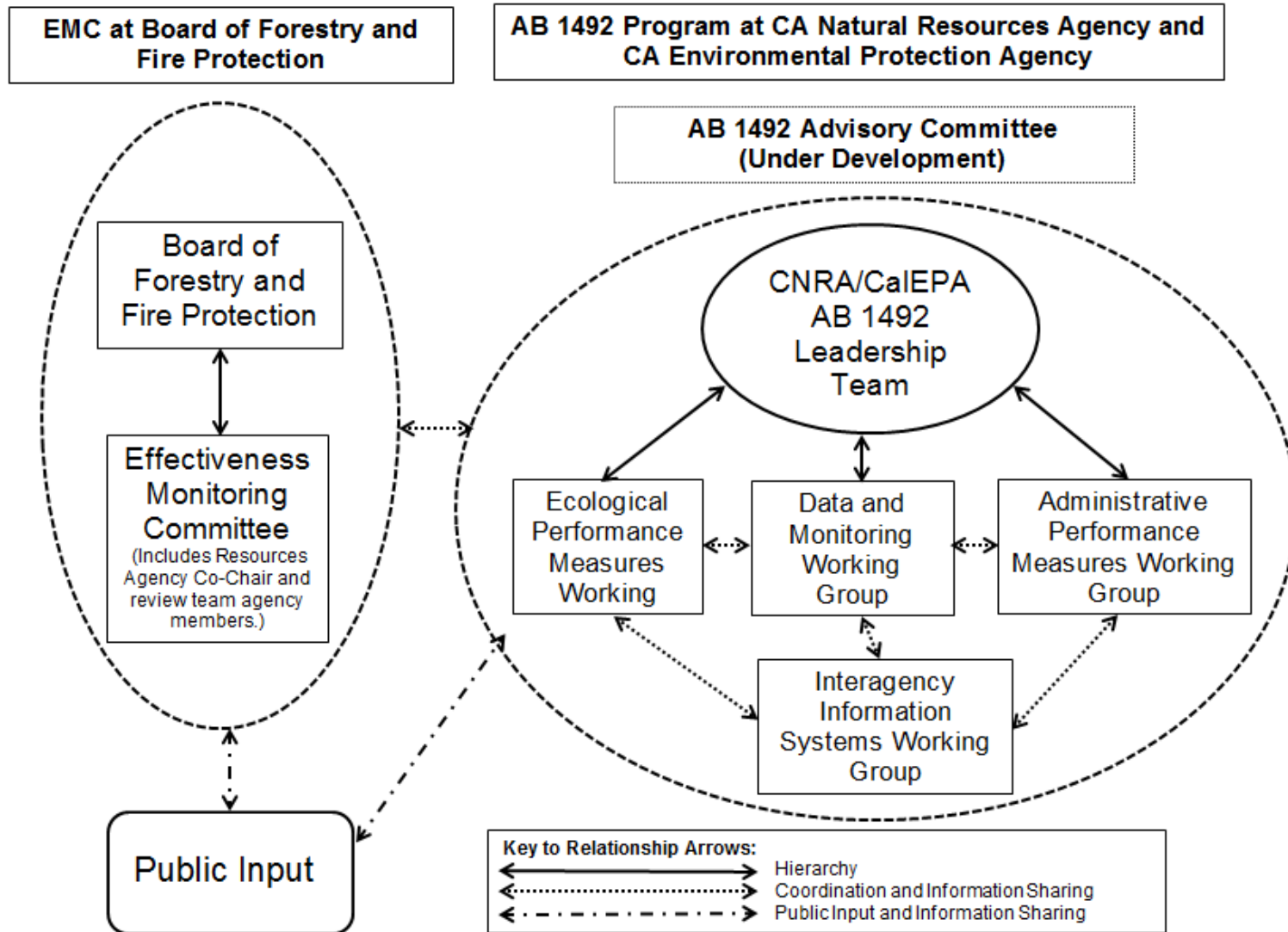


Figure 3. Organizational Framework for AB 1492 Program Structure and its Relationship to the Board of Forestry and Fire Protection and its Effectiveness Monitoring Committee.

## **F. Initiative SW5: Irrigated Land Regulatory Program**

### **1. Background**

California agriculture is extremely diverse and spans a wide array of growing conditions from north to south. California's agriculture includes more than 400 commodities. The state produces nearly half of the fruits, nuts and vegetables grown in the United States and many of these products are exported to markets worldwide. Across the nation, consumers regularly purchase crops produced in California. However, agriculture has also been determined to be one of the leading causes of non-point source related water quality pollution.

Water discharges from agricultural operations in California include storm water discharges and return flows from irrigated agriculture. These discharges can affect surface and ground water quality by transporting pollutants, including pesticides, sediment, nutrients, salts, pathogens, and heavy metals, from cultivated fields. Data, taken from the California 2010 CWA section 303(d) list of impaired waters, shows approximately 7,986 miles of rivers/stream and 310,370 acres of lakes, reservoirs, bays, estuaries and wetlands where the source may be from irrigated agriculture.

The Porter-Cologne Act provides the State and Regional Water Boards regulatory authority for protecting water quality, including those from agricultural discharges. To address waters of the state that are impaired by agricultural discharges, the State Water Board developed the Irrigated Lands Regulatory Program. The State Water Board plays a coordinating role for statewide consistency purposes; and, the Regional Water Boards adopt region-specific agricultural discharge permits and play a direct role in implementing, and enforcing region-specific Irrigated Lands Regulatory Programs and associated discharge permits. The region specific approach allows the regional boards and the region-specific regulated agricultural community to develop local partnerships to address local conditions. The Water Boards and the agricultural community recognize the importance of the statewide Irrigated Lands Program in assessing, controlling, and preventing agricultural discharges from impairing the water that receive these discharges.

The overall goal of Irrigated Lands Program is to assess, restore, and/or protect water quality of the waters of the state. This includes: (1) considering all demands being placed on the water and maintaining it to the highest degree reasonable; (2) minimizing discharges from irrigated agriculture which either do, or have the potential to, degrade water quality; (3) maintaining the economic viability of irrigated agricultural operations in California; and (4) ensuring that these same operations do not impair communities and residents access to safe and reliable drinking water.

The objectives of the Irrigated Lands Program are to: (1) restore and/or maintain and protect appropriate beneficial uses established within the nine Regional Water Boards' Basin Plans; (2) ensure that all waters of the State meet applicable water quality objectives; (3) ensure the implementation of management practices that maintain and/or improve water quality without jeopardizing the economic viability of irrigated agricultural operations, but at the same time not unduly burdening rural communities in providing their communities with safe drinking water; (4) coordinate with all entities in addressing salts and nutrient water quality issues; and (5) promote coordination with agricultural commodity groups, as well as other regulatory and non-regulatory programs associated with irrigated agricultural operations to reduce duplicative regulatory requirements yet ensuring program effectiveness.

All nine Regional Water Boards have developed, or are developing Irrigated Lands Regulatory Program and are implementing, or are in the process of developing, comprehensive agricultural regulatory programs to address the actual or potential surface and/or groundwater discharges from approximately nine million acres statewide. These programs are the largest part of the NPS program in terms of actual on the ground activity that can be reported.

Performance measurement and reporting is an important component of a complete system of performance management needed to demonstrate how well programs or strategies are working and why. Information obtained through better performance measurement and program evaluation provides insight that enables us to understand and replicate successes, and continuously improve. In state fiscal year 2013-14, the Regional Water Boards enrolled 739 irrigated agricultural operations, which comprised 139,671 acres of irrigated agricultural land, under a general conditional waiver WDRs. This resulted in 55 percent of the irrigated agricultural operators and 66 percent of acreage being regulated statewide. It is evident that the Central Valley Regional Water Board, which covers about 40 percent of the geographical area of the State, has 56 percent of the irrigated agricultural operators and 76 percent of acreage. The Irrigated Lands Program's goal is to increase statewide acreage enrollment by 10 percent annually. In the future, the Irrigated Lands Program will account for the number of management plans and practices developed and implemented as additional performance measures. Table 5 summarizes Irrigated Lands Regulatory Program performance for the most recent year of reporting (2013-2014).

The Irrigated Lands Program long-term strategy includes activities that will address: (1) public education and outreach (2) accounting for enrolled acres and operations; (3) monitoring activity; (4) management plan development and implementation; (5) on the ground management practices; (6) demonstration projects; (7) performance tracking; and (8) follow-up sampling. Table 6 shows the basic long-term Irrigated Lands Program's strategic phased approach to assessing, restoring and protecting water quality impacted by agricultural discharges.

Table 5. Summary of Current Irrigated Lands Program Performance Measures

<b>Region</b>	<b>Total Estimated Agriculture Acres</b>	<b>New Regulated Acres in SFY 2013-14</b>	<b>Total Acres Enrolled Under Agricultural Order</b>	<b>Percent Acres Enrolled ( percent)</b>	<b>Total Estimated Farm Operations</b>	<b>New Operations Regulated in SFY 2013-14</b>	<b>Total Operations Enrolled Under</b>	<b>Percent Operations Enrolled ( percent)</b>
1	348,000	0	135,000	39	3,688	0	426	12
2	55,000	0	0	0	1,500	0	0	0
3	435,000	7,506	420,324	97	2,993	0	1,841	62
4	96,000	-1,905	78,697	82	2,100	0	1,398	67
5	6,300,000	78,220	4,785,929	76	35,000	715	24,956	71
6	220,000	0	0	0	0	0	0	0
7	661,000	55,850	107,936	16	2,459	24	363	15
8	41,000	0	0	0	200	0	0	0
9	305,000	0	42,749	14	5,732	0	484	8
<b>Total</b>	<b>8,461,000</b>	<b>139,671</b>	<b>5,570,635</b>	<b>66</b>	<b>53,672</b>	<b>739</b>	<b>29,468</b>	<b>55</b>

Table 6. California Irrigated Lands Program Strategic Phased Approach

<p><u>Phase I: Enrollment Monitoring and Assessment</u></p>	<p><u>Phase II: Planning</u></p>	<p><u>Phase III: Implementation and Monitoring - Assessment</u></p>	<p><u>Phase IV: Certainty or Continued Adaptive Management</u></p>
<ul style="list-style-type: none"> <li>✓ Education and outreach</li> <li>✓ Determine regulatory tool</li> <li>✓ Initiate enrollment</li> <li>✓ Assist formation of grower coalitions</li> <li>✓ Ambient monitoring and assessment</li> <li>✓ Develop technical advisory committees (Advisory Committees)</li> <li>✓ Develop public advisory group (Advisory Group)</li> <li>✓ Identify funding for monitoring and assessment</li> </ul>	<ul style="list-style-type: none"> <li>✓ Phase I data driven planning</li> <li>✓ Develop regulatory tool(s)</li> <li>✓ Determine priority areas for implementation and enforcement</li> <li>✓ Develop monitoring and reporting plans (Monitoring Plans) and Farm Water Quality Management Plans (Farm Plans)</li> <li>✓ Collaborate with stakeholders, third party certification, Advisory Committees, and Advisory Groups</li> <li>✓ Identify database needs for tracking data and implementation actions and effectiveness</li> <li>✓ Continue enrollment/enforcement for non-compliance (membership and fees)</li> <li>✓ Identify funding for implementation</li> </ul>	<ul style="list-style-type: none"> <li>✓ Implement Management and Monitoring Plans</li> <li>✓ Demonstration projects to show success (National Water Quality Initiative , CWA section 319(h))</li> <li>✓ Report implementation actions, results and effectiveness</li> <li>✓ Monitor and re-assess</li> <li>✓ Input new data/information into database</li> <li>✓ Track progress in database</li> <li>✓ Continue enrollment/enforcement for non-compliance</li> <li>✓ Locate funding for Implementation</li> </ul>	<ul style="list-style-type: none"> <li>✓ Review and re-assess information in database with stakeholders, third party certifications, and Advisory Committees and Groups</li> <li>✓ De-listing of restored waterbodies</li> <li>✓ Adapt Management and Monitoring Plans, if necessary</li> <li>✓ Locate funding for additional implementation (if necessary)</li> <li>✓ Continue enrollment enforcement for non-compliance</li> </ul>

## 2. Initiatives

### *a. Initiative SW5.1: Irrigated Lands Program Team Concept*

#### Needs Statement

The Irrigated Lands Program regulates an estimated 30,000 producers covering over 6 million acres statewide out of an estimated 40,000 producers covering 9 million acres that need to be regulated under the program. A comprehensive program to regulate all of these potential dischargers and demonstrate their water quality improvement on an individual basis would require a commitment of resources far in excess of what can be supported with the current State budget. Therefore, the State and Regional Water Boards need to be creative in how the Irrigated Lands Program is developed and implemented to meet our statutory obligation to improve water quality. A system needs to be developed and demonstrated that leverages the expertise and financial resources of a variety of potential partners and that can be successfully applied statewide.

#### Goals and Objectives

The goal and objectives of this initiative are:

Goal SW5.1: Develop and implement in a minimum of three Regions a series of water quality improvement projects (Demonstration Projects) that demonstrate the effectiveness of leveraging resources from a variety of public and private partners to improve water quality for both surface water and groundwater impacted by agricultural discharges by 2017.

Objective SW5.1.01: Prioritize the impaired sub-watersheds by 2016.

Objective SW5.1.02: Select at least one targeted water shed that meets project criteria by 2016.

Objective SW5.1.03: Create a technical multi-agency team and begin developing the management plan to include identifying management practices to be implemented by 2016.

Objective SW5.1.04: Begin implementation of the water quality improvement demonstration projects by 2017.



### *Initiative Description*

The Irrigated Lands Program team concept (Team Concept) is being developed and is scheduled for implementation during the current planning period. Under the Team Concept, the State Water Board, Regional Water Boards, the CA Pesticide Regulation, the California Department of Food and Agriculture (Cal Food and Agriculture), and Natural Resources Conservation Service (Resource Conservation Service) would clarify their respective roles and acknowledge their responsibilities, authorities, and funding contribution to this effort. The Regional Water Boards would prioritize areas of concern and identify one potential implementation project or area in their Region for application of the Team Concept.

Teams would then be formed from participating partners, such as county agricultural commissioners (Agricultural Commissioners), resource conservation districts (Conservation Districts), University of California cooperative extension farm advisors (U.C. Farm Advisors), certified crop advisors (Crop Advisors), grower coalitions, and/or third party groups. Funding needs would be determined and allocated to participating team partners. Multi-agency teams and/or third-party certification groups would assist growers to prepare, implement, and certify management practices. Follow-up monitoring would then be required to determine management practice effectiveness.

For example, under the third-party certification group Team Concept, a third-party certification group would develop management plan criteria and certify growers that implement the management plan. The third-party certification group would audit grower operations to validate certified growers are complying with certification criteria. In addition, the certification would provide a tool that would assist growers in meeting regulatory requirements when certification criteria are implemented. The approval and use of third-party certification groups would be contingent on a strong collaborative effort between the third-party certification group and the Regional Water Boards staff to take the lead in developing the certification criteria to assure that regulatory requirements would be met, with the State Board supporting via coordination and facilitation. To determine if the team or third-party certification concept is successful, it is recommended that water quality improvement projects be developed. For these water quality improvement projects, Regional Water Board Irrigated Lands Program staff would work with team partners and/or third-party certification groups to assist grower coalitions in developing technically sound management plans that would meet regulatory requirements. State Water Board Irrigated Lands and NPS Program staff will provide support via coordination and facilitation.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW5.1.01: Assess monitoring data to identify and prioritize agricultural related impaired waters at the sub-watershed level to determine potential locations for application of the Team Concept.

Activity SW5.1.02: Develop and implement management plans and management practices by the growers per the Irrigated Lands Program staff approval.

Activity SW5.1.03: Identify sources of funding and/or incentives to support development and implementation of management plans.

Activity SW5.1.04: Teams and/or third-party certification groups assist growers to prepare, implement, and certify management plans.

Activity SW5.1.05: Continue to expand collaborative efforts with already existing third-party certification groups and extend efforts to cultivate, develop and certify new ones. These third-party certification groups partner with many entities such as county Agricultural Commissioners, NOAA, County and Natural Resource Conservation Districts, other state and federal agencies, and Water Board staff to assist producers in preparing, implementing, certifying management plans and practices. These partners can also provide technical services, financial and permitting assistance to producers, which can help them to comply with regulatory requirements

Activity SW5.1.06: Assess whether the use of teams and/or third-party certification groups is an effective method of implementation, and if so, repeat in other Regional high priority NPS areas in which agriculture has been identified as contributing a high percentage of the source(s) of pollution.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW5.1.01: Development of a prioritized list of agricultural related impaired waters at the sub-watershed level by 2016.

Performance Measure SW5.1.02: Review and update of development and implementation of management plans and practices. (Ongoing)

Performance Measure SW5.1.03: Identification of sources of funding and/or incentives for development and implementation of management plans. Resources and expertise in excess of what can be supported by an individual grower or grower group will be necessary by 2016.

Performance Measure SW5.1.04: Establishment of teams and/or third-party certification groups to assist growers to prepare, implement, and certify management

plans and practices in addition to technical services support, financial and permitting assistance by 2016.

Performance Measure SW5.1.05: Development and reporting of water quality improvement projects developed and reported, in order to validate the use of teams and/or third-party certification groups by 2017.

Performance Measure SW5.1.06: Assessment of effectiveness of third-party certification groups ,and development of a plan to target NPS areas in which agriculture has been identified as contributing a high percentage of the source(s) of pollution by 2017.

***b. Initiative SW5.2: Irrigated Lands Program Information Management Solution Project***

**Needs Statement**

In order to protect waters of the State, the Regional Water Boards have adopted agriculturally related WDRs or waivers of WDRs that contain conditions or requirements for producers to:

1. Enroll in the Irrigated Lands Program ;
2. Monitor the water quality of receiving waters (surface and ground water) or discharges;
3. Develop and implement farm water quality management plans (Management Plans);
4. Implement management practices to protect water quality consistent with the Management Plans;
5. Take corrective actions, when necessary to meet water quality objectives; and
6. Report on activities being conducted to protect water quality.

The Regional Water Boards are currently gathering and maintaining their Irrigated Lands Program information utilizing various methods. As a result, only a minimal amount of integration or information sharing is possible between the various Regional Water Board Irrigated Lands Regulatory Programs. There are technical concerns in the various types of data gathered which are located in different Water Board information management systems. These systems include the: (1) CIWQs which contains the permit fee billing and enforcement tracking data; (2) CEDEN which contains surface water monitoring data; and (3) the GeoTracker Groundwater Ambient Monitoring and Assessment System (GeoTracker Monitoring System) which contains ground water quality data. The Irrigated Lands Program information management solution project (Irrigated Lands Program Information System) will provide an appropriate electronic information management solution for data

pertaining to agricultural lands throughout the state. To that end, the Irrigated Lands Information Management Project team has made substantial progress in the initial assessment of the database needs of each Regional Water Board Irrigated Lands Program, has developed a concept paper to submit to Office of Information Management and Analysis (OIMA), and is now gathering information in order to develop the Feasibility Study Report by 2016, then implement a pilot information management solution, launch a proto-type, and finalize the information management solution for use by the Regional Water Boards, stakeholders, and the public.

### *Goals and Objectives*

The goal and objectives of this initiative are:

Goal SW5.2: Increase the effectiveness of the Irrigated Lands Program through the development and implementation of an information management system.

Objective SW5.2.01: Increase efficiency (minimize the workload of staff members and growers) with respect to record keeping, tracking, and enforcement.

Objective SW5.2.02: Increase consistency between the Regional Water Boards with similar agricultural programs through consistency between forms and electronic submittals.

Objective SW5.2.03: Bridge existing databases to allow interface and access to the various types of data populated in the databases (i.e., California Water Quality System, California Environmental Network, GeoTracker Monitoring System, and the Water Boards electronic content management system [paperless office system]).

Objective SW5.2.04: Enable the comprehensive analysis of agricultural discharge information and water quality data.

Objective SW5.2.05: Analyze agricultural regulatory program information for the purposes of assessing program performance and effectiveness.

Objective SW5.2.06: Provide public access to electronic documents and data, as appropriate.

### *Initiative Description*

Due to the large number of growers throughout California, the Irrigated Lands Program generates a significant amount of information for the Water Boards to process and store. A robust data management system that bridges existing databases is needed to meet the above noted goals and objectives. The final Irrigated Lands

Program Information System will allow staff to effectively manage their regulatory caseloads so that the Regional Water Boards can better report on the effectiveness of their Irrigated Lands Regulatory Program, track and report on water quality improvements, redirect their limited staff from data entry to outreach, field inspections, and as needed, enforcement. The Irrigated Lands Program Information System team has been and will continue to analyze the needs of the program, design, and implement a solution. In order to ensure the success of the project, it will be necessary for all stakeholders to be given the opportunity to provide input during each phase of the project. This project will require a Feasibility Study Report and a funding source. It will be developed with an incremental roll-out process. Full implementation is anticipated to be end of 2017.

In order to develop the Irrigated Lands Program Information System, the State Water Board Irrigated Lands Program manager has been coordinating with the State Water Board Division of Information Technology Division (Information Technology Division) to meet the state requirements for an information technology project specified by California Department of Technology (Technology Department). Working with the Information Technology Division and the Technology Department, the first stage of the process is a business needs analysis. The business needs analysis is developed so that project management, program management, executive management, the OIMA and state-level control agencies agree on the business problem that needs to be addressed and measurable objectives to address them. The Technology Department has approved the Stage One business analysis and the project has advance to initial development of the Feasibility Study Report. The feasibility study report, for which a vendor is contracted, addresses a business problem and identifies measurable business objectives and functional business requirements. It identifies the proposed solution's logical and technical design. Once approved by the Technology Department, the final steps are to develop a request for proposal and secure a vendor to design and construct the information system. All of these stages must also be approved by the Technology Department.

### *Proposed Activities*

The following activities and related performance measures are proposed:

Activity SW5.2.01: Maintain a list of external and internal parties to be contacted and establish contact with interested parties.

Activity SW5.2.02: Create the Irrigated Lands Program Information System project Water Boards intranet page.

Activity SW5.2.03: Host information sharing meetings to introduce the Irrigated Lands Program Information System project to interested groups and gather initial concerns. This activity will include working closely with OIMA and the ongoing efforts to link existing State Water Board data systems.

Activity SW5.2.04: Develop Regional Water Board initial list of business needs and criteria for prioritizing those business needs.

Activity SW5.2.05: Generate a project status newsletter to be provided to interested party groups.

Activity SW5.2.06: Create system information and training materials.

Activity SW5.2.07: Send notification soliciting involvement in the analysis of Irrigated Lands Program Information System needs.

Activity SW5.2.08: Host internal user group meetings for the analysis and review of the project status.

Activity SW5.2.09: Complete the Feasibility Study Report and identify funding source.

Activity SW5.2.10: Coordinate with the Regional Water Board Irrigated Lands Regulatory Program and the vendor contracted by the Information Technology Division to develop and test the Irrigated Lands Program Information System.

Activity SW5.2.11: Coordinate with the Regional Water Board TMDL programs to populate and implement the TMDL information management system.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW5.2.01: List of external and internal parties to be contacted. Establish contact with interested parties and finalize contact list. (Analysis phase – completed in 2014 and ongoing.)

Performance Measure SW5.2.02: Notification soliciting involvement in the analysis of Irrigated Lands Program Information System needs. (Initially completed in 2014 and additional analysis ongoing.)

Performance Measure SW5.2.03: Create Irrigated Lands Program Information Management System Project Water Boards intranet page. (Design phase – completed in 2014 and is ongoing).

Performance Measure SW5.2.04: Project status newsletter to be provided to interested party groups with the goal of building interest Irrigated Lands Information Management System project. (All phases – ongoing.)

Performance Measure SW5.2.05: Host internal user group meetings for the analysis and review of project status (Completed in 2014 and is ongoing).

Performance Measure SW5.2.06: Develop Regional Water Board initial list of business needs and criteria for prioritizing those business needs. (Completed in 2014).

Performance Measure SW5.2.07: Complete feasibility study report and identify funding source. (To be completed by 2015).

Performance Measure SW5.2.08: Develop, populate and test the system. (2016)

Performance Measure SW5.2.09: Develop system information and training materials. (Design and maintenance phases –2016).

Performance Measure SW5.2.10: Host information sharing meetings to introduce Irrigated Lands Program Information Management Solution for interest groups and gather initial concerns. (To be completed by 2017).

***c. Initiative SW5.3 Addressing Nitrate Contamination in Groundwater - SBX2 1, Perata***

**Needs Statement**

Governor Brown has stated that safe drinking water is a human right and it is the State's job to work with all parties to identify and implement viable solutions. Nitrate pollution in groundwater is a widespread water quality problem that can pose serious health risks to pregnant women and infants if consumed in significant concentrations. Nitrate contaminated groundwater is a particularly significant problem in the Tulare Lake Basin and Salinas Valley areas, where approximately 2.6 million people rely on groundwater for their drinking water. Other areas of the State, however, also have nitrate contaminated groundwater that is used as a source of drinking water. The Central Valley and Central Coast Regional Water Boards Irrigated Lands Regulatory Programs are addressing groundwater pollution in their current programs. However, addressing the issues pertaining to groundwater requires a coordinated effort of many State and federal agencies, and consistent agricultural control measures.

Groundwater contamination by nitrate is a major water quality issue and can pose health risk at concentrations above health standards. The State Water Board Report to the legislature made fifteen recommendations in four key areas to address the issues associated with nitrate contaminated groundwater. The key areas are:

1. Providing safe drinking water;
2. Monitoring, notification, and assessment;
3. Nitrogen tracking and reporting; and
4. Protecting groundwater.

The nitrate report follows the State Water Board's February 4, 2013 release of a report ([Recommendations Addressing Nitrate in Groundwater](#)) that identifies communities relying on contaminated groundwater sources for their drinking water. Arsenic and nitrates were the two major contaminants.

In addition to the work to address Assembly Bill SBX2 1, the State Water Board has a Drinking Water Source Assessment and Protection (DWSAP) program. The 1996 reauthorization of the federal SDWA included a requirement for states to assess all groundwater and surface water sources. A source water assessment is an inventory of possible contaminating activities that may threaten the quality of the source. If possible contaminating activities present a threat to the source, water systems are encouraged to protect their water sources from contamination through the establishment and implementation of a source water protection program. The results of the source water assessment must be included in the water system's annual Consumer Confidence Report. Any new drinking water sources must include an assessment as part of DDW's permit process. More information is available at [http://www.waterboards.ca.gov/drinking\\_water/certlic/drinkingwater/DWSAP.shtml](http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAP.shtml)

The 2014 transfer of the Drinking Water Program from the California Department of Public Health to the State Water Board provides an opportunity to better integrate surface water and groundwater protection efforts to protect drinking water supplies. The Regional Water Boards already have placed greater emphasis on drinking water source water protection through salt and nutrient management planning and regulation and enforcement of nitrate discharges from agriculture and dairies. The State Water Board's Groundwater Ambient Monitoring and Assessment Program and the Regional Water Boards' Irrigated Lands Regulatory Programs monitor groundwater to characterize potential impacts to drinking water supplies. In addition, the State Water Board has begun to integrate data from the Drinking Water Program to improve source water protection efforts. For example, the Division of Drinking Water has used public water system well location information to identify wells that are vulnerable to contamination from wastewater injection wells used by the oil and gas exploration industry.

The Safe Drinking Water Plan, developed by the Division of Drinking Water lists a number of current threats to drinking water sources that are potentially contributed to by non-point sources. Specifically, the report identifies microbial contamination, nitrates and pesticides as the greatest threats to ground water that fall within the purview of the NPS program. All of these contaminants are actively being addressed through the irrigated lands program and achieving the goals and objectives in the 6-year plan for the irrigated lands program will have a complementary impact on drinking water source protection.



### *Goals and Objectives*

The goals and objectives of this initiative are to:

Goal SW5.3: Respond to the State Water Board report to the Legislature to address the findings of SBX2 1.

Objective SW5.3.01: Implement the Expert Panel recommendations as approved and directed by the State Water Board.

Objective SW5.3.02: Work with the California Department of Food and Agriculture (Cal Food and Agriculture) to develop a fertilizer use database.

Objective SW5.3.03: Work with Cal Food and Agriculture to develop nutrient management plan certification criteria.

Objective SW5.3.04: Work with Cal Food and Agriculture to create a staff group to track nutrient issues.

### *Initiative Description*

The State Water Board will identify nitrate high-risk areas so regulatory oversight and assistance efforts can be prioritized in these areas first. The State Water Board convened an Expert Panel to review existing agriculture practices concerning nitrates, and develop recommendations in an effort to further protect groundwater quality through practices and existing regulatory programs, such as the Regional Water Boards' Irrigated Lands Regulatory Program. The expert panel also reviewed the Regional Water Boards' Irrigated Lands Regulatory Program and prepared a final report on the findings and a summary of project discoveries and recommendations. During the 6-year planning horizon, the State and Regional Water Boards Irrigated Lands Program will be incorporating and addressing recommendations provided through the Expert Panel and Advisory Committee, as directed by the State Water Board.

### *Proposed Activities*

The following activities are proposed:

Activity SW5.3.01: Review, address and incorporate/adaptively manage current Irrigated Lands Program according to discoveries and recommendations from the Expert Panel.

Activity SW5.3.02: Create a staff group composed of staff from the Water Board and Cal Food and Agriculture to track nutrient issues.

Activity SW5.3.03: Work with Cal food and Agriculture to develop and implement a fertilizer use database.

Activity SW5.3.04: Work with Cal Food and Agriculture to develop and implement nutrient plan certification criteria.

### Performance Measures

The following performance measures are proposed for this initiative:

Performance Measure SW5.3.01: Review current Irrigated Lands Program according to discoveries and recommendations provided by the State Water Board directives. (To begin by 2015 is ongoing and will be based on decisions from the State Water Board on pending legal actions).

Performance Measure SW5.3.02: Nutrient database developed with Cal Food and Agriculture completed by 2015.

Performance Measure SW5.3.03: Nutrient management plan certification criteria developed with Cal Food and Agriculture finalized by 2015.

Performance Measure SW5.3.04: Regional and State Water Board Irrigated Lands Program staff will be examining the Nutrient Cascade through the soil profile as impacted by nitrogen inputs, outputs and uptakes. (Ongoing through 2020).

#### ***d. Initiative SW5.4 Irrigated Lands Program Training Program***

### Needs Statement

As the Irrigated Lands Program begins to prioritize identified agricultural related water quality impairment, in surface water and groundwater, there will be a need to enhance Water Board staff presence in the field. For an effective management practice field inspection and performance assessment, staff will need to determine the basic information needed, from whom it should come, the differences in the various types of management practices (including performance information), as well as many other variables. Therefore, it is necessary for Irrigated Lands Program staff to obtain training on how to assess farm nutrient management plans, other water quality management plans, and field operation of management practices. Training is also necessary for staff to develop/implement/track water quality improvement projects.

In addition, there is a need to develop training for Irrigated Lands Program staff to increase coordination amongst technical service providers (i.e., Crop Advisors,

Resource Conservation Service, Resource Districts, UC Farm Advisors, Agricultural Commissioners, and other agricultural technical experts such as certification groups). This includes an understanding of the various technical service resources available to further develop the Irrigated Lands Program statewide and assist growers to comply with regulatory requirements.

### *Goal and Objectives*

The goal and objectives for this initiative are to:

Goal SW5.4: Provide uniform training for Irrigated Lands Program staff to increase their level of understanding of how agricultural management plans and management practices function and their applicability to water quality improvement. This would lead to creating/developing a new inclusive approach to assess the performance and maintenance of agricultural management practices (i.e., to assure proper installation, operation, and performance.)

Objective SW5.4.01: Improve staff's ability to analyze technically based farm water quality management plans, pesticide/nutrient/sediment management plans, and related agricultural management practices.

Objective SW 5.4.02: Improve staff's ability to perform field inspections of management practices to determine compliance with agricultural and nutrient management plan requirements.

Objective SW 5.4.03: Enhance staff's ability to identify, understand, and assess performance of management and conservation plans and practices developed by third-party certification groups, county and natural resource conservation agencies and others.

### *Initiative Description*

Through this initiative the State Water Board Irrigated Lands Regulatory Program coordinator will work with the Regional Water Board Irrigated Lands Regulatory Program coordinators, other State Water Board programs, the State Water Board Training Academy, academia, and other partner agencies/entities as applicable to develop an Irrigated Lands Regulatory Program training program for Water Board staff. The training program will address needs identified by the State and respective Regional Water Board Irrigated Lands Regulatory Program such as timely and effective agricultural management practice inspections, effective performance evaluations, and development and implementation of water quality improvement demonstration projects.

### *Proposed Activities*

The following activities and related performance measures are proposed:

Activity SW 5.4.01: Coordinate with the Regional Water Board Irrigated Lands Regulatory Program staff, and other partner agencies/entities as applicable (i.e.; Crop Advisors, Resource Conservation Service, Resource Districts, UC Farm Advisors, Agricultural Commissioners, agricultural commodity groups and coalitions, and academia) to identify training subject areas.

Activity SW 5.4.02: Coordinate with the Water Board Training Academy to identify resource needs (e.g., staff, funding, meeting space) and the availability of those resources.

Activity SW 5.4.03: Identify and secure a training entity, request training funds, and award a contract for Irrigated Lands Program training sessions.

Activity SW 5.4.04: Coordinate with the Regional Water Board's programs, other affected State Water Board programs, and the contracted entities to develop an agenda, identify speakers, collect materials, and reserve required space.

Activity SW5.4.05: Hold a two to three day Irrigated Lands Program training session in Sacramento.

Activity SW 5.4.06: Coordinate with the contracting entity and the Water Board Training Academy to provide a survey to all attendees at the end of the training program and six months to a year later to determine if and how the training improved Irrigated Lands Program implementation efforts in their respective programs.

Activity SW 5.4.07: Evaluate the survey results to determine training effectiveness, identify necessary program changes, and begin coordination efforts for subsequent training sessions.

Activity SW5.4.08: Re-instate the Inter-Agency Agricultural Technical Committee in an effort to improve collaborative efforts between the Water Boards, the NRCS, and other agricultural related agencies/entities/academia.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW 5.4.01: A two to three day Irrigated Lands Program training program held at least annually starting no later than 2017.

Performance Measure SW5.4.02: A report summarizing the results of the attendee survey and the impact of the training on improved Irrigated Lands Program implementation within 18 months of completion of the first training. (2019).

Performance Measure SW5.4.03: Convene, the Inter-Agency Agricultural Technical Committee and complete activities SW5.4.1 – SW5.4.4 by 2016.

## G. Initiative SW6: Forest Activities Program

### 1. Background

Forest lands in California cover approximately one third (32 million acres) of the State's land base and often are the predominant vegetation type in the State's headwaters. The state's diverse climate, topography, fire ecology, and geology contribute to an equally diverse forest environment exhibiting a relatively high rate of biodiversity. Recreation opportunities throughout California forests attract tens of millions of visitors from around the world. Forests in California provide over 50 percent of the annual surface flows that supply water to a variety of users beyond forest land. Because of the relatively permeable soils forests contribute to groundwater recharge and subsurface flows which also helps to regulate flows during heavy precipitation events. Between producers, retailers, State and local government the forest products sector is also a source of billions of dollars in annual revenue.

Trends in forest disturbance, production, and policy have shifted substantially over the past century. Wildfire disturbance was largely suppressed over much of last century, leading to highly altered fire regimes across forest landscapes. High severity fire, especially upstream of or in close proximity to reservoirs undoubtedly impacts the State's water quality and supply. Timber production has steadily declined on the National Forest Lands with harvest on private lands partially compensating for this loss in production. Disturbance, production, and ownership certainly influence processes impacting water resources.

The USDA Forest Service and the California Department of Forestry and Fire Protection (Cal Fire) have responsibility and authority over forest practices within their respective jurisdictions. Under the Porter-Cologne Act, the State and Regional Water Boards have a responsibility to regulate discharges of waste from both federal and non-federal activities. The Water Boards' forest activities program addresses NPS generating activities including: timber harvest, road management, recreation (e.g., off-highway vehicles), vegetation management, fire suppression, fuels management, and livestock management.

Over the last several decades the Forest Service, Cal Fire, and the Water Boards have sought to implement a coordinated system of regulations which maintain, preserve, and enhance water resources from the impacts of forest activities. The Forest Service and Cal Fire require NPS pollution controls; otherwise referred to as best management practices, for timber harvest projects they permit. Since the NPS Implementation Policy was promulgated in 2004, four Regional Water Boards have adopted one or more permits (e.g., WDRs or waivers of WDRs) for timber harvesting activities. These permits rely in large part on the outside agency's processes to furnish the project documentation or elicit the details necessary to determine eligibility for existing permit coverage. Projects with multiple permitting requirements necessitate interagency coordination. There have been a number of recent efforts to address inter-agency processes (Interagency Mitigation and

Monitoring Project - 2008, USFS BMPEP training - 2009, Redding Pilot Project - 2012, National Environmental Policy Act, California Environmental Quality Act (CEQA) training for U.S. Forest Service Projects - 2013 & 2014). The Forest Activities Program is undertaking development of a permit / activity tracking and reporting system and an assessment of how best to integrate training, particularly Water Board staff, to ensure improved coordination leads to sustainable water quality protection and restoration. Of particular relevance to the NPS 6-year plan is the coordination work being conducted to address the requirements of AB1492 (see SW6.1 needs discussion below).

## 2. Initiatives

### *a. Initiative SW6.1: Coordinate Forest Activities Program Information Management System*

#### Needs Statement

In September 2012, Assembly Bill (AB) 1492 instituted a number of new performance measure reporting requirements for the State's timber harvest regulatory programs (Public Resources Code section 4629.9 et seq). As part of the reporting requirements both administrative and ecological performance measures are required to be developed. The California Natural Resources Agency (CNRA) and the California Environmental Protection Agency (Cal EPA) have the primary responsibility for the development of the full scope of ecological performance measures, monitoring, and data management of concern to the agencies and the public under AB 1492. The Ecological Performance Measures Working Group will take the lead in planning and conducting this work. The work of the Ecological Performance Measures Working Group will be closely linked with its sister AB 1492 entity, the Data and Monitoring Working Group. SW4.2, Figure 3 provides a graphical representation of how the groups work together. Forestry Related Coordination efforts are further discussed in SW42 Inter- and Intra-agency Coordination, Table 4.

Some of these new requirements can only be supported by State and Regional Water Board generated data. Much of the data needed is currently distributed across numerous databases making the analysis and organization of such data laborious and often incomplete. In addition the Assembly Bill 1492 performance measure reporting calls for the simplification of the collection and use of critical data and directs the State agencies involved (e.g., Water Boards, Cal Fire, Cal Fish and Wildlife) to identify and implement improvements between State agencies. Under the present conditions the Forest Activities Programs does not have adequate data management support to efficiently serve the information needs internally and externally.

The Forest Activities Program annually reviews and permits hundreds of projects covering hundreds of thousands of acres. In order to identify and implement process improvements and maintain agency reporting transparency, the State Water Board, in cooperation with the Regional Water Board program staff, has initiated a comprehensive review of data management needs. This assessment is essential to identifying and implementing necessary administrative efficiencies, tracking mitigation and management practice effectiveness, and long term data management for performance measures relevant to demonstrating water quality improvement.

### *Goals and Objectives*

The goals and objectives of this initiative are to:

Goal SW6.1.01: Leverage information resources across agencies that manage and regulate forest lands to identify and implement business process improvements.

Objective SW6.1.01: Quantify expected and actual reduction of staff time spent on data input and program reporting.

Objective SW6.1.02: Provide program staff and managers with a data management system that ensures data quality and readily accessible program activity queries.

Objective SW6.1.03: Identify current data management capacities and data gaps to track performance measures with water quality outcomes.

### *Initiative Description*

Through this initiative a Forest Activities Program information management system (Forestry Information System) will be developed consistent with the requirements of the CA Technology Department. During the design and development process the State Water Board's Forest Activities Program coordinator (Forestry Program Coordinator) will work closely with the Regional Water Board forestry programs and other State programs involved in the Assembly Bill 1492 so that the tracking and reporting needs are adequately addressed.

### *Proposed Activities*

The following activities are proposed:

Activity SW6.1.01: Collect and organize relevant information for water business processes in the review and permitting of timber harvest activities.

Activity SW6.1.02: Secure funding and implement necessary information system solutions.



Activity SW6.1.03: Assess Water Board data systems capacity to meet Regional Water Board and annual legislative reporting requirements.

### Performance Measures

The following performance measures are proposed for this initiative assuming necessary funding is available:

Performance Measure SW6.1.01: Initial inventory and status of Forest Activities Program data management systems at the State and Regional Water Boards by 2013.

Performance Measure SW6.1.02: Submit budget change proposal or discretionary fund request to implement identified information system improvements 2015.

Performance Measure SW6.1.03: Document workflow process and all relevant data input necessary for developed performance measures 2017.

## ***b. Initiative SW6.2: Collaborate and Support Forest Activities Program Training***

### Needs Statement

Over the last decade the need for increased pace and scale of projects to address watershed protection and restoration has grown. At the same time, there have been many regulatory and statutory changes that modify the permitting processes at the Water Boards and other agencies. The Water Boards capacity to address the threat and complexity of projects impacting water quality is limited and thus requires strong working relationships with other management agencies (i.e., Cal Fire and USDA Forest Service, USDOJ Bureau of Land Management). Finally, while waterboard capacity will continue to be limited, the program has recently seen modest growth in staffing authority. In order to develop and maintain more productive relationships to implement watershed protection and support new staff, the Forest Activities Program needs to support interagency training and coordination efforts.

### Goals and Objectives

The goals and objectives of this initiative are to:

Goal SW6.2 Advance staff understanding of the Water Boards' regulatory requirements while facilitating Forest Activities Program staff in learning of other agencies' process drivers and agency directives.

Objective SW6.2.01: Assess and prioritize the feasible training topics directly impacting quality protection and restoration efforts by 2015.

Objective SW6.2.02: Develop a training program plan with outside agency and Regional Water Board input by 2015.

Objective SW6.2.03: Submit a request for ongoing or regular training relevant to Forest Activities Program identified training priorities by 2015.

### *Initiative Description*

In cooperation with NPS-related State Water Board's Division of Water Quality programs (e.g., NPS, stormwater, and CWA section 401 certification, State Water Board Office of the Chief Counsel, and Water Rights) the Forest Activities Program proposes to develop a training curriculum covering: project analysis requirements, permit processes, performance measurement, project implementation and monitoring requirements, and funding related topics. The series would build on a foundational training that has already been provided to Regional Water Board staff.

### *Proposed Activities*

The following activities are proposed.

Activity SW6.2.01: Draft training needs assessment including a summary of the prioritization results.

Activity SW6.2.02: Collect and summarize agency input to training program plan.

### *Performance Metrics*

The performance metrics for this initiative are:

Performance Measure SW6.2.01: 80 percent or greater participation rate of Forest Activities program and water quality staff from outside agencies by 2020.

Performance Measure SW6.2.02: Observed reduction in the number of issues encountered in the review of proposed projects that were specifically addressed by interagency training.

## H. Initiative SW7: Financial Assistance

### 1. Background

The CA NPS Program has and will continue to identify and focus financial resources with an emphasis on targeting CWA section 319(h) and other funds to the highest priority activities. New guidelines recognize the annual variability in appropriation for the CWA section 319 program, and require a set aside of at least 50 percent of a state's allocation for projects that implement watershed based plans. The goal of this requirement is to ensure that an appropriate balance between implementation and other important planning, assessment, management, and statewide NPS programs and projects. These efforts will bring a balance between planning, staffing, statewide actions, and project implementation that best utilizes resources which will deliver measurable water quality results. If the level of a state's match funding reaches the amount of funding provided through the CWA section 319(h) program, the state is allowed to be more flexible as to how the federal funding is spent, within the requirements of the NPS Guidance (e.g., Section IX. G).

The CA NPS Program annually receives approximately \$4 million of CWA section 319(h) funding to support projects that implement watershed based plans to address water quality problems in surface water and groundwater. The goal of these projects is to restore these waterbodies. The projects eligible for funding must satisfy certain criteria specified in the solicitation. The projects must be: (1) located in a watershed that has a nine-element watershed-based plans, that may rely on an adopted or nearly adopted TMDL (e.g., adopted by the Regional Water Board) and a suite of plans that together meet the requirements of a Nine Element Plan and (2) identified in the Regional Water Board's NPS Program Preference List (NPS Program Preference List) for the applicable solicitation year. This list must be consistent with the priorities (e.g., pollutants or pollutant-waterbody combinations) described in the CA NPS Program Implementation Plan in effect.

As previously discussed in Initiative SW2, the State and Regional Boards will be coordinating with stakeholders to identify, verify and as necessary assist in development of nine-element watershed-based plans to facilitate restoration projects in the future. As such, the state also supports planning project (also identified in the Program Preference List) intended to fill "element gaps" identified in previously reviewed nine-element watershed-based plans or provide pre-implementation information necessary for "shovel-ready" projects (e.g., design plans, permit approvals, etc.).

Project proposals are solicited through a statewide CWA section 319 request for proposal (CWA section 319 (RFP) process. The solicitation process is generally conducted in two phases - the concept proposal phase and the full proposal phase. The application process is facilitated through the on-line [Financial Assistance Application Submittal Tool](#) operated by the State Water Board's Division of Financial Assistance (Division of

Financial Assistance). In the concept proposal phase, the applicant is requested to address specific questions developed by the CA NPS Program. These questions provide the reviewer with a general overview of the project and how it: (1) conforms to the priority implementation actions identified in the applicable nine-element watershed-based plan (and TMDL); (2) coordinates with other related water quality improvement efforts in the watershed; (3) implements nine-element watershed-based plan actions that achieve the water quality goals for the watershed; and (4) is identified as a priority in the NPS Program Preference List. Special consideration is also given for projects that address environmental justice and that benefit areas that meet the California definition of a disadvantaged community.

The applications are then reviewed by a panel consisting of one representative from each of the nine Regional Water Boards, the State Water Board, and U.S.EPA (Review Panel). The Review Panel selects the concept proposal applicants that will be asked to submit an expanded proposal in the full proposal phase. The full proposal phase consists of submitting additional and expanded concept proposal information through a series of required narrative and table attachments outlined in the full proposal solicitation notice. The full proposal must include the following project information: (1) a narrative describing the project and project area; (2) how the project addresses the requirements of the TMDL and nine-element watershed-based plans; (3) detailed task and line item budgets; and (4) commitment letters from the entities providing the required 25 percent match for the project (except individual septic system upgrades which require a minimum match of 75 percent). The full proposals are then reviewed and ranked by the Review Panel and a list of recommended projects is sent to the State Water Board Executive Director (Executive Director) for approval. The two-phase process including development and approval of the final list of recommended funding projects by the Executive Director takes approximately ten months. Typically, the solicitation process for a CWA section 319 grant runs from August (of the previous year) through April of the year to correspond with when the grant funding is generally received from U.S. EPA. For more information, see the current CWA section 319 grant solicitation. Currently, there is no specific outreach to potential project applicants for the CWA section 319(h) funding other than publication on the State Water Board's NPS Program website, DFA's Financial Assistance Funding – Grants and Loans webpage and “word of mouth” from Regional Water Board staff.

Since the funding needs to address the State's NPS problems far exceed the resources provided under CWA section 319, the California NPS Program will continue to leverage other federal and State funding sources for planning and implementation projects. The NPS Program Guidelines encourage an increased emphasis on coordination with U.S. Department of Agriculture Farm Bill (Farm Bill) programs as a way to leverage water quality investments. The State and Regional Water Boards have been and will continue to establish and enhance coordination with the Farm Bill conservation programs to yield water quality improvements. In addition, the State Water Board's CWA State Revolving Fund (CA State Revolving Fund) and various bond funds are also be used for NPS-related projects.

The CA State Revolving Fund NPS expanded use projects require the applicants for these funds to identify the priority in the NPS Program Implementation Plan that the project will address and explain how that project satisfies the identified need. Additional State project funding sources that can be leveraged include, but are not limited to, the following: (1) CA Pesticide Regulation funding for [integrated pest management grant projects](#) and (2) CA Water Resources grant funding for [integrated regional water management projects](#) (Integrated Water Management Projects).

The California Financing Coordinating Committee (CA Financing Committee) was formed in 1998 and is made up of seven funding agencies. CA Financing Committee members facilitate and expedite the completion of various types of projects by helping to combine the resources of different agencies. Project information is shared between members so additional resources can be identified. CA Financing Committee members conduct no-cost funding fairs (CA Funding Fairs) each year to share information between programs and educate the public about the different financial and technical resources available for funding for both point and NPS projects. The CA Financing Committee member agencies include the State Water Board, California Division of Drinking Water (DDW), United States Department of Agriculture, California Department of Housing and Community Development, CA Water Resources, California Infrastructure and Economic Development Bank, and the United States Bureau of Reclamation.

## 2. Initiatives

The following initiatives are presented to address the needs of the CA NPS Program with respect to financial assistance:

### *a. Initiative SW7.1: CWA section 319(h) Annual Project Grant Funding*

#### Needs Statement

The guidelines for the CWA section 319(h) RFP (RFP Guidelines) are reevaluated annually in an ongoing effort to improve the program and most effectively utilize the limited resources available. For the CA NPS Program, effectively utilizing these limited CWA section 319(h) resources means to: (1) improve the efficiency of the CWA section 319(h) RFP selection process; (2) maximize cost-benefit investments; (3) assist disadvantaged communities in meeting their water quality goals; and (4) demonstrate water quality improvements through monitoring, reporting consistent with the requirements of the CA NPS Program (see Initiatives SW2:Nine-element Watershed-Based Planning and SW9: Water Quality Improvement Reporting). To that end, the CA NPS Program will improve the process to: (1) ensure that the nine-element watershed-based plans and/or TMDL implementation plans that determine

the most cost effective management measures and management practices needed to achieve the required load reductions are developed and utilized; (2) improve the application to better address environmental justice and disadvantaged communities; and (3) develop a strategy to incorporate water quality monitoring in projects to demonstrate water quality improvements.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal SW7.1.01: More effectively utilize the resources associated with both the selection and implementation of projects through the CWA section 319(h) RFP process.

Objective SW7.1.01: Streamline the CWA section 319(h) RFP selection process to conserve resources for both the applicants and the Review Panel.

Objective SW7.1.02: Use the CWA section 319(h) project funding more effectively to meet the water quality needs of California's disadvantaged communities.

Objective SW7.1.03: Use the CWA section 319(h) project funds more effectively to both generate load reductions and demonstrate CA NPS Program success.

Objective SW7.1.04: Increase outreach to potential CWA section 319(h) project applicants.

### *Initiative Description*

Through this initiative the CA NPS Program will continue to upgrade the RFP Guidelines with an emphasis on systematically addressing the above goal and objectives. Improvements to the selection process and ultimately load reductions will result from enhancing nine-element watershed-based plan to better: (1) identify the priority areas within the watershed for implementation; (2) identify the management measures and management practices that will need to be utilized in those priority areas to achieve required load reductions; (3) determine the costs associated with implementing the management measures and management practices identified; and (4) design a monitoring system to evaluate the effectiveness of the implementation efforts over time.

In the current California CWA section 319(h) RFP process, considerable time and effort are expended by the applicants in developing and the Review Panel in assessing the project proposals with respect to its context in the overall effort to improve water quality in the watershed. A State-verified nine-element watershed-based plan would eliminate the need for this information to be included in the application, as the

priority implementation projects would already be identified. The level of effort to annually develop NPS Program Preferences would be reduced, since the Regional Water Board could reference those watersheds and the corresponding nine-element watershed-based plans identifying preferred projects. With a monitoring system designed in the nine-element watershed-based plan, the use of CWA section 319(h) funding to provide supplemental monitoring to meet CA NPS Program reporting requirements could also be justified. As such, the process identified in the previous section for CA NPS Program approval of nine-element watershed-based plans and their subsequent use in the CWA section 319(h) RFP process should result in efficiencies for both the applicants and the Review Panel, while ensuring selection of the most cost effective projects.

The RFP Guidelines offer minimal relief from the required 25 percent project match and need to be revised to better serve the State's disadvantaged communities. The reduction formula currently used is a remnant of previous State bond funding solicitation efforts through the Division of Financial Assistance. Various methods of correcting or eliminating the formula currently used to be consistent with other funding programs in the Division of Financial Assistance will be evaluated and implemented to ensure that small and/or disadvantaged communities have access to the resources needed to restore and protect water quality and public health. In addition, opportunities to increase the potential applicant pool for CWA section 319(h) projects will be evaluated and implemented by State Water Board NPS Program, including involvement in the CA Financing Committee funding fairs and the development and use of electronic mailing lists.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW7.1.01: Work with the Round Table to develop and implement a strategy to supplement using the current method of establishing annual NPS Program Preferences to include using State Water Board verified nine-element watershed-based plans consistent with the schedule and approval numbers established in initiative SW3.1.

Activity SW7.1.02: Evaluate methods to adjust the formula currently used to determine the match requirement for disadvantaged communities and modify to improve access to funding resources and be consistent with other funding programs in the Division of Financial Assistance.

Activity SW7.1.03: Identify and implement ways to increase outreach to potential CWA section 319(h) project applicants (e.g., through attendance at CA Funding Fairs and direct e-mail contact through development and use e-mail lists).

Activity 7.1.04: Identify changes necessary in the Grant Guidelines to better support appropriate source water protection.

### Performance Measures

The following performance measures are proposed for this initiative:

Performance Measure SW7.1.01: Strategy to transition from using the current method of establishing annual NPS Program Preferences to using State Water Board verified nine-element watershed-based plans by 2016.

Performance Measure SW7.1.02: Examination and modification, as necessary, of the formula for determining the match requirement for disadvantaged communities by 2015.

Performance Measure SW7.1.03: Utilize a questionnaire to all applicants for CWA section 319(h) funding to determine how they became aware of the funding and their recommendations for enhanced outreach (begin in 2016 and continue annually).

Performance Measure SW7.1.04: Revised Grant Guidelines to better support source water protection activities by 2016.

### ***b. Initiative SW7.2: Identifying and Coordinating with Other State and Federal NPS Programs to Leverage Funding Opportunities***

### Needs Statement

Over the last 6 years the amount of federal funding that the State Water Board has received in order to implement CA NPS Program has decreased from a high of \$13.10 million in 2007 down to \$7.92 in 2013. Although there has been a small increase in funding in 2014, there remains a need to coordinate and focus sources of NPS-related project funding in a watershed to improve water quality, monitor for effectiveness, and report resulting improvements. As such, the CA NPS Program needs to develop and implement a strategy to utilize available authorities and coordinate resources on the local, regional and statewide level so that CA NPS Program targeted water quality improvement goals and objectives can be met. Complimentary activities, such as technical and financial assistance and resources are available through many groups and agencies which could potentially serve as additional State match for the CWA section 319 NPS Program. If the level of State match funding reaches the amount of funding provided through the CWA section 319



Program, the CA NPS Program could be more flexible as to how the federal funding was spent. Where applicable, implementation projects with funds serving as match for CWA section 319(h) required load reduction information to be entered into GRTS.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal SW7.2.01: Increase coordination with and resulting NPS-related funding from other local, regional, state and federal groups and programs.

Objective SW7.2.02: Develop a strategy to leverage NPS-related funding sources for planning and implementation projects supported from other local, regional, state and federal groups and agencies other than CWA section 319 to demonstrate and report on water quality improvements.

Objective SW7.2.03: Increase the amount of NPS-related funding from local, regional, state and federal sources other than CWA section 319(h), to advance water quality improvements in selected CA NPS Program priority watersheds.

Objective SW7.2.04: Improve and enhance coordination with the Division of Drinking Water to address source water protection as part of NPS grant program funding priorities.

### *Initiative Description*

The CA NPS Program staff will continue to work with other funding sources to identify areas where program priorities can be coordinated. A strategy will then be developed in order to continue the coordination provided that the funding sources are long-term. These sources of planning and implementation projects funding could include, but are not limited, to: (1) CA Clean Water and Drinking Water State Revolving Fund (Division of Financial Assistance); (2) CA Integrated Pest Management Projects (CA Pesticide Regulation); (3) Integrated Water Management Projects (CA Water Resources); (4) federal National Water Quality Initiative (U.S. Department of Agriculture Natural Resources Conservation Service) (Resource Conservation Service) including Environmental Quality Initiatives Program; (5) federal Conservation Stewardship Program (Resource Conservation Service), and (6) Prop 1, (7) Timber Regulation and Forest Restoration Funds (California Natural Resources Agency), and (8) Coastal Conservancy Funds. As appropriate, implementation project information consistent with CWA section 319(h) projects will be entered into the federal GRTS.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW7.2.01: Identify other groups and/or agencies and organizations doing work in NPS priority watersheds for potential coordination and leveraging and share information at NPS Roundtable meeting and on the CA NPS Program website.

Activity SW7.2.02: Develop a strategy to coordinate with other entities to develop possible collaboration and leveraging opportunities and share information at NPS Roundtable meeting and on the CA NPS Program website.

Activity SW7.2.03: Increase the number of NPS-related priority watershed projects which collaborate with other local, regional, state and federal entities, or foundations, to leverage funding for projects that will provide load reductions. Capture and input these load reductions into GRTS.

Activity SW7.2.04: Coordinate with the Division of Drinking water to identify additional opportunities for program leveraging that are available with the move of the drinking water program to the State Water Resources Control Board

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW7.2.01: Identify alternative NPS-related local, regional, state and/or federal resources identified and CA NPS Program website updated with active links by 2016.

Performance Measure SW7.2.02: Develop strategy to coordinate resources with other local, regional, state and federal entities completed by 2017.

Performance Measure SW7.2.03: Secure alternative local, regional, state and/or federal resources to leverage CA NPS Program targeted watersheds greater than or equal to 30 percent (by December 2016), 50 percent (by 2017), 70 percent (by 2018) and 100 percent (by 2019) percent of the total CWA section 319(h) Grant allocation.

Performance Measure SW7.2.04: Continue to implement the strategy to identify and leverage local, regional, state and/or federal resources for the CA NPS Program targeted watersheds through 2020.

## I. Initiative SW8: Monitoring

*California recognizes, and is committed to, addressing the need for a more coordinated monitoring strategy. This can provide a more targeted monitoring approach, program and project assessment and the reporting of the associated outcomes.*

### 1. Background

Water quality monitoring and assessment programs are designed to answer four critical, management questions. The first of these questions is to determine the basic condition of the waterbody as it relates to its designated beneficial uses. What are the beneficial uses of the waterbody and are they being impacted? This is referred to as “*conditions monitoring and assessment*”. If beneficial uses are found to be impaired, the next question is what are the primary stressors causing the impairment? The monitoring and assessment used to answer this question is referred to as “*stressor identification monitoring*”. Once the primary stressors have been identified, the next question is to identify the major sources of the primary stressors. This is referred to as “*source identification monitoring*”. The fourth and final critical management question is determining the effectiveness of the actions being implemented. Are the management actions being implemented achieving the desired water quality improvement or protection goals? This is referred to as “*performance monitoring*”. The first 3 are typically addressed by the state's CWA 303(d) lists and in TMDL development. For purposes of implementation, the most applicable of the four types of monitoring and assessment is “*performance monitoring*”. How effective are implementation efforts in restoring and/or protecting surface water and groundwater quality?

The State and Regional Water Boards are implementing robust surface water and groundwater monitoring and assessment programs. The surface water monitoring and assessment programs are under the State and Regional Water Boards SWAMP located in the State Water Board's Office of Information Management and Assessment (OIMA). The corresponding program for groundwater is the Groundwater Ambient Monitoring and Assessment Program (GAMA) located in the Division of Water Quality. Through these programs the Water Board's strive to answer the four critical management questions previously identified. The general activities of these monitoring and assessment programs are described in Table 7.

With respect to surface waters, the Water Boards require most of the wastewater dischargers and large municipal stormwater dischargers to conduct surface water and/or receiving water monitoring. Small municipal stormwater dischargers began monitoring surface water under the new permit adopted in July 2013. All of the TMDLs that the

Water Boards have adopted include surface water monitoring requirements. The number of adopted TMDLs (and associated monitoring requirements) will increase significantly in the coming years as the remaining listings for water quality impairment are addressed. The Water Boards regulate nearly over 50,000 agricultural operations (see Table 5) that are required to monitor water quality at approximately 118 sites on a monthly basis. Monitoring is also required by numerous other programs, such as WDRs, water quality certifications, Water Code section 13267 orders, enforcements orders, and clean water grants. And new regulatory programs - such as Biological Objectives and the Statewide Mercury Program - are currently being developed that will likely require additional new monitoring. Other entities - such as federal agencies, other state agencies, universities, non-government organizations (NGOs), and citizen monitors - conduct surface water monitoring.

The Water Board needs to inventory, understand, and evaluate monitoring questions and designs; understand met/unmet and current/future monitoring needs; work with programs and stakeholders to prioritize and integrate monitoring; make recommendations for monitoring designs; ensure consistency by applying SWAMP quality assurance and data management tools to all monitoring; ensure data are stored, managed and made readily available; and ensure data are assessed, integrated and turned into information to support management decisions. SWAMP possesses the expertise to foster and/or lead the coordination of surface water monitoring efforts, but it currently has insufficient resources to do so.

Table 7. Summary of Water Board Water Quality Monitoring Programs

Program	Description
<p>Surface Water Ambient Monitoring</p>	<p>The SWAMP was created in 2000 in response to the Legislature’s mandate to develop a comprehensive program to monitor ambient water quality. The program was designed to reach beyond the federal CWA requirements and coordinate a statewide monitoring and assessment framework to improve reporting of the Water Boards’ efforts and successes in preserving, enhancing, and restoring California’s waters.</p> <p>SWAMP’s mission is to provide resource managers, decision makers, and the public with timely, high-quality information to evaluate the condition of waters throughout the State. This is accomplished through carefully designed, externally reviewed monitoring programs, and by assisting other entities statewide in the generation of comparable data that can be brought together in integrated assessments. These assessments are then used to provide answers to current management questions.</p> <p>The three core implementation priorities of SWAMP are: (1) monitoring and assessment; (2) infrastructure and tools; and (3) coordination. These priorities are addressed through the following efforts.</p> <p>1. Monitoring and Assessment</p> <p><a href="#">Statewide Bioaccumulation Monitoring</a> is used to address whether fish found in California's streams, lakes and coastal areas are safe to eat by measuring contaminant concentrations in fish tissue.</p> <p><a href="#">Statewide Bioassessment Monitoring</a> assesses the health of streams and rivers by using established methodology to survey the aquatic life (insects and algae) living in a waterbody and compare results to expected reference conditions for that location.</p> <p><a href="#">Statewide Stream Pollution Trends Monitoring</a> determines trends in sediment toxicity and sediment contaminant concentrations in selected large rivers throughout California and relates contaminant concentrations to watershed land uses.</p>

Program	Description
	<p><a href="#">Regional Monitoring Programs</a> are implemented by each Regional Water Board to address regional water quality concerns.</p> <p><a href="#">Special Studies</a> are implemented to investigate water quality concerns not addressed by statewide or regional monitoring programs.</p> <p>2. Infrastructure and Tools</p> <p>The SWAMP develops, implements and maintains a monitoring infrastructure and associated tools. Key components of this infrastructure include quality assurance - quality control protocols, database and data management tools, water quality indicators, activities to provide guidance and facilitate the production of data of known and documented quality that is comparable within the SWAMP methods, and standard operating procedures (<a href="#">SWAMP Tools</a>). SWAMP conducts these with partners in other Water Board units and in the larger California monitoring community.</p> <p>3. Coordination</p> <p>SWAMP leverages limited resources by coordinating with other water quality monitoring efforts on a local, regional and statewide level. It also works with partners to coordinate monitoring efforts among many groups and agencies, and to facilitate the use of data from many sources in statewide assessments (<a href="#">SWAMP Partners</a>).</p>
California Environmental Data Exchange Network	<p>The <a href="#">CEDEN</a> provides a central location, designed to facilitate integration and sharing of data collected by many different participants. The CA Data Exchange Network’s mission is to simplify and improve access to California’s water resource monitoring data by providing services that integrate, standardize, and display data from a diverse array of monitoring and data management efforts. It also serves as the venue through which SW Monitoring Program data are made available to the public.</p> <p>The goals of the CA Exchange Network are to incorporate diverse data resources into a standardized integrated data sharing network and provide direct public access to monitoring data in an easily downloadable form.</p>

Program	Description
<p>California Water Quality Monitoring Council</p>	<p>California Senate Bill 1070 (Kehoe, 2006) required that the Cal EPA and the CA Resources Agency enter into a memorandum of understanding establishing the <a href="#">California Water Quality Monitoring Council</a> (CA Monitoring Council). The scope of monitoring considered by the CA Monitoring Council is called out in the legislation as water quality and associated ecosystem health. Consequently, the memorandum of understanding discusses healthy ecosystems, water quality, wildlife populations, and habitat. This led the CA Monitoring Council to define its scope to include surface waters (e.g., streams, rivers, lakes, wetlands, and the coastal zone) along with their related ecosystems, wildlife populations and habitats, as well as groundwater.</p> <p>Actions of the CA Monitoring Council are advisory to the Secretaries of Cal EPA and the CA Resources Agency, who can implement those recommendations through their departments, boards, commissions, and conservancies. The CA Monitoring Council’s authority consists of its ability to set examples, offer persuasive recommendations, and encourage member agencies and organizations to participate. It does not have authority to set standards.</p> <p>The CA Monitoring Council leverages existing monitoring, assessment and reporting programs to implement its vision through outreach, relationship building, and coordination with other State, federal, and local agencies involved in monitoring and assessment. A key component of the CA Monitoring Council’s vision for enhancing the State’s system for water quality monitoring, assessment and reporting is the development of a single point of entry through a set of internet portals <a href="#">My Water Quality</a> that connect decision makers and the public with water quality and related ecosystem health information. Each portal is developed by an expert stakeholder workgroup and includes interactive maps and monitoring data that focus on a specific water quality or aquatic ecosystem theme. The goal of the portal is to convey relevant and timely information about the thematic area, in a variety of spatial and temporal scales, to agency decision makers, legislators, and the public.</p>

Program	Description
<p>Groundwater Ambient Monitoring and Assessment</p>	<p>The GAMA is California's comprehensive groundwater quality monitoring program. The main goals of this program are to improve statewide groundwater monitoring, and to increase the availability of groundwater quality information to the public. There are currently four active projects inGAMA. These projects are:</p> <p><u>GeoTracker</u></p> <p>The <a href="#">GeoTracker</a> groundwater information system integrates and displays water quality data on an on-line interactive, searchable map. Its analytical tools and reporting features help users assess groundwater quality and identify potential groundwater issues. GeoTracker GAMA contains over 125 million data records from different sources such as cleanup sites, well logs, State Water Board - Division of Drinking Water public supply drinking water quality, water levels from CA Water Resources, CA Pesticide Regulation, U. S. Geological Survey, and Lawrence Livermore National Laboratory (Livermore Laboratory).</p> <p><u>Priority Basin Project</u></p> <p>The <a href="#">Priority Basin Project</a> assesses groundwater basins that account for over 95 percent of all groundwater used for public drinking. Monitoring and assessments are on a ten-year cycle, with trend monitoring every three years. Common contaminants regulated by the State Water Board - Division of Drinking Water, and unregulated chemicals such as pharmaceuticals, chemicals of emerging concern, isotopes, and age-dating tracers are tested, most at extremely low detection limits. The U. S. Geological Survey is the project technical lead with analytical support from Livermore Laboratory.</p> <p><u>Domestic Well Project</u></p> <p>Domestic well water is for private use and consumption, typically by single family homeowners. Although its quality is not regulated by the State, private domestic well water is a concern, to local health and planning agencies, and to State agencies in charge of maintaining water quality. The <a href="#">Ground Water Monitoring Program domestic well project</a> samples domestic wells for commonly detected chemicals, at no cost to well owners who volunteer. Results are shared with the well owners and used by the program to evaluate the quality of groundwater used by private well owners. The Domestic Well Project</p>



Program	Description
	<p>has sampled six <a href="#">county focus areas</a> in California as of 2011.</p> <p><a href="#">Special Studies Projects</a></p> <p>The Livermore Laboratory has conducted several groundwater special studies covering nitrate, wastewater, and groundwater recharge. Scientists at the Livermore Laboratory have applied Tritium-Helium age dating techniques, evaluated isotopic composition of water and nitrate molecules to determine source(s), and determined the presence of noble gases to understand recharge source and condition. Several sophisticated computer models have been developed for these purposes. The University of California (Davis) has also contributed to these special studies.</p>

## 2. Initiatives

### *a. Initiative SW8.1: Defining and Prioritizing Resource Needs for Targeted Watershed Monitoring*

#### Needs Statement

A critical element of the CA NPS Program is to assess program and project performance and document progress using environmental and functional measures of success. Based on this evaluation, the CA NPS Program can then use adaptive management to make appropriate short- and long-term modifications to address needs and improve program effectiveness. Environmental measures of success are determined through monitoring at a scale that allows for determining the effectiveness of various implementation actions. Watershed-oriented monitoring networks can be designed and implemented to answer critical management questions that make use, to the extent possible, of existing monitoring efforts for both non-point and point sources of pollution. As such, watershed monitoring networks are needed to determine the effectiveness of NPS Program implementation activities, provide information to drive adaptive measures as need indicate and obtain the necessary water quality information available to de-list the waterbody-pollutant combinations from the CWA section 303(d) list.

To that end the CA NPS Program will coordinate and leverage other local, regional, state and/or federal monitoring efforts and programs to address data gaps identified in the targeted NPS waterbody-pollutant combinations. These linkages can aid in the focusing of extremely limited resources to address targeted waters through assessments that determine the effectiveness of TMDL and/or other alternative implementation actions and water quality protection strategies. In developing a new strategy to identify data gaps, compile monitoring needs and then communicating those needs to other resource entities the CA NPS Program will be more efficient and effective in focusing limited resources, evaluating program success, adapting to changes and reporting on improvements to water quality and protection.

Improving the integration of monitoring in these targeted waterbody-pollutant combinations with other monitoring programs will provide the basis for gathering the information needed to fully assess targeted waters, to develop TMDLs or other restoration/protection plans, and/or to determine progress in restoring or protecting these waters. Integration with other programs would also inform the selection of the approaches that afford the best opportunity to restore or protect water quality, as well as facilitate the implementation of the pollutant reduction or protection goals of the selected approaches.

OIMA provides important resources for Water Boards, water resource managers, the Legislature, and the public by providing information about all of California's water resources. OIMA has the systems and expertise to meet the monitoring needs, but only as resources are available to do so. The current monitoring needs at the regional, watershed, and water body scale far exceed the existing resources, with increasing costs for monitoring and addressing human health issues needed.

The benefits of the data and tools already provided by OIMA will be increased significantly as the Water Board managers direct the Water Board programs to use them. The CA NPS program will promote inter-program consistency, data usability, and data comparability by encouraging NPS-related programs to use these tools and expertise.

Although OIMA has many mature and robust monitoring programs, there are some improvements that can be made. One important aspect which is being addressed is the creation of a feedback mechanism that would enable the CA NPS Program and others to recommend and priorities.

The CA NPS Program will work closely with OIMA to develop and participate in a deliberative process for addressing targeted NPS monitoring needs with discretionary contract funds. The Water Board Executives - Deputy Management Committee will be working to provide a process to maximize coordination with OIMA, and ensure the comparability and usability of targeted data collected by local, regional, state and/or federal groups and agencies. This process will include compiling and prioritizing the many monitoring needs, defining specific coordination tasks, determining resources needed to accomplish those tasks and evaluating options for completing the highest priority tasks. The CA NPS Program will achieve successful integration and promotion of their needs in targeted watersheds through a continued coordination between the CA NPS Program Roundtables and/or the creation of a separate Monitoring Roundtable, within which the CANPS Program and other Water Board Programs would actively participate.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal SW8.1.01: Expand and improve monitoring coordination with others, in particular, related Water Board programs (e.g., NPDES Irrigated Lands, TMDL, etc.) by supporting the designing and implementation of multi-purpose water quality monitoring networks that address multiple water quality management questions which includes the documenting of progress toward achieving water quality improvements in targeted NPS waterbody-pollutant watersheds.

Objective SW8.1.01: Develop a specific definition of monitoring "coordination" and articulate the coordination tasks to be conducted (with available funds) by staff at the

State and Regional Water Boards (Water Board management (e.g., Deputy Management Committee OIMA lead).

Objective SW8.1.02: Establish a process to compile coordination needs, set priorities, and evaluate funding options for implementing the highest priority coordination tasks (Deputy Management Committee OIMA lead).

Objective SW8.1.03: Identify performance monitoring needs/gaps and resource needs for the CA NPS Program Plan targeted waterbody-pollutant combinations (CA NPS Program lead).

Objective SW8.1.04: Implement annual coordination needs assessment process with Water Board programs including working with the Division of Drinking water to identify source water protection monitoring needs. Share these needs/gaps with other programs and watershed partners to coordinate monitoring efforts among local, regional, state and/or federal agencies, and facilitate the use of data from many sources through CA NPS Program and other program Roundtables (CA NPS Program lead).

Objective SW8.1.05: Facilitate coordinated monitoring in watersheds, and provide, to the extent feasible, CWA section 319(h) resources to fill monitoring gaps within targeted waterbody-pollutant combinations.

Objective SW8.1.06: Consider the expansion of performance monitoring to include the validating management plans and/or practices in which models or estimates have been used or developed for Lake Tahoe, Klamath River, and the Napa River.

### *Initiative Description*

Working with the Water Board management and other Water Board surface water quality programs, the Water Boards will develop a process for identifying and prioritizing coordination needs for surface water quality monitoring. As part of this process, the CA NPS Program will identify performance monitoring needs/gaps for the CA NPS Program targeted watersheds and identify resource needs.

### *Proposed Activities*

The following activities are proposed to be completed in coordination with SOIMA and other related Water Board programs:

Activity SW8.1.01: Develop a strategy to address monitoring data gaps for the purpose of ensuring sufficient data for de-listing waterbodies from the CWA section 303(d) list under the current listing policy.

Activity SW8.1.02: Define “monitoring coordination” and articulate the coordination tasks to be conducted (with available funds) to the State and Regional Water Boards and the Division Management Committee.

Activity SW8.1.03: For water quality monitoring coordination, develop a process to: (a) compile coordination needs; (b) establish priorities; and (3) evaluate funding options for implementing the highest priority coordination tasks. Subsequent sequencing of this effort will be consistent with the controlling timeframe for funding Water Board funding decisions such as Water Board “discretionary funding” (Division Management Committee lead).

Activity SW8.1.04: Identify performance monitoring gaps and resource needs for the CA NPS Program Plan targeted waterbody-pollutant combinations (CA NPS Program lead).

Activity SW8.1.05: Determine if there is available funding for the expansion of performance monitoring to validate management plans and/or practices in which models or estimates have been used or developed for Lake Tahoe, Klamath River, and the Napa River.

### *Performance Measures*

The following performance measures are proposed for this initiative:

Performance Measure SW8.1.01: Strategy to identify and, where funding is available, address monitoring data gaps for the purpose of de-listing waterbodies from the CWA section 303(d) list by 2016.

Performance Measure SW8.1.02: Identify coordination tasks to be conducted (with available funds) to the State and Regional Water Boards and the Division Management Committee by 2016.

Performance Measure SW8.1.03: Identification of performance monitoring gaps and resource needs for the CA NPS Program Plan targeted waterbody-pollutant combinations (CA NPS Program lead) by 2016.

Performance Measure SW8.1.04: Determined if there is available funding for the expansion of performance monitoring to include the possibility of validating management plans and/or practices (should resources be available) in which models or estimates have been used or developed for Lake Tahoe, Klamath River, and the Napa River (CA NPS Program lead) by 2017.

## J. Initiative SW9: Water Quality Improvement Reporting

### 1. Background

Per U.S. EPA guidance, there are several federal performance measures currently used to demonstrate the success of a state's NPS program relative to water quality improvement. Two of these are Annual Commitment System Measures WQ-10 (Success Stories) and SP-12. Success Stories highlight waterbodies identified by states as meeting the following criteria: (1) they are primarily NPS-impaired; and (2) they have documented water quality improvements. Water quality improvements are demonstrated through the achievement of water quality standards for one or more pollutants sources (e.g., removal from the state's CWA section 303[d] list of impaired waters); measured in-stream reduction in a pollutant; or measured improvement in a parameter that indicates stream health such as increases in fish or macroinvertebrate counts.

SP-12 is used to demonstrate watershed-wide water quality improvements resulting from implementation of the watershed approach. For a watershed to be considered for a SP-12 "water quality improvement" designation, the state must demonstrate that the watershed approach was applied and that water quality has improved for a pollutant-waterbody combination identified in the 2002 CWA section 303(d) listing. Water quality improvement is defined as either a CWA section 303(d) delisting or a demonstration of watershed-wide improvement using valid scientific information for one or more water quality parameters associated with the impairment. This federal water quality improvement measure is limiting in that once a waterbody has been used for one pollutant, it cannot be used for any other pollutant even though water quality may be improving for that as well<sup>2</sup>. For the SP-12 – Phase 1 effort initiated in 2009, the Regional Water Boards identified 23 waterbody-pollutant combinations with the expectation that measureable "water quality improvements" would occur by 2012. These waterbodies were located in areas encompassing 88 - HUC-12 sub-watersheds. A summary of the current status and locations of these initial watersheds is presented at [CA SP-12 Status](#).

For the last five years the State Water Board's Office of Research, Planning, and Performance has developed the California Water Boards' Annual Performance Report ([Performance Report](#)). The report reflects the Water Board's efforts to become a "performance-based" organization. Part of the Performance Report addresses the State's progress in developing TMDLs and the resulting water quality improvements derived from their implementation. The water quality improvements resulting from TMDL implementation are reported through Water Quality Report Cards ([Report Cards](#)). During

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<sup>2</sup> The State Waterboard understands that this is being debated nationally, and there may be additional flexibility in the future for how to report successes.

the development of the Report Card, the Regional Water Boards also provide the CA NPS Program with additional information referred to as “Report Card - Page 2”, that can be used by the NPS Program to develop SP-12 and Success Stories documents. The “Report Card – Page 2” is also being expanded to track TMDL implementation activities.

## 2. Initiatives

### *a. Initiative SW9.1: Development of Streamlined Reporting*

#### Needs Statement

Although the current State and federal water quality improvement reporting requirements are well intended, they are duplicative in that various State programs (e.g., NPS and TMDL) often report on the same waterbody combination in multiple formats (e.g., Success Stories, SP-12 Reports, and Report Cards). In other cases, reports generated for one purpose (e.g. ORPP performance measures) are missing essential information that could allow them to be used to meet multiple reporting needs. As such, the NPS Program, in coordination with U.S. EPA - Region 9 (Pacific Southwest) staff, seek to develop a streamlined reporting format such as the water quality report card format that: (1) combines and thus minimizes the multiple State and federal water quality improvement reporting currently required; (2) simplifies the process for demonstrating water quality improvements; (3) can be used to demonstrate water quality improvement in waterbodies for which a TMDL has not been developed; and (4) documents multiple water quality improvements in a single waterbody and its surrounding watersheds.

The CA NPS Program also needs to continue to demonstrate that its efforts to restore and protect surface water from sources of NPS pollution are successful. To that end the CA NPS Program commits to the goals for Success Stories and Watershed Improvement Reports (SP-12) provided in goals SW9.1.02 and SW1.2.03, in either the current format or a mutually agreed upon water quality report card Format.

#### Goal and Objectives

The goal and objectives for this initiative are to:

Goal SW9.1.01: Develop water quality report card format that can be used by the CA NPS Program to satisfy multiple State and federal reporting requirements.

Objective SW9.1.01: Use existing State water quality reporting requirements, to the extent feasible, to meet multiple federal water quality reporting requirements.



Objective SW9.1.02: Provide flexibility to address multiple pollutants in a single waterbody.

Objective SW9.1.03: Coordinate with U.S. EPA – Region 9 in the development of a streamlined water quality reporting format, updating these at least once every three years

Goal SW9.1.02: Develop at a minimum one Success Story per year with a total of ten Success Stories developed by 2020 consistent with the current U. S. EPA WQ-10 guidance or the streamlined water quality report card format (see Table 17).

Goal SW9.1.03: Demonstrate water quality improvement for a minimum of twelve new water body-pollutant combinations and number of HUC12 watersheds improved by 2020 consistent with the current U.S. EPA SP-12 (Watershed Improvement) guidance or the streamlined water quality report card Format (see Table 17).

### *Initiative Description*

Through this initiative the CA NPS Program will coordinate with U.S. EPA – Region 9 in the development of a CA NPS Program water quality improvement reporting format that can meet multiple State and federal reporting requirements. This process will involve evaluating the current guidance for existing State and federal water quality improvement measures (e.g., State – Report Cards and “expanded Page 2” and federal – SP-12 Reports and Success Stories) and determining where consistency exists. This comparison will then be the basis for integrating water quality improvement reporting requirements into a streamlined format to meet both state and federal reporting needs.

### *Proposed Activities*

The following activities are proposed for this initiative:

Activity SW9.2.01: Develop a matrix comparing the federal guidance requirements for SP-12 Reports and Success Stories with the Report Card plus the “expanded Page 2”.

Activity SW9.2.02: Coordinate with U.S. EPA – Region 9 to develop a streamlined reporting format to meet both state and federal reporting needs.

Activity SW9.2.03. Update the Report cards for Table 17 waters at once every three years to effectively evaluate progress. Based on staggered schedules for waterbodies, a three year cycle will ensure that all waterbodies are evaluated at least once during the 6 year planning horizon and many will be evaluated twice.

### Performance Measures

The following performance measures are proposed for this initiative:

Performance Measure SW9.1.01: Matrix comparing the federal guidance requirements for SP-12 Reports and Success Stories with the Report Card and “expanded Page 2” information, by September 2015.

Performance Measure SW9.1.02: Agreement with U.S. EPA – Region 9 on a streamlined reporting format to meet both state and federal reporting requirements by 2016.

Performance Measure SW9.1.03: Updated report cards for each of the Table 17 targeted waterbodies by 2020.

## V. Regional Water Board Initiatives

### A. Introduction

The Regional Water Boards implement performance-based NPS programs to create healthy, functioning watersheds and groundwater basins through leveraged efforts to generate on-the-ground change. Through documentation of program implementation and analysis of environmental change, the Regional Water Boards evaluate and modify NPS water quality priorities. As in the previous section, the term “initiative” refers to a category of related activities or tasks the Regional Water Boards will be focusing on during the next six years. Although these “initiatives” represent the Regional Water Board’s “subject areas of focus” to advance the NPS programs, they will also continue to advance their programs and water quality by addressing other NPS-related issues in their respective Regions. The NPS initiatives presented for each Region are not intended to exclude Regional Water Board efforts (e.g., early TMDL implementation) outside those focus areas. They are designed to promote a balanced approach that emphasizes Region-specific priorities and State Board NPS program strategies and integrates these with on-the-ground management of individual watersheds.

The Regional Water Board priorities were developed using water quality data, legislative mandates, statutes, regulations, and input from internal and external stakeholders. As part of this priority setting process, the Regional Water Boards must strike a balance between the often times competing demands of promoting the Regional Water Board’s mission to protect, restore and enhance water quality and the need to maintain California’s economic vitality. The Regional Water Boards regularly review their priorities to respond to new information, water quality data, and/or legal changes to make the best and most efficient use of their limited resources.

The progress and success of the Regional Water Board initiatives will be measured using the three levels of CA NPS Program reporting previously identified (see *Section III.D*). These three reporting levels are: (1) milestones – date specific commitments for completion of designated outputs; (2) interim measures – actual programmatic implementation actions by the Regional Water Board and dischargers to control NPS pollution sources; and (3) water quality improvements or outcomes – specific reductions in pollutant concentrations that can be attributed to CA NPS Program actions. As described in *Section IV.K. SW9: Water Quality Improvement Reporting*, water quality improvement targets are presented in *Section VI*, and will be documented using the Water Boards’ Report Card process.

## **B. North Coast Regional Water Quality Control Board**

### **1. Description of the Region**

The North Coast Region comprises all basins draining into the Pacific Ocean from the California-Oregon state line (including Lower Klamath Lake and Lost River Basins) south to the southerly boundary of the watershed of the Estero de San Antonio and Stemple Creek in Marin and Sonoma counties (see Figure 4). The boundaries of the North Coast Region surround all of Del Norte, Humboldt, Trinity, and Mendocino counties, major portions of Siskiyou and Sonoma counties, and small portions of Glenn, Lake, and Marin counties. The North Coast Region encompasses a total area of approximately 19,390 square miles (12,409,600 acres), including 340 miles of scenic coastline and remote wilderness areas, as well as urbanized and agricultural areas.

Distinct temperature zones characterize the North Coast Region. Along the coast, the climate is moderate and foggy and the temperature variation is not great. Inland, seasonal temperatures are more extreme. Precipitation over the North Coast Region is higher than for any other part of California, and damaging floods are a fairly frequent hazard. Ample precipitation in combination with the mild climate found over most of the North Coast Region has provided a wealth of fish, wildlife, and scenic resources. The mountainous nature of the Region, with its dense coniferous forests interspersed with grassy or chaparral covered slopes, provides shelter and food for deer, elk, bear, mountain lion, furbearers and many upland bird and mammal species. The numerous streams and rivers of the Region contain anadromous fish, and the reservoirs, although few in number, support both cold water and warm water fish.

Major components of the economy are tourism and recreation, telecommunications and other high technology businesses, logging and timber milling, aggregate mining, commercial and sport fisheries, and agricultural activities including vineyards, wineries, and sheep, beef and dairy production.

### **2. Surface Water and Groundwater Quality Issues**

The North Coast Region includes 12 percent of the State's land area, yet is the source of 40 percent of the State's total runoff. The streams and rivers of the Region are home to important fish species, including salmon and steelhead, many of them listed as threatened or endangered under the federal Endangered Species Act. The majority of North Coast Region watersheds are listed as sediment impaired, and to a lesser degree temperature-impaired, under CWA section 303(d). These impairments are due to past and current land use activities, unstable and highly erodible geologies, and abundant winter rainfall.

The North Coast Regional Water Board faces numerous water quality issues. Overarching water quality issues in the Region are protection of the coastline, protection

and restoration of anadromous fish populations, protection of drinking water, and pollution prevention. Because of the North Coast Region's largely rural nature, many of the existing and potential surface water pollution impacts are from NPS land use activities such as rural roads, logging, grazing, and agriculture. These land use activities result in surface water impairments associated with: (1) sediment and siltation, (2) temperature, (3) nutrients, (4) dissolved oxygen, (5) pathogens, (6) microcystin, (7) metals, and (8) bio-stimulatory conditions. Impacts associated with failing septic systems are the major source of groundwater pollution. Although NPS impairments are spread throughout the North Coast Region, specific watersheds and coastal areas have been the focus of restoration and protection efforts. These watershed areas of focus include addressing impairments in the Klamath River Basin – and its major tributaries including the Shasta and Scott rivers - for dissolved oxygen, microcystin, sediment, and temperature and the Garcia River for sediment.

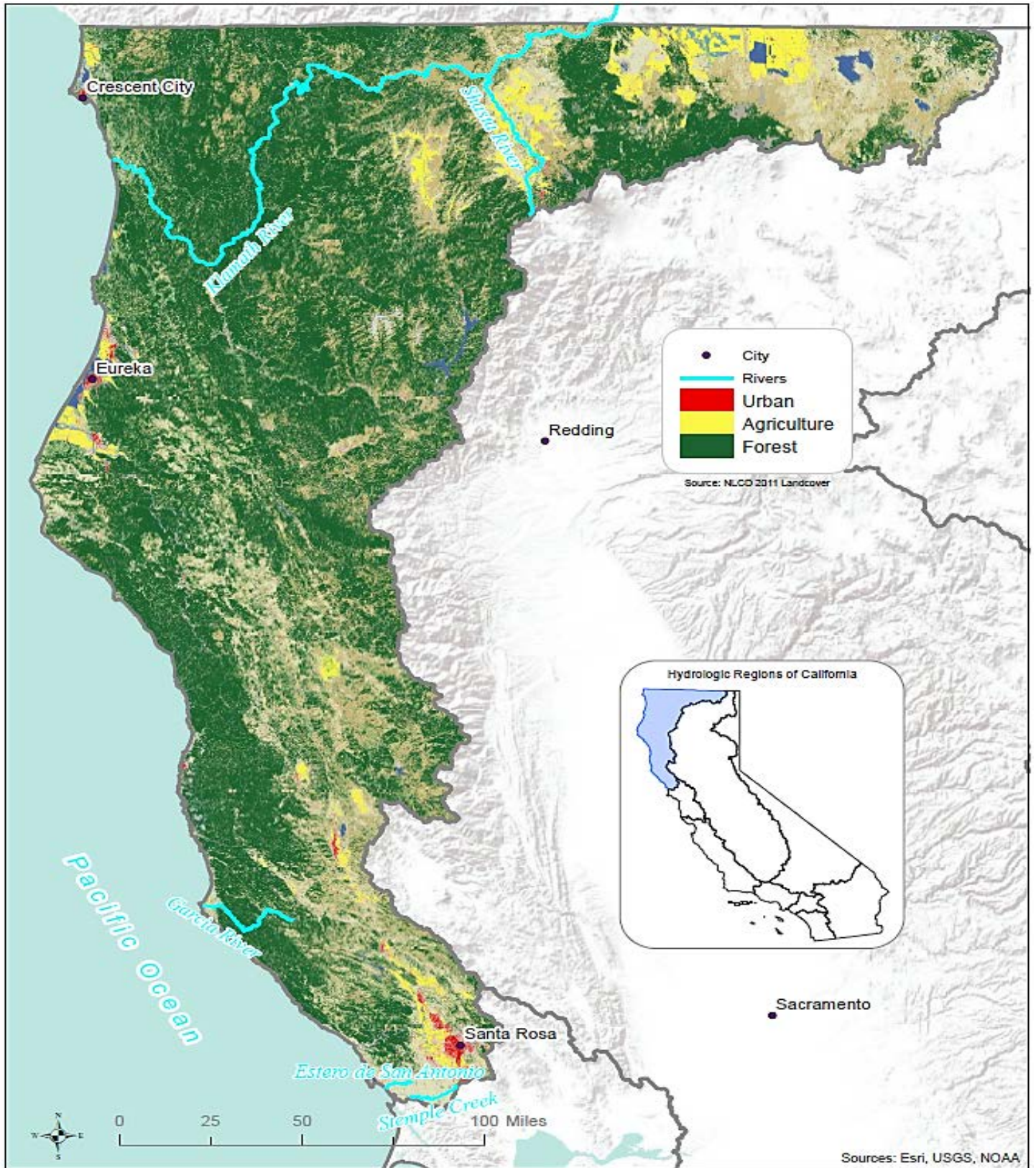


Figure 4 . North Coast Regional Water Board with Major Land Use Categories

### 3. North Coast Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the North Coast Regional Water Board will focus on developing and implementing during the next six-year planning period. Although not included in these initiatives, the Regional Water Board will also continue to make use of and report on its efforts in addressing NPS problems through other regulatory mechanisms (referred to as permits, actions, WDRs, and waivers; see Section III.A.1) such as the Five County Road Management Waiver, the statewide On-site Wastewater Treatment Systems Policy, and implementation of efforts to address NPSs in impaired waters.

#### *a. Initiative RB1.1: Ownership and Watershed WDRs for Timber Harvest and Nonpoint Source Activities*

##### Background

Since 1972 the Regional Water Board has been active in regulating discharges from logging and associated activities. The Regional Water Board's role in regulating discharges from timber harvesting activities is consistent with the abundance of timber resources in the North Coast Region; the Region produces 48 percent of the private timber harvested within the State.

Timber harvesting activities with the greatest potential to impact waters of the State include: felling, yarding, and hauling of trees; road construction and reconstruction; watercourse crossing construction, reconstruction, or removal; and herbicide applications. Excessive vegetation alteration, soil erosion, and sediment delivery associated with these activities can impact the beneficial uses of water by silting over fish spawning habitats; clogging drinking water intakes; filling in pools creating shallower, wider, and warmer streams, and increasing downstream flooding; creating unstable stream channels; and reducing riparian habitat and function. Timber harvesting in the riparian zone can adversely affect stream temperatures by removing stream shading, which is especially important for maintaining cold water beneficial uses in temperature-impaired water bodies.

The North Coast Regional Water Board has been successful at adopting and implementing timber harvest WDRs as a function of both ownership (e.g., Green Diamond Resource Company) and watershed (e.g., Bear Creek). The Regional Water Board members and staff have committed to developing and implementing a number of these regulatory actions, which are an efficient and predictable method of ensuring such activities are protective of water quality. These permits can build on and compliment National Marine Fisheries Service's and U.S. Fish and Wildlife's Habitat Conservation Plans, as in the case of Green Diamond Resource Company, Humboldt Redwood Company, and Mendocino Redwood Company.

### *Needs Statement*

As presented in Section III.A.1, waivers of WDR must be renewed every five years. WDRs may also require renewal in order to improve or update permit requirements as part of adaptive management. A number of the North Coast Regional Water Board's current waivers addressing timber harvest activities will be expiring during the six-year planning horizon and, as such, need to be renewed. In addition, because permits (either WDRs or waivers of WDRs) have been found to be effective regulatory tools in addressing timber harvest activities, the North Coast Regional Water Board plans on extending this regulatory coverage to other entities as a function of ownership or watershed.

### *Initiative Description*

The North Coast Regional Water Board intends to renew existing or develop new permits to address timber harvesting in specific areas of the Region as a function of ownership or watershed. These permits will be developed consistent with the requirements of the Porter-Cologne Act.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB1.1: Continue to implement regulatory permits to address discharges from timber harvest activities on private and public land and other NPSs on federal lands, on an ownership or watershed basis.

Objective RB1.1a: Develop and present to the North Coast Regional Water Board members for their consideration a revised permit addressing timber harvest and related activities on federal lands.

Objective RB1.1b: Develop and present to the North Coast Regional Water Board members for their consideration of a permit addressing timber harvest in watersheds for the Humboldt Redwood Company.

Objective RB1.1c: Develop and present to the North Coast Regional Water Board members for their consideration an ownership permit addressing timber harvest activities for the Mendocino Redwood Company.

### *Activities and Performance Measures*

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 8.



***b. Initiative RB1.2: Water Quality Compliance Program for Discharges from Agricultural Lands***

**Background**

The North Coast Region has approximately 350,000 acres of agricultural land. Surface waters and groundwaters are, or may be, affected by discharges of waste from agricultural lands and other controllable water quality factors. Types of waste and controllable factors associated with activities on agricultural lands include nutrients, pesticides, pathogens, sediment, organic matter, heat, and riparian vegetation impacts. Types of discharges from agricultural lands that may contain waste include tail water, storm water, infiltration to groundwater, subsurface drainage water, tile drain water, and frost protection water.

The Regional Water Board is in various stages of developing and implementing a program to address discharges from agricultural lands in the North Coast Region. This program focuses on discharges from vineyards, orchards, lily bulb cultivation, marijuana cultivation, dairies, grazing, and agriculture in the Scott River, Shasta River, Tule Lake, and Butte Valley watersheds. Individual permitting efforts to address specific water quality concerns from nurseries and other agricultural discharges are also part of the program.

The North Coast Regional Water Board will consider a suite of conservation practices and management practices to satisfy permit requirements. Consideration will be given to practices that promote soil health when applied in concert with nutrient management planning and integrated pest management practices.

**Needs Statement**

Discharges of waste from agricultural lands have resulted in considerable water quality problems throughout the North Coast Region. To address these issues the Regional Water Board intends to develop permits (WDR or waiver of WDRs) consistent with the requirements of the Porter Cologne Act.

**Initiative Description**

Other Regional Water Boards have successfully developed and are implementing WDRs or waivers of WDRs for waste from agricultural lands (see sections *V.D. Central Coast Regional Water Quality Control Board; V.E. Los Angeles Regional Water Quality Control Board; V.F. Central Valley Regional Water Quality Control Board; and V.I. Colorado River Regional Water Quality Control Board*). The North Coast Regional Water Board intends to address agricultural discharges in a similar manner through the development and implementation of these regulatory tools as a function of commodity, location, or a combination of both.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB1.2: Expand North Coast Regional Water Board regulation of waste from agricultural lands through permits as a function of commodity, location, or a combination of both criteria.

Objective RB1.2.01: Develop and present to the North Coast Regional Water Board members for their consideration a permit for discharges from vineyards and orchards by the summer of 2018.

Objective RB1.2.02: Develop and present to the North Coast Regional Water Board members for their consideration a permit for discharges from lily bulb cultivation by the summer of 2017.

Objective RB1.2.03: Develop and present to the North Coast Regional Water Board members for their consideration a permit for agricultural waste discharges in the Tule Lake watershed by the 2016.

Objective RB1.2.04: Implement and renew, as necessary, region-wide regulatory actions that address dairy activities by January 2017.

Objective RB1.2.05: Implement and renew, as necessary, all TMDL-related permits in the Scott River and Shasta River watersheds by October 2017.

Objective RB1.2.06: Address grazing related issues through active participation in the development and subsequent implementation of the Grazing Regulatory Action Project (see *SW4 – Policy, Plan and Program Development and Support*) and Region-wide application of the subsequent regulatory approach through June 2020.

Objective RB1.2.07: Facilitate grant funding, outreach, and public education on the potential discharges of waste and resulting water quality impacts from large-scale marijuana cultivation on private properties.

### Activities and Performance Measures

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 8.

### *c. Initiative RB1.3: Mendocino County Permit Coordination Program*

#### *Background*

Many of the watersheds of Mendocino County are listed under CWA section 303(d) due to excess sediment and elevated temperatures, primarily attributed to mid-century land use practices that lacked adequate environmental protections for streams and rivers. In addition to being listed as impaired, many of these watersheds also include threatened and/or endangered salmonids such as coho salmon, Chinook salmon, and steelhead trout. It is widely recognized that the current process to secure state and federal permits, as well as associated costs for implementation of conservation and restoration activities, can impede a landowner's intentions to conduct beneficial projects on their lands that improve beneficial uses and conditions for aquatic species.

The Mendocino County Permit Coordination Program (Permit Coordination Program) was developed to promote the implementation of high quality conservation and restoration projects on farms, ranches, and forest land throughout the watersheds of Mendocino County. Projects implemented through the program are designed to improve and restore in-stream habitat for aquatic species through erosion and sediment control, stabilizing eroding stream banks, promoting native vegetation growth, and enhancing aquatic and terrestrial habitat. Discharges from such projects are eligible for coverage permit under a Waiver of WDRs and General Water Quality Certification (Order No. R1-2013-0059 or as amended).

The Permit Coordination Program was developed through a partnership between the Mendocino County Resource Conservation District (Mendocino District) and NRCS to provide technical, financial, and permitting assistance to landowners seeking to make environmental improvements on their lands. It is based on a successful model of coordinated, multi-agency regulatory review designed to ensure the integrity of agency mandates, while making permitting more accessible for working landscapes than the traditional process. The Regional Water Board recognizes the benefits provided to landowners by working with the Mendocino District through the Permit Coordination Program and how conservation and restoration actions contribute towards TMDL implementation in sediment and temperature-impaired watersheds. Numerous sediment and/or temperature TMDLs are included within the Permit Coordination domain, including those which U.S. EPA has established, for the following watersheds: Albion River, Big River, Eel River-Upper Main, Eel River-Middle Main, Eel River-Middle Fork, Eel River-South Fork, Garcia River, Gualala River-North Fork, Mattole River, Navarro River, Noyo River, and Ten Mile River.

### *Needs Statement*

Providing land owners with technical, financial, and permitting assistance encourages on-the-ground projects that will result in direct environmental benefits. Such multi-agency efforts need to be continued and expanded, if possible, to assist willing landowners in achieving their environmental goals.

### *Initiative Description*

The Regional Water Board intends to continue its efforts in the Permit Coordination Program. These efforts have been effective in minimizing the time and effort required of landowners to install implementation projects that address water quality impairments.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB1.3: Provide timely technical, financial, and permitting assistance to landowners seeking to make environmental improvements on their lands in Mendocino County.

Objective RB1.3.01: Provide outreach and assistance to stakeholders with respect to use of the Waiver of WDRs and General Water Quality Certification for the Mendocino County Permit Coordination Program.

Objective RB1.3.02: Work with state and federal agencies to facilitate review and approval of conservation and restoration projects.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 8.

#### ***d. Initiative RB1.4: Wood for Salmon Workgroup***

### *Background*

The spatial coverage of this initiative primarily includes the area addressed by National Oceanic and Atmospheric Administration's (NOAA) Biological Opinion for

Restoration Projects within Central California Coast Evolutionarily Significant Unit of Coho Salmon – Southern Humboldt County through Monterey County (NOAA, September 2012). Habitat for salmonids within this area has been degraded by historical practices that have caused several detrimental impacts to salmonid habitat including excess sedimentation and removal of riparian trees with a resulting loss of shade and increased temperatures to streams and rivers. Additionally, past regulatory practices required the removal of large woody debris from streams and rivers, resulting in the loss of salmonid habitat areas. These impacts are cumulative and have continued to degrade salmonid habitat.

The Wood for Salmon Workgroup (Salmon Workgroup) is comprised of several state and federal agencies, non-governmental agencies, and stakeholders. These members are coordinating to promote large wood augmentation projects on public and private lands to provide immediate habitat improvements for the benefit of threatened and endangered salmonids. The workgroup has embarked on a concerted effort to: (1) learn the current permitting pathways, identify roadblocks to beneficial restoration projects; (2) provide recommendations to remove disincentives; (3) support the development of coordinated permitting strategies for large wood projects; and (4) conduct education and outreach efforts. The Salmon Workgroup includes the following state and federal agencies, non-governmental agencies, and stakeholders: (1) federal agencies - NOAA, Army Corps of Engineers, and U.S. Fish and Wildlife Service, and the NRCS; (2) state agencies – California Department of Forestry and Fire Protection, California Department of Fish and Wildlife, California Geological Survey, and the State Water Board; (3) non-regulatory agencies – Mendocino District, U.C. Cooperative Extension; (4) non-profit organizations - The Nature Conservancy, The Conservation Fund, Trout Unlimited, and Sustainable Conservation; and (5) stakeholders - Alnus Ecological and Campbell Timberland Management.

### Needs Statement

The Regional Water Board needs to work cooperatively with a variety of stakeholders in order to ensure the timely and effective implementation of large wood augmentation and on-the-ground implementation projects that address negative impacts to salmonid habitat. Developing and nurturing partnerships with private landowners, concerned citizens, various State and federal agencies, and non-governmental organizations are essential. The Regional Water Board's commitment to this effort provides the continuing opportunity to enhance these relationships and restore the natural stream conditions necessary for salmonid habitat.

### Initiative Description

The Regional Water Board intends to continue its efforts in the Salmon Workgroup. These efforts include but are not limited to providing stakeholder outreach and education and permit streamlining for large, in-stream wood projects.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB1.4: Guide restoration practitioners through the permitting process for large wood augmentation projects and to promote habitat improvement for native salmon.

Objective 1.4.01: Provide outreach to other State and federal agencies, environmental non-profits, and stakeholders to streamline the restoration permitting process for large, in-stream wood projects.

Objective 1.4.02: Provide ongoing technical and planning support to the State Water Board's proposed revisions to the general CWA section 401 small habitat restoration permit.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 8.

### ***e. Initiative RB1.5: Watershed Stewardship Approach – North Coast Basins***

#### Background

The Watershed Stewardship Approach (WSA) provides enhanced capabilities for the Regional Water Board to develop comprehensive and collaborative water quality improvement measures that support all program areas and increase the level of coordination with other agencies, entities, and programs. The effort is based on defined watershed management areas and is intended to promote collaboration among participants. This approach is consistent with that recommended by U.S. EPA in the Handbook for Developing Watershed Plans to Restore and Protect Our Waters (U.S. EPA, March 2008), and a nine-element watershed-based plan is very similar to a watershed stewardship plan.

The steps associated with the WSA adaptive management cycle are illustrated in Figure 5.

The WSA is already being implemented to varying degrees in the Shasta River Watershed, Klamath River Basin, Garcia River Watershed, and the Elk River Watershed. The Regional Water Board plans to continue these efforts.

The Regional Water Board also plans to develop the WSA in other watersheds throughout the North Coast Region. Staff will begin by identifying watershed partners and the capacity of these partners to lead stewardship activities, then narrow down the number of focused watersheds to undergo the more extensive WSA. As of June 2015, focused watersheds for the WSA are most likely to be one or more watersheds in the Mendocino Coast Hydrologic Unit, the Eel River Watershed, and the Scott River Watershed.

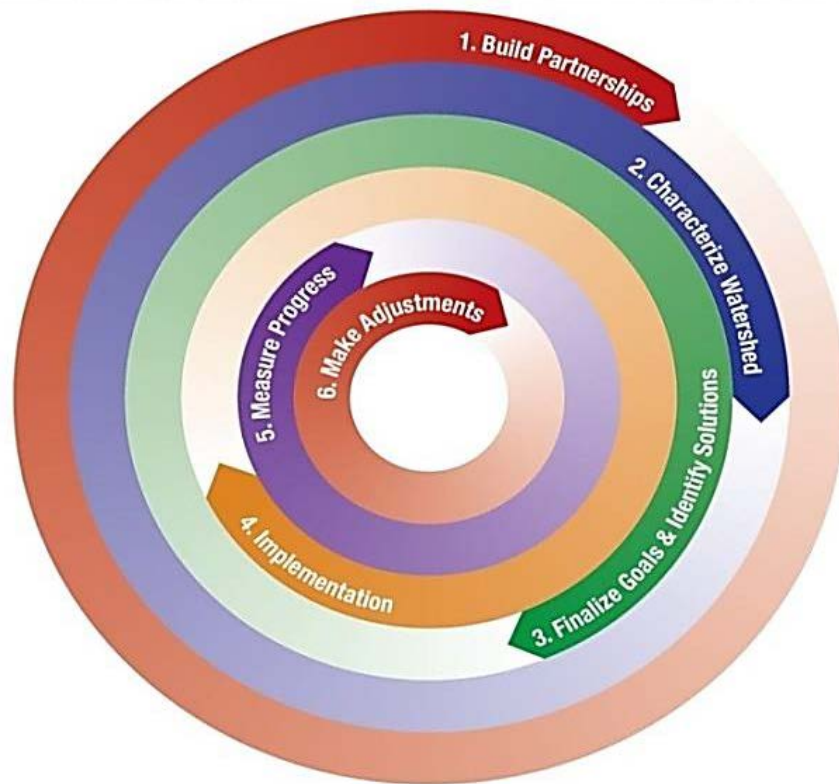


Figure 5. Watershed Stewardship Approach

### *Needs Statement*

The North Coast Regional Water Board has adopted Total Maximum Daily Loads (TMDLs) for many of their watersheds and more are in development. Water quality impairments are largely due to NPSs, and a large extent of impairment is from legacy sources of pollutants / impacts for which no responsible party is evident. Most of the affected waterbodies require active rehabilitation to restore supporting conditions for beneficial uses. The legacy conditions present within many of our watersheds require multi-faceted approaches involving regulatory as well as non-regulatory actions (e.g., waivers, WDRs, grants and loans, outreach and education, rehabilitation / restoration) with coordinated participation across programs.

The scale of the rehabilitation projects also frequently require collaboration with other agencies and organizations to fulfill project needs including shared resources, stakeholder involvement, and technical expertise. In addition, the 319(h) grant process, which funds many implementation activities for TMDLs and waivers, requires a watershed approach of applicants, demonstrated by a nine-element watershed based plan. This is consistent with the understanding that NPS TMDLs and permit programs require close collaboration with land managers. Therefore a WSA with an adaptive management component is an essential element of improving water quality conditions in the North Coast Region. In the Klamath Basin the Regional Water Board is using the Klamath Basin Monitoring Program, Klamath Tracking and Accounting Program, and the WSA as a water quality improvement adaptive management framework. However the Regional Water Board does not have the resources to ensure that TMDL implementation plans or waivers are implemented to a level that will result in supporting conditions to be restored its water bodies and therefore must rely on partners and stakeholders to support this work. The intent of the WSA is to build partnerships that will result in more complete implementation of rehabilitation activities to improve / restore water quality, including TMDL implementation. The WSA activities will be applied as appropriate, in watersheds where such activities may be beneficial; all activities may not be applied in all target watersheds.

### *Initiative Description*

The North Coast Region has been implementing the WSA in the Klamath Basin, as well as the Shasta and Garcia River watersheds. The approach has led to the development of a coordinated basin-wide monitoring framework, the Klamath Basin Monitoring Program, which includes over forty active organizations providing comprehensive information on water quality conditions throughout the basin. In addition, the approach has led to the development of the Klamath Tracking and Accounting Program which is developing the capability to certify and register water quality improvement projects throughout the basin. Sub-basin watershed stewardship teams (e.g., Shasta River, Upper Klamath Lake) have formed and are actively collaborating on large ecosystem rehabilitation projects, implementation of NPS



control measures, sub-basin monitoring programs, and adaptive management watershed stewardship reports (web-based). The watershed stewardship teams have agreed to collaborate through the use of local lead entities and the sequencing of activities using the process illustrated in Figure 5.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB1.5: Establish collaborative frameworks within select North Coast Region pilot watersheds that promote water quality improvement and protection activities.

Objective RB1.5.01: Build partnerships with other programs, agencies, and organizations to broaden participation and integration with stakeholders.

Objective RB1.5.02: Characterize the watershed to identify sources of NPS problems.

Objective RB1.5.03: Develop and prioritize implementable solutions through water quality improvement and protection projects.

Objective RB1.5.04: Implement water quality improvement and protection projects in collaboration with stewardship partners.

Objective RB1.5.05: Measure and evaluate resulting water quality improvements and apply adaptive management strategies.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures for the Klamath River Basin, the Shasta sub-watershed, and the Elk River are presented in Table 8.

Table 8 . North Coast Regional Water Quality Control Board Initiatives, Planned Activities, and Related Performance Measures

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
RB1.1 Timber Harvest Permits	RB1.1.01	<u>Implement Existing Timber Permits</u> :: The North Coast Regional Water Board <u>has several permits in place to address discharges from timber harvest activities including the Categorical Waiver of WDRs for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region; the Waiver of WDR for NPS Discharges Related to Certain Federal Land Management Activities on National Forest System Lands</u> ; watershed-wide WDRs in the Elk River, Freshwater Creek, Jordan Creek watersheds; and an ownership-wide roads WDR for Green Diamond Resource Company. Staff shall work to ensure compliance with these permits.	a. Continue to implement the permits, enroll timber harvest plans, inspect, assess, and report (July 2014 – June 2020)	Conduct 150-175 inspections in fiscal year 2014/15 for all non-federal and federal timber harvest projects. Report via State Water Board - Office Research Planning and Performance measure. Similar numbers of inspections are likely in the remaining years of this workplan.
	RB1.1.02	<u>Renew the Federal Timber Permit</u> : The <i>Waiver of WDR for NPS Discharges Related to Certain Federal Land Management Activities on National Forest System Lands</i> (US Forest Service Waiver) was adopted in 2010 and will expire in 2015. Regional Water Board staff will revise the permit and bring it to the Regional Water Board to consider adoption.	a. Bring revised permit to the Regional Water Board to consider adoption (Fall 2015)	
	RB1.1.03	<u>Elk River, Freshwater Ck, and Stitz Ck Watershed-wide Permit Development/Renewal</u> : Humboldt Redwood Company owns significant holdings in several watersheds which suffer	a. Bring revised Elk River watershed permit to the Regional Water Board to consider adoption (December 2015).	

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		from cumulative effects from timber harvest activities. In order to allow harvesting, and associated restoration efforts, Regional Water Board staff will issue or renew watershed permits for discharges associated with timber harvesting activities in the Elk River, and Freshwater Creek watersheds. Development of a watershed permit for harvesting discharges in the Stitz Creek Watershed will be dependent on harvesting activity in the watershed.	b. Bring revised watershed permit for the Freshwater Creek Watershed to the Regional Water Board to consider adoption (March 2020)	
	RB1.1.04	<u>Mendocino Redwood Company Ownership-wide Permit Development &amp; Implementation:</u> Mendocino Redwood Company has significant timber holdings in Mendocino and Sonoma counties. The Mendocino Redwood Company is in the process of completing an Aquatic Habitat Conservation Plan for the wildlife agencies. Staff proposes to develop an ownership-wide permit to incorporate and reflect the heightened protection measures that are part of the Habitat Conservation Plan.	a. Bring new ownership-wide permit to the Regional Water Board to consider adoption (2018)	Review report of waste discharge, meet with Mendocino Redwood Company and stakeholders, and conduct Regional Water Board workshop (March 2018)
<u>RB1.2:</u> Agricultural Lands Discharge Program	RB1.2.01	<u>Vineyards and Orchards Discharge Permit Development &amp; Implementation:</u> Develop and adopt permits for discharges from vineyards and orchards throughout the Region, although the majority of such agriculture is located in	a. Bring new permit to the Regional Water Board to consider adoption (August 2018).	Educate farmers, provide training, ensure enrollment, review reports, and conduct inspections. Number of inspections TBD based on enrollment in a third-party program. Report via State Water Board - Office of Research Planning and

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		Sonoma and Mendocino counties.	<p><u>b.</u> Provide comments on the San Francisco Bay Regional Water Board’s Napa and Sonoma Vineyard permits to promote consistent requirements (December 2016). Maintain stakeholder advisory group membership and attend stakeholder-sponsored meetings to provide regular updates, exchange ideas, and coordinate regulations (ongoing). Develop draft permit and conduct stakeholder outreach, meetings and workshops (August 2017). Report via Executive Officer Reports.</p>	Performances measures and/or Executive Officer reports.
			<p><u>c.</u> Implement the permit subsequent to Regional Water Board approval (August 2018 – June 2020).</p>	
	RB1.2.02	<u>Lily Bulbs Discharge Permit Development &amp; Implementation:</u> Develop and adopt permit for discharges from lily bulb cultivation throughout the region, although all the lily bulbs are currently grown in a small area in Del Norte County.	<p><u>a.</u> Develop draft permit and conduct stakeholder outreach, meetings and workshops (May 2017). Bring new permit to the Regional Water Board to consider adoption (August 2017)</p>	Complete surface water and sediment water quality sampling (June 2015) Maintain stakeholder advisory group membership and attend stakeholder-sponsored meetings to provide regular updates, exchange ideas, and coordinate regulations (ongoing).
			<p><u>b.</u> Implement the permit subsequent to Regional Water Board approval (August 2017 – June 2020).</p>	Educate farmers, provide training, ensure enrollment, review reports, and conduct inspections. Inspection performance measures TBD. Report via State Water Board - Office Research Planning and Performance measure and/or Executive Officer reports.

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB1.2.03	<u>Tule Lake Watershed Ag Discharge Permit Development and Implementation:</u> Develop and adopt permit for discharges from agricultural lands in the Tule Lake Watershed in Siskiyou and Modoc counties.	<u>a.</u> Develop draft permit and conduct stakeholder outreach, meetings and workshops (May 2016). Bring new permit to the Regional Water Board to consider adoption (August 2016).	Maintain stakeholder advisory group membership and attend stakeholder-sponsored meetings to provide regular updates, exchange ideas, and coordinate regulations (ongoing).
			<u>b.</u> Implement the permit subsequent to Regional Water Board approval (August 2016 – June 2020).	Educate farmers, provide training, ensure enrollment, review reports, and conduct inspections. Inspection performance measures TBD. Report via State Water Board - Office Research Planning and Performance measure measures and/or Executive Officer reports.
	RB1.2.04	<u>Dairy Program Implementation &amp; Renewal:</u> Implement and renew the existing general WDR, general Waiver, and NPDES (Dairy Permits) for discharges from dairy lands throughout the Region. As of June 2015, 123 dairies are enrolled in the Waiver, 3 dairies are enrolled in the WDRs, and 0 dairies are enrolled in the NPDES permit.	<u>a.</u> Implement the existing and revised Dairy Permits	Provide training, ensure enrollment, review reports, and conduct approximately 25 inspections per year. Report via State Water Board - Office Research Planning and Performance measures and/or Executive Officer reports.
			<u>b.</u> Bring revised Dairy Permits to the Board to consider adoption (January 2017).	Revise the existing permits as necessary, conduct stakeholder outreach, meetings, and workshops (October 2016).
	RB1.2.05	<u>Scott and Shasta River Watersheds TMDL Permit Implementation &amp; Renewal:</u> Implement and renew the existing TMDL waivers of WDRs in the Scott River and Shasta River	<u>a.</u> Implement the existing and revised permits (July 2014 – June 2020).	Conduct 10-30 water quality investigations per year. Report via State Water Board - Office Research Planning and Performance measure performance

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		watersheds in Siskiyou County.		measures and/or Executive Officer reports.
			<u>b.</u> Develop revised permits and conduct stakeholder meetings and workshops (June 2017). Bring revised waivers of WDR to the Regional Water Board to consider adoption (October 2017)	
	RB1.2.07	<u>Grazing Program Development:</u> Determine approach for addressing discharges and riparian impacts from grazing activities, which may include the statewide Grazing Regulatory Action Program	<u>a.</u> Determine approach for addressing discharges from grazing activities within the North Coast Region (June 2020).	
			<u>b.</u> Attend regular planning meetings of Grazing Project team (Attend six (6) teleconference meetings and two (2) face to face meetings per year). Participate in writing documents and attending stakeholder outreach meetings as appropriate (ongoing). Report via Executive Officer reports.	
RB1.2.08	<u>Cannabis Discharge Control Efforts:</u> Develop and implement a comprehensive, three-part program to address water quality impacts and discharges from the cultivation of cannabis on private property. Part 1 is education. Staff will facilitate grant funding, outreach, and public education. Part 2 is regulation. Staff will develop a conditional waiver of waste discharge requirements for discharges of waste from cannabis cultivation on private land. Part 3 is enforcement. Staff will continue	<u>a.</u> Coordinate with affected counties, Department of Fish and Wildlife, federal agencies, and other agencies on program implementation (July 2014 to June 2020)	Attend regular meetings of county, state and federal enforcement task forces: 1. Sonoma Co: Host and attend 6 meetings/yr 2. Mendocino Co: Attend 4 meetings/yr  3. Humboldt Co: Attend 4 meetings/yr 4. Trinity Co: Attend meetings as held 5. Federal Enforcement Task Force: Attend meetings as held	

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		coordination with other agencies, including law enforcement, to take enforcement actions as needed, with a focus on public lands.		<p>6. Lake, Del Norte, and other counties: Participate in cannabis meetings as held</p> <p>7. Coordinate closely with DFW and other partner agencies in program implementation</p> <p>Report via NPS reports and Executive Officer reports.</p>
			<p><u>b.</u> Execute and implement contract/grant agreements for Cleanup and Abatement Account funded projects conducted by the Eel River Recovery Project and Mendocino Resource Conservation District projects (January 2015 to June 2020)</p>	<p>Execute contract (December 2015). Report progress via NPS reports and Executive Officer reports.</p>
			<p><u>c.</u> Bring permit (general waiver of waste discharge requirements) to Regional Water Board for consideration for adoption August 2015 and implement thereafter (September 2015 to June 2020)</p>	<p>None</p>
			<p><u>d.</u> Ongoing education and outreach (July 2014 to June 2020)</p>	<p>Support development and publication of informative materials, such as FAQ and brochures and web-based materials, in cooperation with other agencies (June 2015). Attend and present information about the program and water quality protection at events throughout the Region (July 2014 to June 2020). Report progress via NPS reports and Executive</p>

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
				Officer reports.
			<u>e.</u> Participate in joint <u>agency inspections and complaint inspections</u> , and take appropriate follow-up enforcement action where water quality violations are confirmed (July 2014 to June 2020).	Report progress via NPS reports and Executive Officer reports
RB1.3 Mendocino County Permit Coordination Program	RB1.3.01	Regional Water Board adopted one programmatic permit for the Permit Coordination Program, which includes a Waiver of WDRs and a general CWA 401 water quality certification. Proposed conservation practices include erosion control on roads, critical area planting with native vegetation, instream habitat improvements such as wood debris augmentation and boulder clusters, grade stabilization of gullies or eroding channels, road and landing decommissioning, bioengineering practices, and stream crossing upgrades.	<u>a.</u> Implement the permit (July 2014 – June 2020)	Work with state and federal agencies to develop programmatic permits. Review annual project submittals and inspect projects. Approximately 25 projects are expected per year, although the number will vary year to year. Report via annual Executive Officer reports and/or Regional Water Board presentations.
<u>RB1.4:</u> Wood for Salmon Working Group	RB1.4.01	Formed in 2010, the Wood for Salmon Working Group brings together state and federal regulatory agencies, environmental non-profits, non-governmental agencies, and stakeholders, to develop a clear understanding of the regulatory permitting pathways for salmonid habitat restoration projects involving wood placement; identify potential mechanisms to simplify, improve upon, and incentivize	<u>a.</u> Conduct outreach to other state and federal agencies, environmental non-profits, and stakeholders on the Regional Water Board’s restoration permitting process (July 2014 – June 2020)	Participate in 3 Salmon Workgroup meetings per year. Maintain meeting minutes. Provide interested parties information relative to large wood restoration permitting. Participate in at least one public workshop, conference, or training each year. Report via annual NPS reports and/or Executive Officer reports.



Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		implementation of more projects; and systematically confront the obstacles that prevent these projects from occurring. Regional Water Board staff currently chair the working group and participate in several meetings, field tours, and workshops.	b. Engage in the implementation of at least 2 large wood augmentation projects each year. Projects are defined as those enrolled under the State Water Board’s Small Habitat Restoration Permit and are less than or equal to 5 acres and 500 linear feet. (2015-2020)	Provide technical and regulatory support. Report via Executive Officer reports.
			c. Participate in the revision of the State Water Board’s general 401 small habitat restoration permit (December 2015)	Provide ongoing technical and planning support during permit renewal. Report via annual NPS reports and/or Executive Officer reports.
<u>RB1.5:</u> Watershed Stewardship Approach	RB1.5.01	In order to enhance collaborative water quality improvements, Regional Water Board staff will serve as stewardship leads or develop stewardship leads to build partnerships, characterize watersheds, set goals, identify solutions, implement solutions, measure progress, and make adjustments. Staff will continue to build and maintain partnerships in the Shasta, Klamath, Garcia, and Elk River watersheds. Staff will also identify partners in other watersheds in the North Coast Region, determine their capacity to lead watershed stewardship activities, and narrow down the number of focused watersheds to undergo the complete WSA process. The focused watersheds are to be determined, but may likely be one or more watersheds in the Mendocino	<u>a. Klamath River</u>  Maintain the Klamath River Watershed Stewardship Approach and coordinate with partners (2015 – 2020).  Use the Klamath Basin Monitoring Program to develop and maintain a web site to host information regarding the Klamath River Watershed Stewardship Approach. (2015 – 2020).  Identify organizations conducting monitoring within the watershed and describe their activities (location of stations, purpose, parameters sampled, etc.). Add information to appropriate databases (e.g., KBMP, CEDEN). (2015-2020)	Ongoing website maintenance and semi-annual KBMP meetings.  Report via annual NPS reports and/or Executive Officer reports.

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		Coast Hydrologic Unit, the Eel River Watershed, and the Scott River Watershed.	<p>Develop collaborative monitoring plan for status and trends, evaluation of stewardship project status, and to address key information needs (2016)</p> <p>Collaborate with stakeholders to establish procedures for updating water quality priorities and other adaptive management procedures (2017)</p>	
			<p><u>b. Shasta River</u></p> <p>Maintain the Shasta River Watershed Stewardship Approach and coordinate with partners (2015 – 2020).</p> <p>Compile GIS data layers regarding important watershed components (e.g., natural vegetation, land use, roads, hydrology, etc.) and prepare watershed stewardship base maps (2015)</p> <p>Publish Shasta River Stewardship Report (2015)</p>	<p>Establish a Shasta River Watershed Stewardship webpage (Summer 2015)</p> <p>Report via annual NPS reports and/or Executive Officer reports.</p>
			<p><u>c. Elk River</u></p> <p>Implement a stakeholder outreach strategy in the Elk River and coordinate with partners (2015 – 2020).</p> <p>Compile existing water quality and fisheries data, format, and conduct quality assurance. Develop list of key questions, uncertainties and missing information in the Elk River Watershed (December</p>	<p>Identify potential participants (June 2015). Maintain list of members / participants (January 2016 – June 2020). Conduct quarterly meetings of watershed stewardship partnership. Report via annual NPS reports and/or Executive Officer reports.</p>

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
			<p>2015)</p> <p>Perform Elk River Watershed water quality assessment to fill data gaps (July 2016)</p> <p>Inventory and describe existing watershed stewardship projects. Describe Elk River Watershed water quality priorities and proposed project matrix (Spring 2016).</p> <p>Develop conceptual design plan(s) for the priority projects in the Elk River Watershed (November 2016).</p> <p>Develop collaborative agreements to implement priority projects (December 2016)</p> <p>Conduct at least one collaborative stewardship project within to address one of the top three project priorities identified (June 2020)</p>	
			<p><u>d. New WSA Watersheds</u> - Identify next watersheds for the WSA (June 2016) and develop the approach in other watersheds in the North Coast Region (2016-2020).</p>	<p>Provide information on the watershed stewardship approach to stakeholders throughout the Region (December 2015)</p> <p>Develop mission and objectives for local watershed stewardship that is inclusive. Propose an organization structure, charter, and procedures for a local watershed stewardship group. Hold meetings and take meeting minutes at least 3 times per year. Report via annual</p>

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
				NPS reports and/or Executive Officer reports.

## C. San Francisco Bay Regional Water Quality Control Board

### 1. Description of the Region

The San Francisco Bay Region, which covers a basin of approximately 4,550 square miles, is located on the central coast of California (see Figure 6). The San Francisco Bay – Sacramento San Joaquin River Delta (Bay Delta) form the largest estuary on the West Coast and is the drainage outlet for waters of the Central Valley. The basin also marks a natural topographic separation between the northern and southern coastal mountain ranges. Because of its highly dynamic and complex environmental conditions, the basin supports an extraordinarily diverse and productive ecosystem. Its deepwater channels, tidelands, and marshlands provide a dynamic and complex environment that supports an extraordinary array of plants, animals, birds, and aquatic life. Two-thirds of the state's salmon pass through the Bay and Delta each year, as do half of the waterfowl and shorebirds migrating along the Pacific Flyway.

Nearly 50 significant upland watersheds have been delineated in the San Francisco Bay Basin Water Quality Control Plan (Basin Plan). The basin includes freshwater and estuarine streams and rivers whose beneficial uses include habitat and spawning areas for anadromous fish, municipal and domestic drinking water, agricultural and industrial process water supply, water recreation, and navigation. In addition to San Francisco Bay, there are many water bodies of special significance within the Region. For example, coastal watersheds in Marin (Lagunitas Creek, Olema Creek, and Redwood Creek) and San Mateo Counties (Pescadero Creek and San Gregorio Creek) are critical habitat for threatened and endangered coho salmon and steelhead populations. Tomales Bay on the northwest coast of Marin County has special significance since it is one of the few relatively undeveloped major estuaries along the coast. It is one of four commercial shellfish growing areas in the west, has significant sport and commercial fisheries, and is a major recreational area for the whole San Francisco Bay Region.

Within the nine-county Region there are over 33 groundwater basins. Santa Clara Valley, Niles Cone, Livermore Valley and Westside Basins are the largest water supply resources, which supply groundwater to approximately three million people. During the dry seasons, groundwater discharges to surface water provide essential fresh water replenishment to creeks. Locally, groundwater is also used for irrigation and industrial supply beneficial uses.

## 2. Surface Water and Groundwater Quality Issues

The San Francisco Bay Region has a large variety of water quality issues to address. The Bay Area is highly urbanized and is affected by all of the impacts associated with commercial, industrial, and residential development, including wastewater and industrial discharges, significant historic loss of wetlands through diking and filling, widespread stream modification projects for flood control and urban development, and contamination from pollutants such as industrial chemicals, hydrocarbons, pesticides, and legacy pollutants such as poly-chlorinated biphenyls and mercury. The Region has seen a rapid expansion of residential development within the past fifty years, which has resulted in impacts from increased impervious surface, storm water pollution, and changes to stream channels, hydrographs and riparian zones. Groundwater contamination from industrial sites, leaking underground tanks, landfills, and methyl-tertiary-butyl-ether are also major water quality concerns in the Region. Other major stressors include water diversions, from bays and other waterways, and impacts from invasive species.

There are also water quality impacts in the more rural areas of the Region from grazing and agriculture, confined animal facilities, onsite sewage systems, and land conversions. Coastal watersheds are impaired due to impacts from sedimentation and habitat degradation (e.g., excess fine sediments, lack of large woody debris, and lack of spawning gravels). Tomales Bay, though protected from urban development, is an impaired water body due to impacts from pathogens, sediment, and mercury. There are also many watersheds draining to San Francisco Bay that have important beneficial uses for fish and other aquatic species; in most cases these streams have suffered severe habitat degradation due to the impacts of urbanization and flood control projects.

Due to the more rural nature of the northern, southern, and coastal reaches of the Region, these areas are the primary focus of Regional Water Board's NPS activities. Land use activities such as grazing, vineyards, confined animal facilities, rural roads, and legacy mining have resulted in extensive surface water impairments. These impairments are associated with: (1) dissolved oxygen; (2) nutrients, (3) pathogens, (4) pesticides; (5) metals; and (6) sediment and siltation. Specific watersheds that have been and will continue to be the focus of NPS-related restoration and protection efforts for the Regional Water Board include the Napa River, Sonoma Creek, and Tomales Bay, coastal Marin, Guadalupe River, and coastal San Mateo (San Pedro Creek, San Gregorio Creek, and Pescadero and Butano Creeks).

In summary, the 2014-2020 NPS initiatives described below, although focused on the North Bay, are not intended to exclude Regional Water Board efforts (e.g., early TMDL implementation for other approved RB2 TMDLs that have NPS issues (Guadalupe River watershed mercury TMDL; other bacteria/pathogen TMDLs; Walker Creek watershed mercury TMDL, etc.) outside these focus areas. They are designed to promote a balanced approach that emphasizes Region-specific priorities and State Board NPS program strategies and integrates these with on-the-ground management of individual watersheds.

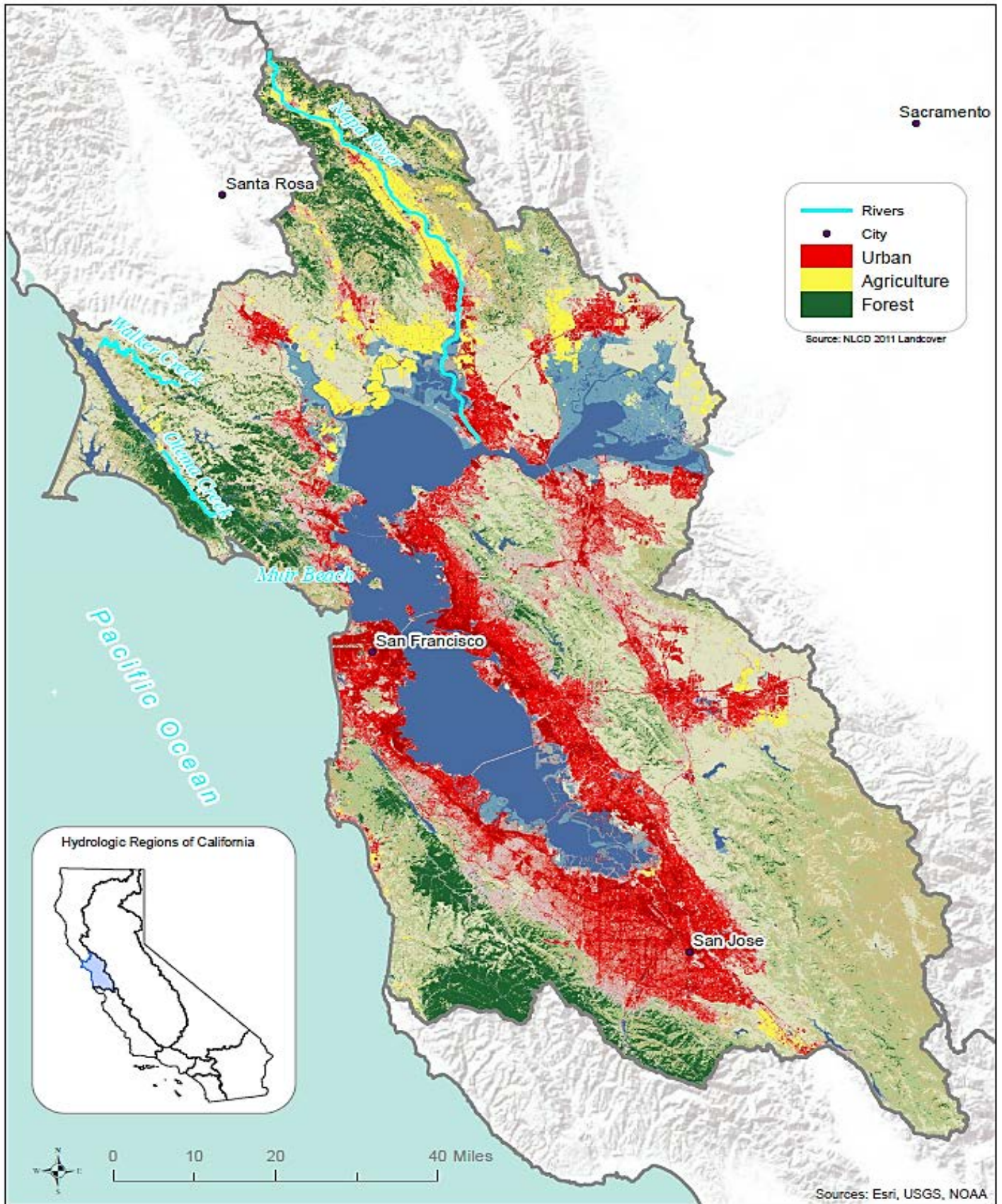


Figure 6. San Francisco Bay Regional Water Board with Major Land Use Categories

### 3. San Francisco Bay Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the San Francisco Bay Regional Water Board will be focusing on during the next six-year planning period.

#### *a. Initiative RB2.1: Regulation of Grazing Operations in the Tomales Bay, Napa River, and Sonoma Creek Watersheds*

##### Background

Water quality data have shown that Tomales Bay, Napa River, Sonoma Creek, and related tributaries are impaired by pathogens, sediment, and nutrients. The TMDLs completed in these respective watersheds have identified livestock grazing operations as a source for pathogens and sediment. In September 2011 and December 2013, the Regional Water Board adopted two conditional waivers of WDR for grazing operations to regulate this source of NPS pollution. The 2013 Tomales Bay grazing waiver implements the Tomales Bay Pathogen TMDL (2005), the Walker Creek Mercury TMDL (2007), Tomales Bay Mercury TMDL (2011), and the Lagunitas Creek sediment TMDL (2014). Similarly, the 2011 Napa River and Sonoma Creek grazing waiver implements the Napa River and Sonoma Creek pathogen TMDLs (2006) and the Sonoma Creek and Napa River sediment TMDLs (2008 and 2009, respectively).

The grazing waivers require landowners and operators of grazing operations to implement appropriate management practices (MPs) to control and minimize discharges of pollutants and to protect riparian areas. This strategy not only implements the pathogen and sediment TMDLs but also serves to address other impairments in the watershed (i.e., nutrients). Site appropriate MPs are identified and selected through a site reconnaissance and assessment process that has a water quality focus. Landowners/operators prepare ranch water quality plans (Ranch Plans), or amend existing plans, that assess erosion and sediment sources from their pastures, crop fields, and roads, and also identify sources of nutrients and pathogens as the result of uncontrolled discharge of animal wastes. The Ranch Plans include an implementation schedule for the MPs identified and the requirement of annual reporting to the Regional Water Board on the progress made towards MP implementation.

##### Needs Statement

Uncontrolled grazing operations can result in nutrient, pathogen, and sediment impairments to water quality. The NPS Implementation Policy requires the Water Boards to address all current and proposed NPS discharges under WDRs, waivers of



WDRs, or a basin plan prohibition, or some combination of these regulatory tools. At the current time, the Regional Water Board has determined that developing and implementing waivers of WDRs to be an effective way to address discharges from grazing operations. Per the NPS Implementation Policy, waivers of WDR must be renewed every five years. Thus, both the 2011 Napa River/Sonoma Creek watersheds and the 2011 Tomales Bay watershed Waivers will be expiring during the six year planning horizon and, as such, will need to be renewed.

### *Initiative Description*

The Regional Water Board intends to renew existing waivers of WDRs to address grazing operations in the Tomales Bay, Napa River, and Sonoma Creek watersheds. These renewed waivers will be developed consistent with the requirements of the Porter-Cologne Act. In addition, the Regional Water Board will continue to: (1) identify and enroll applicable grazing operations in the waivers; (2) provide education and outreach to stakeholders; (3) evaluate Ranch Plans and monitoring programs; (4) perform inspections; and (5) take appropriate enforcement actions, as necessary.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB2.1: Implement and renew conditional waivers of WDRs for grazing operations in the Tomales Bay, Sonoma Creek, and Napa River watersheds.

Objective RB2.1.01: Revise and reissue existing grazing waivers consistent with the requirements of the Porter-Cologne Act by December 2016 for Napa River and Sonoma Creek Grazing Waiver, and March 2019 for the Tomales Bay Grazing Waiver (unless these two permits can be replaced by a comparable regulatory program growing from a statewide regulatory effort).

Objective RB2.1.02: Facilitate program enrollment and compliance through grant funding, outreach and stakeholder education.

Objective RB2.1.03: Conduct field inspection of permitted facilities and undertake formal and informal enforcement as needed.

Objective RB2.1.04: Work with stakeholders to revise monitoring programs and evaluate up to 10 grazing operations, including site operations and management plans (Ranch Plans) per year.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 9.

## ***b. Initiative RB2.2: Regulation of Vineyards in the Napa River and the Sonoma Creek Watersheds***

### **Background**

Salmon and steelhead populations in the Napa River and Sonoma Creek watersheds have declined substantially since the 1940s. Fine sediment particle loads are substantially elevated in both watersheds degrading aquatic habitat. Sediment TMDLs completed in these watersheds identify vineyard facilities, including their associated road networks, as a source category for fine sediment that requires control. Common hillside vineyard practices can increase flow rates and volumes in adjacent streams resulting in gully formation and bed and bank erosion. These hydro-modification factors can further degrade fisheries habitat through the deposition of excessive fine sediment on spawning gravels, increased channel incision, loss of floodplain connectivity, loss of habitat, and diminishment in the integrity of the riparian corridor. Vineyards can also be the source of nutrients and pesticides which can be transported in surface runoff attached to sediment particles. As such, erosion control and site management practices employed to control fine sediment and pathogen discharges will also serve to control discharges of these pollutants from vineyard land use activities.

To control sediment and address the water quality factors described above, in 2011 the Regional Water Board, consistent with the adopted TMDLs and the NPS Implementation Policy, began development of a regulatory tool (e.g., waiver of WDRs) for vineyard properties located in the Napa River and Sonoma Creek watersheds. Input from a technical advisory committee and stakeholder advisory panel helped shape key elements of a draft permit that was circulated for public comment in late 2012. Comments received on the draft permit led the Regional Water Board to consider an alternate permitting mechanism in lieu of a waiver (i.e., general WDRs).

Regional Water Board adoption of the general WDRs is anticipated for late 2015.

In summary, Regional Water Board adoption of the WDRs, continued stakeholder outreach, vineyard program enrollment, administration of CWA section 319(h) grant awards to technical assistance groups such as Fish Friendly Farming and other third-party technical assistance groups to assist growers to farm in a way that is protective of water quality, and vineyard property inspections are the key elements of the Regional Water Board's Vineyard Program.

### **Needs Statement**

Vineyard development and farming practices can result in sediment discharges that degrade fish habitat. The NPS Implementation Policy requires the Water Boards to address all current and proposed NPS discharges under WDRs, waivers of WDRs, or

a basin plan prohibition, or some combination of these regulatory tools. The Regional Water Board has determined that developing and implementing WDRs is the most effective way to address discharges from vineyard operations.

### *Initiative Description*

The development and implementation over time, of farm water quality management plans (Farm Plan), will be a key component of the Vineyard Program. The Farm Plan is used to inventory and assess farming practices and the road networks on the vineyard property and to evaluate how those practices and road networks impact water quality. Where water quality issues are discovered, the Farm Plan includes a timeline, tailored to the individual farm, for implementing MPs and projects necessary to meet the requirements of the permit and to correct the identified problems. A second key component of the Vineyard Program includes a process for development, Regional Water Board approval, and auditing of third-party technical assistance groups. These groups, such as Fish Friendly Farming, would assist landowners and operators with their vineyard property assessments, in the preparation of their Farm Plans, and the selection and implementation of effective MPs and projects to meet permit requirements.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB2.2: Develop and implement a regulatory program for vineyards in the Napa River and the Sonoma Creek watersheds.

Objective RB2.2.01: Develop and bring before the San Francisco Bay Regional Water Board consideration for adoption general WDRs for the control of discharges from vineyard properties in the Napa River and Sonoma Creek watersheds in 2015.

Objective RB2.2.02: Work with third-party groups to provide technical assistance to assess MP selection and conduct site inspections.

Objective RB2.2.03: Facilitate grant funding and stakeholders outreach and education.

Objective RB2.2.04: Share experiences gained through implementation of the Vineyard Program with U.S. EPA, State Water Board, other Regional Water Board NPS and Irrigated Lands Regulatory Program.

Objective RB2.2.05: Assess and evaluate Vineyard Program enrollment to measure progress towards achieving the Napa River sediment TMDL.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 9.

#### ***c. Initiative RB2.3: Update and Renewal of Confined Animal Facility Waste Discharge Requirements***

### Background

The Regional Water Board regulates several types of confined animal facilities. Confined animal facilities are operations where animals are confined and fed in an area that has a roof or is devoid of vegetation, generating solid and liquid manure wastes that are collected and disposed of on land. These facilities represent a significant source of waste discharges in the Region and generate wastes that include, but are not limited to, manure, process waste water, animal wash water, and any water, precipitation or rainfall runoff that contacts animal confinement areas and/or raw materials, products or byproducts such as manure, compost piles, feed, bedding materials, silage, eggs or milk. Wastes from confined animal facilities can contain significant amounts of pathogens, oxygen-depleting organic matter, sediment, nitrogen compounds, and other suspended and dissolved solids that can impact groundwater and surface water if not properly managed. Waste waters can also contain chemicals such as detergents, disinfectants, and biocides.

Within the San Francisco Bay Region, the primary types of these facilities are dairies, horse facilities, and a few egg, chicken, and/or turkey production facilities. The majority of the animal waste produced is from cow dairies within the counties of Marin and Sonoma. There are approximately 40 cow dairies currently operating within the Region, with total herd sizes averaging 200-300 head.

The Region's Confined Animal Program will include a conditional waiver of WDRs (Confined Animal Waiver) for cow dairies that currently meet the State's minimum standards and waiver conditions, and a tier-based general WDRs (Confined Animal WDRs) for operations that: a) are not cow dairies (i.e., horse facilities, chicken and duck operations etc.), or for operations that pose a significant threat to water quality and require additional oversight. TMDLs and associated implementation plans have been adopted for many of the Region's watersheds. Livestock grazing lands, equestrian facilities, and other confined animal facilities in these watersheds, are identified as a categorical pollutant sources, and are required to implement site-specific management measures to reduce animal waste and sediment runoff.

### Needs Statement

As discussed previously, confined animal facilities discharge pathogens and nutrients that can impair both surface and groundwater. The NPS Implementation Policy requires the Water Boards to address all current and proposed NPS discharges under WDRs, waivers of WDRs, or a basin plan prohibition, or some combination of these regulatory tools. The Regional Water Board currently regulates confined animal facility discharges through a combination of a waiver of WDRs and general WDRs , as described above.

### Initiative Description

The Regional Water Board will update and renew the Confined Animal Conditional Waiver of WDRs and Confined Animal general WDRs considering the following: (1) changes to Title 27 California Code of Regulations sections 22560-22565 (Statewide Minimum Standards) which govern discharges from these facilities; (2) recently adopted TMDLs; (3) current and anticipated CWA section 303(d) water quality listings; and (4) recent updates to the Regional Water Boards grazing program (see Initiative RB2.1). The update of the Confined Animal general WDRs will: (1) allow for expanded permit application beyond traditional cow dairies, and (2) include management of grazing operations for that subset of confined animal facilities that maintain a grazing component to their operations to implement statewide NPS requirements, while reducing the permit burden imposed on the dischargers.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB2.3: Update, renew and implement the Confined Animal Conditional Waiver of WDRs and Confined Animal General WDRs.

Objective RB2.3.01: Complete public review drafts of the Confined Animal Conditional Waiver of WDRs and the Confined Animal General WDRs in 2015.

Objective RB2.3.02: Expand the Confined Animal Program to include other animal-type facilities that impact, or threaten to impact water quality, as identified by staff, beyond milk dairies (e.g., goat and sheep dairies) to include equestrian facilities, poultry farms, etc.

Objective RB2.3.03: Present the Confined Animal Conditional Waiver of WDRs and Confined Animal General WDRs to the San Francisco Bay Regional Water Board for their consideration and adoption in 2015.

Objective RB2.3.04: Enroll up to 40 milk dairies under the Conditional Waiver of WDRs or General WDRs by March 2016.

Objective RB2.3.05: Facilitate grant funding, outreach, and stakeholder education.

Objective RB2.3.06: Conduct up to five facility inspections annually to assess the adequacy of animal waste management and undertake enforcement, as needed.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 9.

### ***d. Initiative RB2.4: Evaluation of the Feasibility of Region-wide Rural/Open-Space Road or Trail Order***

#### Background

Unpaved roads are one of the most common types of man-induced disturbances, and unpaved road/trail-related surface erosion can increase sediment production by more than an order of magnitude, influence and affect the timing of surface runoff, concentration of runoff, initiate gully erosion, and increase land-sliding potential.

#### Needs Statement

Unpaved rural/open-space road or trail-related sediment delivery has been identified as a sediment source category in recently completed TMDLs for the Napa River and Sonoma Creek, and Lagunitas Creek watersheds. Furthermore, similar road/trail related sediment sources are anticipated to require management and control in the sediment TMDLs that are currently in development (e.g., Butano/Pescadero Creek, Walker Creek, and San Gregorio Creek watersheds).

#### Initiative Description

Evaluate preparing a region-wide or TMDL watershed-specific conditional waiver of WDRs or general WDRs for rural/open space roads and trails to control sediment-related erosion and concentrated runoff that leads to channel incision.

#### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB2.4: Expand sediment TMDL implementation through an evaluation/consideration of preparing a region-wide permit (e.g., general WDRs) for

reducing and controlling sediment delivery to receiving waters from rural/open-space unpaved roads and trails.

Objective RB2.4.01: Integrate lessons learned from the development and the implementation of the roads-element of the Grazing Program which requires assessment, prioritization, and repair of poorly functioning, high sediment yielding unpaved roads.

Objective RB2.4.02: Integrate lessons learned from the implementation of the roads element of the Vineyard WDRs (in development) which will require assessment, prioritization, and repair of poorly functioning unpaved roads located on a vineyard properties

### *Activities and Performance Measures*

The specific activities to meet the goal and are presented in Table 9. No performance metrics are proposed since this activity is purely a feasibility assessment.

### ***e. Initiative RB2.5: San Francisco Bay/Sacramento-San Joaquin River Delta***

#### *Background*

The San Francisco Bay/Sacramento-San Joaquin Delta Estuary, called the Bay-Delta, is the largest estuary on the west coast of North America. The Bay-Delta is composed of about 738,000 acres of which about 48,000 acres are water surface area. The Delta is located where California's two major river systems, the Sacramento and San Joaquin rivers, converge to flow westward, meeting incoming seawater from the Pacific Ocean through San Francisco Bay.

The Bay-Delta is one of the largest, most important estuarine systems for fish and waterfowl production on the Pacific Coast of the United States, including over 280 species of bird and 90 species of fish. It also serves as a migratory route and nursery area for Chinook salmon, striped bass, white and green sturgeon, American shad, and steelhead trout. The Delta Act of 2009 includes portions of the San Francisco Bay Region (i.e., Suisun Marsh and a portion of Suisun Bay) as part of the Bay-Delta Planning activities. Suisun Marsh is one of the largest contiguous estuarine wetlands in North America, and serves as a resting and feeding ground for millions of waterfowl migrating on the Pacific Flyway, and provides essential habitat for numerous birds, mammals and fish, including threatened and endangered species.

The Suisun Marsh wetlands are listed on the CWA section 303(d) list as being impaired by low dissolved oxygen/organic enrichment, mercury, nutrients, and salinity. Water quality in the marsh is mainly influenced by the flows from the

Sacramento-San Joaquin Delta, tidal action, runoff from local watersheds, and effluent from the Fairfield-Suisun Wastewater Treatment Plant, which receives advanced secondary treatment. The main water quality problems, in the northwest portion of the marsh, have been linked to seasonal operations of ponds and wetlands managed for waterfowl hunting. Suisun Marsh comprises approximately 116,000 acres, of which about 52,000 acres of diked baylands are operated as duck clubs. Vegetation manipulation, in conjunction with flooding of these areas for hunting in the fall, periodically results in discharges of anoxic black water from the diked marshes. The discharges, laden with decaying plant matter, can cause severe dissolved oxygen depletion in the adjoining channels and sloughs, which often leads to fish kills. The prolonged periods of flooding and drying, together with a buildup of organic carbon in the soils, can also accelerate mercury transformations and enhance methylmercury production.

In addition San Francisco Bay has been dramatically affected by human activities in the Delta beginning as early as the mid-1800s with gold mining, flood protection, land reclamation, and other activities that have lasting impacts today. Previous and current urban and agricultural practices upstream in the Delta contribute contaminants, including nutrients and selenium, to the San Francisco Bay. California Water Project operations have altered the natural amount, duration, direction, and timing of water flows through the Bay-Delta. Protection of beneficial uses has been, and continues to be, a challenge on numerous fronts. Particularly, concerns related to protection of beneficial uses have intensified due to the decline of pelagic organisms and other aquatic species, effects of climate change and sea level rise, and other ecosystem, water quality, and water supply related concerns. In all cases, non-point sources contribute significantly to the loads of these constituents to the Bay-Delta.

### Needs Statement

Water quality concerns in the Bay/Delta Estuary are a high priority for the Water Boards due to the ecological declines observed in the Estuary, most specifically the decline of pelagic organisms, including key fish species.

A high priority of the Boards is developing a better understanding of sources of pollution to the Estuary, including nutrients, pesticides and mercury. Currently, the Water Board is implementing several TMDLs that affect the Bay/Delta. These include the San Francisco Bay Mercury TMDL, San Francisco Bay PCBs TMDL, and the San Francisco Bay Urban Creeks Pesticide Toxicity TMDL. In addition, we anticipate completing the North Bay Selenium TMDL in 2015. The San Francisco Bay Regional Water Board has also developed a Bay-wide Nutrient Management Strategy to gather the necessary information to assess the condition of the Bay and take actions to address nutrients as necessary.

Suisun Marsh provides key ecological habitat for fish and wildlife. Duck clubs operating in the marsh sustain some beneficial uses but impact water quality in the marsh. Dissolved oxygen, mercury, and nutrient impairments of the Marsh are



currently being evaluated and we anticipate completing a TMDL for the Marsh in 2016. Non-point sources of pollutants to the Estuary include duck clubs, and limited amounts of grazing and agriculture.

The Bay-Delta is called out specifically because of its regional and statewide importance and the importance of coordinating efforts between the San Francisco Bay and Central Valley Water Boards.

### *Initiative Description*

This initiative focuses on developing a better understanding and control of NPSs of pollutants to the northern part of the Estuary and Suisun Marsh and overlaps with the Suisun Marsh TMDL.

### *Goal and Objectives*

The goal and objectives for this initiative are to:

Goal RB2.5: Improve water quality in Suisun Marsh through coordinated activities between the State Water Board, the San Francisco Bay Water Board and the Central Valley Water Board.

Objective RB2.5.01: Develop and adopt Suisun Marsh TMDL by December 2016.

Objective RB2.5.02: Implement management measures to reduce the frequency of low DO events in Suisun Marsh and evaluate the effectiveness of the implementation.

Objective RB2.5.03: Implement the San Francisco Bay Nutrient Strategy which will provide linkage to the Central Valley loadings of nutrients to assess the water quality status in the northern Bay-Delta in the next six years.

Objective RB2.5.04: Update Strategic Workplan to coordinate activities between the State Water Board, the San Francisco Bay Water Board and the Central Valley Water Board.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 9.

Table 9. San Francisco Bay Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
<u>RB2.1:</u> Regulation of Grazing Operations in the Tomales Bay, Napa River, and Sonoma Creek Watersheds	RB2.1.1	Revise and reissue conditional waivers of WDRs consistent with the requirements of the Porter-Cologne Act.	Revise and reissue a conditional waiver of WDRs for grazing operations in the Napa River and Sonoma Creek watersheds by December 2016.  Revise and reissue a conditional Waiver of WDRs for grazing operations in the Tomales Bay watershed by March 2019  (Note that these two permits may be replaced by a comparable State-wide regulatory program).	Enroll at least 25,000 and up to 78,000 acres in the Tomales Bay, Napa River and Sonoma Creek watersheds in the Grazing Program by 2020.
	RB2.1.2	Attend watershed forums and conducting stakeholder outreach and education		Participate in no less than one and possibly up to two workshops, conferences, and watershed/grazing forums per year
	RB2.1.3	Schedule and conduct field inspections of permitted facilities		Conduct at least two and up to 20 ranch inspections per year.
	RB2.1.4	Undertake enforcement, as needed, to increase rates of permittee compliance and program participation		Actual number of enforcement actions is dependent on site inspection results and permittee compliance with the conditional Waivers of WDRs
	RB2.1.5	Manage grants, incentivize and encourage the implementation of grazing and road-related MPs to reduce NPS pollution.		Secure one grant to support 3 <sup>rd</sup> party technical assistance efforts to increase MP implementation by 2018

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB2.1.6	Work with stakeholders to revise the watershed surface water monitoring program.		Development of a revised collaborative monitoring program in the Tomales Bay watershed by 2016.
<u>RB2.2:</u> Regulation of Vineyards in the Napa River and the Sonoma Creek Watersheds (Vineyard Program)	RB2.2.1	Complete development of General WDRs and related CEQA documentation.	Produce a public release draft for public comment by September 2015.	
	RB2.2.2	Bring the draft permit and CEQA documentation to the Regional Water Board for consideration and approval	Board hearing to consider adoption by December 2015	
	RB2.2.3	Foster third-party technical assistance groups for approval by the Executive Officer to assist farmers with site assessment and management practice selection.	Water Board approval of at least two third-party technical assistance groups by March 2016.	
	RB2.2.4	Work with approved third-party to ensure that farm plans are complete, accurate, and being implemented as designed and on schedule.	Conduct 10 to 30 vineyard facility inspections by 2020.	Inspect 2 to 5 vineyards by June 2016 to access third-party program performance.
	RB2.2.5	Attend watershed forums and conducting stakeholder outreach and education.		Participate in 2 to 4 workshops, conferences, stakeholder forums, or general outreach efforts by 2020.
	RB2.2.6	Manage grants related to the implementation of vineyard and road-related MPs to reduce NPS pollution.	Secure and manage 1 to 2 grants by 2018	

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB2.2.7	Partner with the U.S. EPA on the development of a TMDL implementation tracking and accounting system (ITAS) to measure progress towards achieving the Napa River sediment TMDL.		<p>a. Tracking progress made in controlling road-related erosion and control of sediment delivery</p> <p>b. Tracking progress made towards attenuating erosive stormwater flows at the points of vineyard facility discharge.</p> <p>c. Taking appropriate enforcement actions (informal and formal) to increase the rates of program participation, annual reporting, and Farm Water Quality Plan implementation.</p>
<u>RB2.3</u> <u>Confined Animal Facility WDRs:</u>	RB2.3.1	Produce drafts of the Conditional Waiver of WDRs and General WDRs and related CEQA documentation	Prepare a public review draft of a Conditional Waiver of WDRs (May 2015 and General WDRs (November 2015) and related CEQA review documentation.	
	RB2.3.2	Bring the revised permits and CEQA documentation to the Regional Water Board for consideration and adoption.	Board consideration and adoption of the Revised Conditional Waiver of WDRs by June 2015 and General WDRs by November 2015	
	RB2.3.3	Identify and enroll eligible confined animal facilities under the Conditional Waiver of WDRs		Enroll between 25 and 35 dairies under the Conditional Waiver of WDRs by March 2016.

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB2.3.5	Identify and enroll eligible confined animal facilities under the General WDRs, as identified.	Enroll between 4 to 10 confined animal facilities by 2020	
	RB2.3.6	Promote the efforts of the Dairy Waste Committee (voluntary committee formed by dairy operators within Marin and Sonoma counties), local Resource Conservation Districts (expansion of conservation practice program), or other, third-party groups that provide technical assistance to farmers to help them comply with the requirements of the Regional Water Board's Confined Animal Program		Participate in no less than 2 and up to 4 winter season animal committee meetings with dairy producers each year
	RB2.3.7	Manage grants related to the implementation of MPs to reduce NPS pollution		Secure and manage up to one grant to facilitate MP implementation
<u>RB2.4:</u> Evaluate a Region-wide unpaved Rural/Open-Space Road or Trail Management strategy	RB2.4.1	Integrate lessons learned through implementation of the Grazing and Vineyard Programs to inform a management strategy for this non-point source pollutant category identified in the sediment TMDLs adopted in the Region.	Meet with local county government agencies to advance awareness of feasible and cost effective actions that they might adopt to control erosion from unpaved roads and trails.	
<u>RB2.5:</u> San Francisco Bay/Sacramento-San Joaquin Delta	RB2.5.1	Continue efforts to develop a TMDL for Suisun Marsh	Adoption of the TMDL by December 2017	
	RB2.5.2	Begin implementation of management measures to reduce frequency of low dissolved oxygen events in Suisun Marsh	Implementation expected by December 2015	Evaluate monitoring data being collected by the Suisun RCD to confirm effectiveness of management measures.

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB2.5.3	Implementation of the San Francisco Bay Nutrient Strategy which provides linkage to Central Valley loading nutrients is underway and is expected to develop the information necessary.		Assess water quality status of the northern Bay-Delta system by December 2019.
	RB2.5.4	Update Strategic Workplan to coordinate activities between the State Water Board, the San Francisco Bay Water Board and the Central Valley Water Board.		Update of the Strategic Workplan by June 2020.

## **D. Central Coast Regional Water Quality Control Board**

### **1. Description of the Region**

The Central Coast Region extends along 378 miles of the Central California coast, from southern San Mateo County down to northern Ventura County, and includes a national marine sanctuary (Monterey Bay) and a national estuary (Morro Bay) (see Figure 7). The Region also encompasses the rich agricultural valleys of Salinas and Santa Maria, the wine-growing areas of Monterey, San Luis Obispo and Santa Barbara counties, as well as rangeland, urban areas, coastal streams and forests. Agriculture and tourism are important contributors to the economy of the Region. NPSs of pollution cause many of the Region's most severe water quality problems.

The state's NPS Program recognizes joint authority between the California Coastal Commission and the State and Regional Water Boards for the protection of water quality. As a coastal region, the Central Coast Water Board coordinates with the California Coastal Commission on NPS issues through various venues. The Coastal Commission and Central Coast Water Board participate in the Water Quality Protection Program of the Monterey Bay National Marine Sanctuary, which encompasses two of the largest and highest priority watersheds in the region, the Pajaro and Salinas river watersheds.

### **2. Surface Water and Groundwater Quality Issues**

The Central Coast Regional Water Board faces numerous water quality issues. Overarching water quality issues in the Region are: (1) addressing the impacts associated with agricultural activities (e.g., sediment, nutrients, and pesticides); (2) protection of the coastline (e.g., beach closures resulting from high pathogen concentrations); (3) controlling urban runoff (e.g., hydromodification resulting in increased flow and erosion especially from small urban areas subject to Phase II of the Pollutant National Discharge Elimination System Permit); and (4) the protection of drinking water sources both surface and groundwater. Because of the Central Coast Region's largely rural nature, many of the existing and potential surface water pollution impacts are from NPS land use activities such as agriculture, rural roads, and grazing. These land use activities result in surface water impairments associated with: (1) sediment and siltation, (2) temperature, (3) nutrients, (4) dissolved oxygen, (5) pathogens, (5) microcystin, (6) metals, and (7) bio-stimulatory conditions. Impacts associated with agriculture activities are the major source of groundwater pollution, as well.

The Regional Water Board continues to prioritize activities toward its vision of healthy watersheds through goals of healthy aquatic habitat, proper land management to maintain watershed functions, and clean groundwater that meets water quality objectives. A healthy watershed is one that supports all beneficial uses of surface and groundwater. Healthy watersheds function well ecologically and are sustainable. They support diverse

aquatic habitat, have riparian areas and corridors with sufficient vegetative buffer area to minimize land pollutant runoff into surface waters, sufficient cover and canopy to maintain habitat, and have near natural levels of sediment transport. Surface waters meet water quality objectives, and sediments are sufficiently low in pollutants to provide for healthy habitat. Groundwaters are near natural levels in quantity and quality, for water supply purposes and for base flow for sustaining creek habitat and migratory fish routes.

The areas discussed below, irrigated agriculture, groundwater protection, and aquatic habitat protection, reflect current Regional Water Board priority actions or initiatives. Irrigated agriculture also reflects TMDL implementation priorities, which target agricultural impacts to water quality throughout the Region.

For purposes of this plan, the Central Coast Regional Water Board has identified nutrients and pesticides as its highest priority water quality pollutants. Nutrients, especially nitrate, are impacting both surface and groundwater in the region. Pesticides in surface water runoff and attached to sediments are the major source of toxicity in the Region's watersheds.



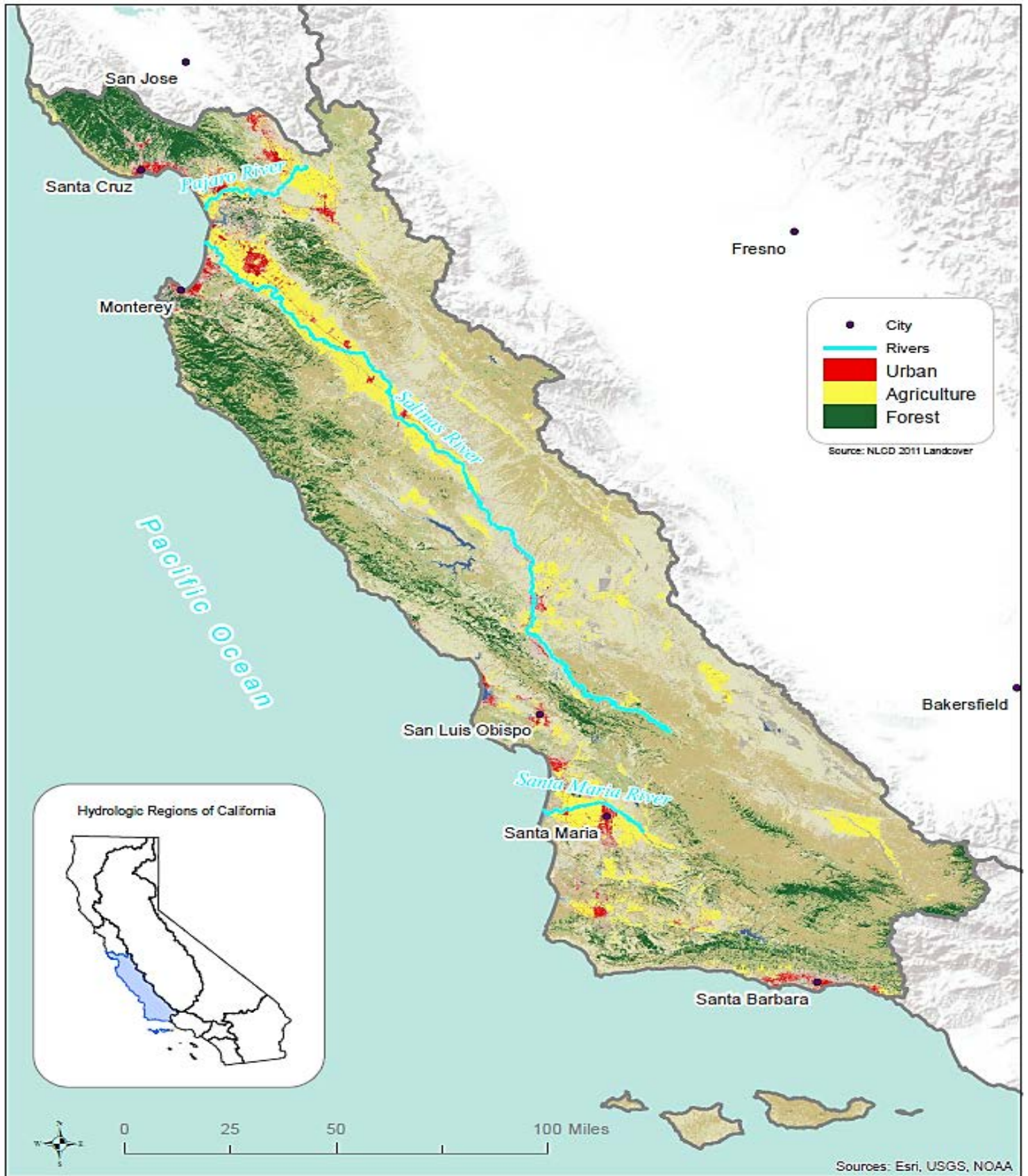


Figure 7. Central Coast Regional Water Board with Major Land Use Categories

### 3. Central Coast Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the Central Coast Regional Water Board will be focusing on during the next six-year planning period. The NPS program will focus on initiative RB3.1 - Irrigated Agriculture, as its highest priority for addressing NPS pollution over the implementation planning period. Initiatives RB3.2 - Groundwater Protection, and RB3.3 - Aquatic Habitat Protection, will be implemented through a combination of NPS (primarily irrigated agriculture) and point source implementation activities, including NPDES municipal stormwater and CWA section 401 water quality certifications.

#### *a. Initiative RB3.1: Irrigated Agriculture*

##### Background

The single largest land use impacting water quality in the Central Coast Region is irrigated agriculture. The Region has approximately 435,000 acres of irrigated farmland, most of which is concentrated in the Salinas, Pajaro and Santa Maria River watersheds. These rivers and many of their tributaries are impaired by pollutants directly related to agricultural activities (e.g. nutrient and pesticide related impairments). The Regional Water Board has adopted and is implementing several TMDLs addressing impairments driven by agricultural discharges. This includes TMDLs addressing 156 listings for nutrient and pesticide related impairments in the lower Salinas River and Santa Maria River watersheds.

Water quality impacts from irrigated agriculture are primarily addressed through the implementation of a conditional waiver for irrigated lands, which was adopted by the Central Coast Water Board in 2004. On March 15, 2012, the Central Coast Regional Water Board adopted an updated Conditional Waiver of WDRs (Agricultural Order No. R3-2012-0011) (R3 – Irrigated Lands Waiver). The RB3 – Irrigated Lands Waiver was subsequently approved by State Water Resources Control Board on September 24, 2013, through State Water Board Order No. WQ 2013-0101. This action upheld the original R3 – Irrigated Lands Waiver with modifications. The waiver categorizes growers in one of three tiers, with tier one being the least problematic to impacting surface and groundwater and tier three being the most problematic. To meet the requirements of the R3 – Irrigated Lands Waiver, the growers must:

1. Enroll in the R3 – Irrigated Lands Waiver by filing an electronic-notice of intent to discharge;
2. Develop and implement a farm water quality management plan;
3. Implement management practices to protect water quality;
4. Conduct surface water receiving monitoring and reporting either cooperatively (e.g., as a member of a group) or individually;

5. Conduct groundwater monitoring and reporting either cooperatively (e.g., as a member of a group) or individually;
6. Install backflow prevention devices;
7. Submit annual compliance form (Tier 2 and Tier 3 only);
8. Conduct individual discharge monitoring and reporting (Tier 3 only);
9. Develop and implement a certified irrigation and nutrient management plan (Tier 3 only); and
10. Develop and implement water quality buffer plan (Tier 3 only).

Regional Water Board staff is focusing regulatory program efforts to protect drinking water sources, aquatic life, and other beneficial uses by effectively minimizing and measuring reductions in pollutant loading from priority agricultural operations in the most impaired agricultural areas in the Central Coast Region.

### *Needs Statement*

The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. In addition, per the NPS implementation Policy, waivers of WDR must be renewed every five years. The Regional Water Board currently regulates irrigated agriculture through the R3 – Irrigated Lands Waiver. The waiver expires in 2017 and must be renewed or replaced by the Regional Water Board by March 2017.

### *Initiative Description*

This initiative summarizes the activities that will be accomplished by the Regional Water Board's agricultural program staff during this NPS 6 Year Plan time period (2014-2020). The primary goal of the agricultural program is to ensure water quality improvement and protection by irrigated agriculture. Activities include implementing the R3-Irrigated Lands Waiver by evaluating farming operation submittals, prioritizing farming operations based on risk to water quality, evaluating management practice implementation and effectiveness, initiating enforcement and other actions as necessary and adopting a revised agricultural order.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB3.1: Protect the drinking water beneficial use of groundwater in agricultural areas and ultimately to protect beneficial uses and attain water quality objectives in agricultural areas of the Central Coast Region.

Objective RB3.1.1: Implement the 2012 Region 3-Irrigated Lands Waiver.

Objective RB3.1.1.1: Manage and analyze Total Nitrogen Applied (TNA) and other information submitted by farming operations.

Objective RB3.1.1.2: Prioritize farming operations according to risk to water quality based on TNA and other information and GIS analysis of risk to water quality.

Objective RB3.1.1.3: Track implementation of management practices for irrigation, nutrients, and pesticides on prioritized farming operations.

Objective RB3.1.1.4: Evaluate implementation effectiveness on prioritized farming operations.

Objective RB3.1.1.5: Initiate enforcement and other actions as necessary to ensure effective management practice implementation and water quality improvement

Objective RB3.1.1.6: Evaluate water quality biannually

Objective RB3.1.2: Adopt a revised agricultural order

Objective RB3.1.2.1: Complete a public draft of the proposed agricultural order

Objective RB3.1.2.2: Obtain Board approval of a revised agricultural order.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 10.

## ***b. Initiative RB3.2: Groundwater Protection***

### *Background*

An assessment of regional groundwater data collected between 2010 and 2014 document that nitrate pollution in areas associated with intensive irrigated agricultural activity is severe and widespread, affecting major portions of the most viable aquifers in the Central Coast Region. As a result, numerous communities in the Central Coast are affected by non-point sources of nitrate pollution. The nitrate assessment is available within the Item No. 11 staff report regarding [CCAMP-Groundwater Assessment and Protection \(GAP\) Update and Summary of Groundwater Basin Data with Respect to Nitrate](#) for the July 31 –August 1, 2014 Regional Water Board regular meeting.

Whereas localized groundwater quality conditions associated with various land uses and point source discharges are generally well documented, regional- and basin/aquifer-scale groundwater quality conditions associated with significant

watershed scale land uses and non-point source discharges are relatively undocumented. Local agency basin/aquifer-scale monitoring programs exist in some areas of the region and are lacking in others. Although local agency data are generally available to the Water Board upon request, little coordination exists between the Water Board and local agencies to integrate these data into existing Water Board databases to more efficiently conduct ongoing groundwater quality assessment. There is a significant potential to build on these programs in a mutually beneficial way through increased coordination.

The Central Coast region relies on groundwater for 86 percent of its total water supply for all uses. In many areas of the region groundwater is the sole source of drinking water supply. This is particularly true for rural residents throughout the region who get their drinking water from unregulated water systems below the “public water system” threshold of 15 service connections. This includes domestic wells, which are often in agricultural areas where the groundwater has been impacted by nitrate. There are an estimated 44,000 domestic wells in the region. In some counties within the region it is estimated that upwards of 16 percent of the population rely on small unregulated water systems and domestic wells for drinking water purposes. The number, location and water quality associated with domestic wells and to a lesser extent, water systems with less than 15 service connections, are undocumented given most of these wells and water systems have never been sampled for nitrate. Consequently, thousands of Central Coast residents may be unaware that their drinking water is not safe to drink. Some information regarding domestic wells and small unregulated water systems is available at the county level, but this information is generally only available in disparate and non-electronic formats.

The Water Board is unable to effectively evaluate regional- and basin/aquifer-scale groundwater impairment associated with non-point sources of nitrate and other contaminants without regional- and basin/aquifer-scale monitoring and assessment. In addition, the Water Board is unable to effectively evaluate beneficial use impairment and the associated human health risk and exposure associated with non-point sources of nitrate and other contaminants without knowing the number, location and water quality associated with domestic wells and small unregulated water systems.

### *Needs Statement*

Regional and basin/aquifer-scale groundwater monitoring and assessment and the assessment of drinking water and other groundwater beneficial uses are needed to identify areas of potentially unsafe drinking water supply, measure individual groundwater basin/aquifer health, and determine the effectiveness of Regional Water Board non-point source efforts to protect and improve groundwater quality and protect public health.

### *Initiative Description*

The Central Coast Water Board has initiated a Groundwater Assessment and Protection (GAP) program to provide ongoing regional- and basin/aquifer-scale groundwater quality assessment and implement projects addressing high-priority groundwater issues. The primary goals of the program are to inform and measure the effectiveness of Water Board actions and inform other local and state agencies as well as the general public, and to protect groundwater resources and beneficial uses throughout the region. The current focus of the GAP program is to implement voluntary domestic well sampling programs and capture available local agency groundwater quality and beneficial use data. For more information go to the following website:

[http://www.waterboards.ca.gov/centralcoast/water\\_issues/programs/gap/index.shtml](http://www.waterboards.ca.gov/centralcoast/water_issues/programs/gap/index.shtml)

### *Goals and Objectives*

The goals and objectives for this initiative are to:

Goal RB3.2.1: Identify and inform Central Coast residents at-risk of groundwater nitrate exposure and ensure they have access to safe drinking water.

Objective RB3.2.1.1: Identify high risk nitrate exposure areas via basin and parcel scale analyses of available land use, TNA data, groundwater quality and well locational data.

Objective RB3.2.1.2: Capture and integrate county level domestic well and small water system data.

Objective RB3.2.1.3: Coordinate with local agencies and the State Water Board to implement drinking water nitrate exposure related outreach and education in high risk areas via direct mail and broad-based outreach. Coordinate this work with objective RB3.2.1.4

Objective RB3.2.1.4: Implement free and voluntary domestic well sampling programs in the Central Coast Region for the purposes of informing at-risk residents about the quality of their drinking water, capturing beneficial use well information, and establishing baseline water quality conditions associated with domestic wells and small unregulated water systems.

Objective RB3.2.1.5: Help identify and coordinate drinking water replacement and funding efforts with local and state agencies and NGOs, with an emphasis on disadvantaged communities.

Goal RB3.2.2: Improve groundwater data management and assessment tools to inform Water Board actions and increase public availability of groundwater quality data.

Objective RB3.2.2.1: Coordinate with local agency programs and the State Water Board to integrate and build on groundwater monitoring programs where they exist and create them where they don't exist.

Objective RB3.2.2.2: Capture, compile and assess groundwater quality data for the purposes of evaluating baselines and trends.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 10.

### ***c. Initiative RB3.3: Aquatic Habitat Protection***

#### Background

Riparian and wetland areas play an important role in protecting several of the beneficial uses designated in the Central Coast Region Basin Plan, which include, but are not limited to: groundwater recharge; fresh water replenishment; warm fresh water habitat; cold fresh water habitat; inland saline water habitat; estuarine habitat; marine habitat; wildlife habitat; preservation of biological habitats of special significance; rare, threatened or endangered species; migration of aquatic organisms; and spawning, reproduction and/or early development. Riparian and wetland areas play an important role in achieving several water quality objectives established to protect specific beneficial uses. These include, but are not limited to, those water quality objectives related to natural receiving water temperature, dissolved oxygen, suspended sediment load, settleable material concentrations, chemical constituents, and turbidity.

Owners and operators of agricultural operations have historically removed riparian and wetland areas to plant cultivated crops. These agricultural activities have degraded, and threaten to degrade, the beneficial uses related to aquatic habitat. In particular, seasonal and daily water temperatures are strongly influenced by the amount of solar radiation reaching the stream surface, which is influenced by riparian vegetation. Removal of vegetative canopy along surface waters threatens maintenance of temperature water quality objectives, which in turn negatively affects dissolved oxygen related water quality objectives, which in turn negatively affects the food web.

#### Needs Statement

Beneficial uses of most Central Coast Region streams include habitat for cold and warm water fish species, including threatened and endangered anadromous fish.

Many streams have been impacted by hydromodification activities and stormwater runoff, grazing, vegetation removal, and grading for agriculture and urban development. The Regional Water Board has prioritized the prevention and correction of degradation to aquatic habitats and needs to take preventive actions to protect these valuable resources.

### *Initiative Description*

The Regional Water Board has designated the prevention and correction of degradation to aquatic habitats as a high priority. The major goal of this initiative is that aquatic habitat be healthy, supporting all designated beneficial uses and meeting water quality objectives. This will be accomplished through: assessing the current status of the Region's aquatic habitat areas, coordinating with other entities in a statewide effort to develop water quality objectives for aquatic life protections, incorporating aquatic habitat requirements into appropriate permits and orders to minimize impacts and increase mitigation, taking enforcement actions for failure to implement the requirements by dischargers ensuring that those section of the RB3 – Irrigated Lands Waiver that apply to aquatic habitat protection are implemented, and providing updates to the Regional Water Board on actions related to aquatic habitat protection.

### *Goal and Objectives*

The goal and objectives for this initiative are to:

Goal RB3.3: Ensure that land use activities such as construction, municipal stormwater management, and agriculture are managed to minimize impacts to aquatic habitat and protect all designated beneficial uses.

Objective RB3.3.1: Assess where watersheds are healthy, where they are not, and identify trends.

Objective RB3.3.2: Coordinate/participate in statewide efforts to develop water quality objectives for aquatic life protections

Objective RB3.3.3: Issue CWA Section 401 Water Quality Certifications that minimize impacts to wetland and riparian areas and optimize mitigation for impacts that do occur.

Objective RB3.3.4: Require Central Coast municipal stormwater dischargers to implement post-construction stormwater management practices that minimize impacts to aquatic habitat from hydromodification.

Objective RB3.3.5: Require farms to implement sediment and runoff controls to prevent degradation of aquatic habitat.



Objective RB3.3.6: Identify and implement additional actions needed to protect aquatic habitat (e.g., enforcement actions, etc.).

*Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 10.

Table 10. Central Coast Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
RB3.1: Irrigated Agriculture	RB3.1.1.1	Manage and analyze total nitrogen applied (TNA) and other data generated from the irrigated lands program	Watersheds: Pajaro, Salinas, Santa Maria  November 2014, 2015, 2016, 2017, 2018, and 2019: collect/coalesce TNA reports.  March 2015, 2016, 2017, 2018, 2019, 2020: Assess TNA reports, identify high risk ranches for follow-up and identify follow-up actions)	September 2015, 2016, 2017, 2018, 2019, and 2020: Report on follow-up actions for prioritized ranches.  December 2020: Achieve 90 percent compliance with TNA reporting requirement
	RB3.1.1.2	Prioritize farming operations based on GIS analysis of risk to water quality.  <i>Background: A minimum of two out of three watersheds will be prioritized (Salinas, Pajaro, Santa Maria)</i>		
	RB3.1.1.3	Track implementation on prioritized farming operations	September 2015: Assessment/determination of ranches required to submit INMP Effectiveness Report (correspondence with ranch contacts)	September 2017: Report on follow-up of INMP Effectiveness Reports
	RB3.1.1.4	Evaluate compliance with Irrigation and Nutrient Management Planning (INMP) and other requirements	December 2016: Compile INMP Effectiveness Reports  2015, 2017, 2019: Conduct database exports to provide statistics to generate the report.	2015, 2017, 2019: Provide reports to Board and public on best management practice implementation trends
	RB3.1.1.5	Undertake enforcement actions, if necessary (inspections, California Water Code section 13267 letters, etc.)	2016-2020: Conduct inspections and issue 13267 letters	December 2015, 2016, 2017, 2018, 2019, 2020: Provide Enforcement Reports/Board Agricultural Program updates on enforcement activities
	RB3.1.1.6	Evaluate monitoring receiving water data from Cooperative Monitoring Program (CMP) to determine progress reducing pollutant load and improving receiving	February 2016, 2017, 2018, 2019, 2020: Provide annual enrollment data to CMP to fund monitoring activity results	July 2017, 2019, 2021: Report to Board on Cooperative Monitoring Program receiving water data

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
		water quality		
	RB3.1.2.	Develop and approve at the Regional Water Board level either a reissue of the R3 – Irrigated Lands Waiver or some other regulatory tool.	2018-2020: Develop public draft of a revised agricultural order and hold public hearings	Staff to bring an item before the Regional Water Board to extend the existing Irrigated Lands Waiver or General order to be developed.  2020: RB3 Board adoption of a revised R3 – Irrigated Lands Waiver or a new regulatory approach (e.g., WDRs)
<u>RB3.2:</u> Ground- water Assessment and Protection	RB3.2.1.1	Identify high risk nitrate exposure areas via basin and parcel scale analyses of available land use, groundwater quality and well locational data.	February 2015: Preliminary USPS zip code and carrier route analyses conducted for Monterey County  April/May 2015: Complete region-wide USPS zip code and carrier route analyses and coordinate with State Water Board Office of Public Participation and Office of Public Affairs (for implementation of Objective RB3.2.1.3)	June 2015: Nitrate high-risk area maps and prioritized list of USPS zip codes and mail carrier routes to target for direct mail and targeted community outreach.
	RB3.2.1.2	Capture and integrate county level domestic well and small water system data.	Compile historical county level data on wells and water systems and create agreements and protocols as necessary to transmit/share new data as it is generated (December 2017).	September 2013 Pilot: Compiled and evaluated parcel and nitrate water quality data associated with local small and state small water systems in Monterey County. Results available on the GAP website under “Small Water System Mapping and Nitrate Data.”
	RB3.2.1.3	Coordinate with local agencies and the State Water Board to implement drinking water nitrate exposure related outreach and education in high risk areas via direct mail	February 2014: \$150K in State Water Board Discretionary Project Funds approved for outreach and education component of region-wide domestic well sampling project (see	FY 2015/16: Implement outreach and education efforts in coordination with third party contractor. Project to be implemented as a component of the region-wide domestic well sampling project (see

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
		and broad-based outreach. Coordinate this work with objective RB3.2.1.4	<p>Objective RB3.2.1.4)</p> <p>April-December 2014: Prepared project scope of work and bidding documents.</p> <p>January/February 2015: Submitted contract request form package to Division of Administrative Services Contracts Unit.</p> <p>March/July 2015: Release bidding documents for third party contractor portion of project, review bids, select contractor, and initiate contract.</p>	Objective RB3.2.1.4). The domestic well sampling project and associated outreach and education effort is intended to act as a pilot for subsequent statewide implementation.
	RB3.2.1.4	Implement free and voluntary domestic well sampling programs in the Central Coast Region for the purposes of informing at-risk residents about the quality of their drinking water, capturing beneficial use well information, and establishing baseline water quality conditions associated with domestic wells and small unregulated water systems.	<p>2012-2013: Coordinated with USGS to sample 90 household wells in the Pajaro and Salinas Valleys.</p> <p>April 2014: \$219,400 in State Water Board Cleanup and Abatement Funds approved for field sampling, analytical testing and data management (to be implemented by third party contractor.</p> <p>May-June 2014: Prepared project scope of work and submitted contract request form package to Division of Administrative Services Contracts Unit.</p> <p>June-December 2014: Prepared bidding documents.</p> <p>March/July 2015: Release bidding documents for third party contractor portion of project,</p>	<p>FY 2015/16: Implement region-wide domestic well sampling project in coordination with third party contractor. A deliverable associated with the third party contractor community focused efforts is a drinking water needs and solutions assessment, with an emphasis on disadvantaged communities. The outreach and education effort (Objective RB3.2.1.3) will be primary vehicle to inform public of the free sampling program. The domestic well sampling project and associated outreach and education effort is intended to act as a pilot for subsequent statewide implementation.</p> <p>2017-2020: Staff will attempt to obtain funds to continue the sampling effort and sample an additional 200 wells.</p>

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
			<p>review bids, select contractor, and initiate contract (concurrently conduct bidding and contracting processes for domestic well sampling project and associated outreach and education project) .</p> <p>July-December 2016: Compile and assess domestic well data and provide to Water Board programs and make available to other agencies and the public as appropriate (See objective RB3.2.2.2)</p>	
	RB3.2.1.5	Help identify and coordinate drinking water replacement and funding efforts with local and state agencies and NGOs, with an emphasis on disadvantaged communities.	<p>2014: Provided \$118,000 in funding for emergency replacement water projects in the Salinas Valley.</p> <p>2014: Coordinated with State Water Board, UCLA and local environmental justice groups to identify disadvantaged communities in Salinas Valley as candidates for drinking water treatment system pilot projects.</p> <p>2014/2015: Providing technical support to Greater Monterey County IRWM disadvantaged communities drinking water and sanitation needs and solutions assessment (funded by 2014 legislative budget act grant of \$500K)</p>	FY 2015/16: Develop drinking water needs and solutions assessment, with an emphasis on disadvantaged communities, as part of third party contractor outreach and education efforts (see Objective RB3.2.1.3) and ongoing coordination efforts.
	RB3.2.2.1	Coordinate with local agency programs and the State Water Board to integrate and build on groundwater monitoring programs where they exist and create them where they don't exist.	2013: Verbal agreement from four local water management districts/agencies to integrate data into statewide groundwater database (GeoTracker GAMA information system). Data capture from these agencies/districts would include historical and ongoing basin/aquifer-scale groundwater quality and elevation data	Ongoing via coordination with State Water Board and local water agencies. Now aligning this effort with the implementation of the Sustainable Groundwater Management Act of 2014.

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
			<p>from over 100 agency-owned monitoring wells within 11 groundwater basins/sub-basins.</p> <p>2015-2017: Develop requisite data management structure and local agency agreements, and pilot subset of available local agency data.</p> <p>2017 - : Integrate data from other participating agencies.</p>	
	RB3.2.2.2	Capture, compile and assess groundwater quality data for the purposes of evaluating baselines and trends.	2016-2017: Assess county level well and drinking water program data and provide to Water Board programs and make available to other agencies and the public as appropriate (See objective RB3.2.1.2 and RB3.2.1.4)	2016-2020: Conduct ongoing assessment and develop at least two reports as data is collected and compiled.
RB3.3: Aquatic Habitat Protection	RB3.3.1	Complete Healthy Watersheds Assessment to identify where watersheds are healthy, where they are not, what trends look like and the status of regional conditions for healthy aquatic habitat.	2014-2016: Develop/modify CCAMP data management tools to evaluate health of watersheds	2014-2020: Annual Progress Reports to the Water Board
	RB3.3.2	Participate in the statewide effort to develop water quality objectives for aquatic life protection. (conference calls, meetings, reviewing draft documents, etc.)	2015-2020: Assist State Water Board staff in the development water quality objectives for aquatic life protection	2020: Implement aquatic life protection water quality objectives and/or adopt them into the Basin Plan if necessary
	RB3.3.3	Incorporate requirements in permits and orders, issue CWA 401 Water Quality Certifications with protective conditions and increased mitigation goals, develop watershed-specific TMDL numeric targets	Provide annual program updates to the Water Board included in Board items and EO reports (2015- 2020)	2020: Demonstrate a decrease in wetland and riparian impacts allowed in 401 certifications relative to wetland and riparian impacts proposed in 401 applications as reported in program updates to the Board

Initiative	Objective/ No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures (Date)
		protective of aquatic life.		<p>2020: Demonstrate an increase in wetland and riparian mitigation required in 401 certifications relative to mitigation proposed in 401 certification applications</p> <p>2020: Include aquatic habitat targets in TMDLs, permits taken to the Board</p>
	RB3.3.4	Implement municipal post-construction stormwater management requirements for development projects.	Annual or more frequent Stormwater Program updates to the Board (2014-2020)	Eighty percent of municipal stormwater dischargers will implement post-construction stormwater practices by December 2015.
	RB3.3.5	Implement provisions of the R3-Irrigated Lands Waiver by requiring farms adjacent to a stream impaired by sediment, turbidity or temperature and that discharge irrigation runoff directly to those streams, to implement sediment and runoff controls (e.g., vegetated buffers) to prevent direct discharges or activities that degrade aquatic habitat in these streams.	<p>January 2016: Identify farms that are required to develop Water Quality Buffer Plans.</p> <p>October 2016: High risk farms must submit Water Quality Buffer Plans</p> <p>October 2017: Review and approve Water Quality Buffer Plans</p> <p>2018-2020: Implementation of Water Quality Buffer Plans</p>	2018-2020: Reports to Board on status of Water Quality Buffer Plans
	RB3.3.6	Identify and implement additional actions needed to protect aquatic habitat (e.g., enforcement actions)	2014-2020: Provide annual or more frequent Enforcement Reports to the Board	Complete ten aquatic habitat-related enforcement actions by June 2020

## **E. Los Angeles Regional Water Quality Control Board**

### **1. Description of the Region**

The Los Angeles Regional Water Board has jurisdiction over all coastal drainages flowing to the Pacific Ocean between Rincon Point (on the coast in western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente) (Figure 8).

With more than 10 million residents, the Los Angeles Region is the most densely populated region in the state. Despite the large number of discharges and highly industrialized nature of some watersheds, land use within the Region is quite diverse. Agriculture and open space exist alongside urban, residential, commercial and industrial areas. Approximately 1,000 discharges of wastewater are regulated by the Los Angeles Regional Water Board. About half of these are point sources discharge to surface waters, and are regulated by NPDES permits. In addition, the Regional Water Board prescribes WDRs for the remaining discharges, which are primarily to ground waters and landfills.

### **2. Surface Water Quality Issues**

Some of the main surface water quality issues in the Los Angeles Region include aquatic life and wildlife habitat threatened by elevated levels of toxic pollutants, contaminated sediments, trash, and increased nutrient loading and eutrophication. In order to address these surface water quality issues, the Los Angeles Regional Water Board has prioritized several programmatic activities. Since the late 1990s, the Regional Water Board has focused on TMDL adoption and, as a result, has adopted approximately 50 TMDLs. In the years to come, the Regional Water Board will focus on implementing these TMDLs. The Regional Water Board must review monitoring reports, implementation plans, and special studies that were required by the adopted TMDLs. Adopting and enforcing municipal storm water permits that incorporate TMDL waste load allocations is another top priority. The Regional Water Board will continue to oversee and enforce the thousands of wastewater permits in the Region. The Regional Water Board will also continue its efforts to reduce pollutant loading from agricultural activities and other NPSs, which are especially relevant in Ventura County watersheds, and can generate excessive nutrients, pesticides, and other pollutants.

The initiatives discussed below reflect the NPS priorities of the Los Angeles Water Board for the next six years: irrigated agriculture, grazing and horses/intensive livestock, trash, and contaminated sediment remediation.



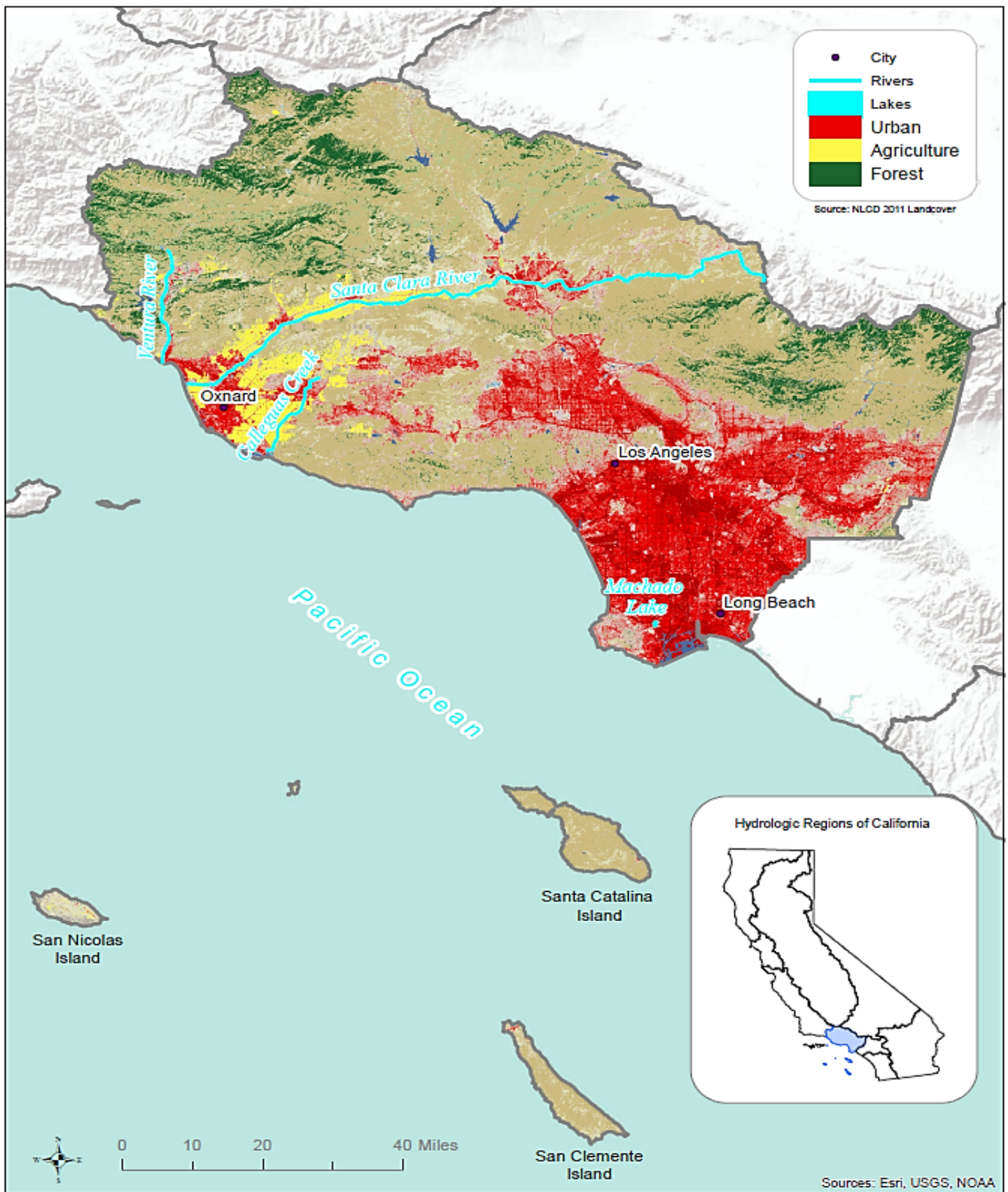


Figure 8. Los Angeles Regional Water Board with Major Land Use Categories

### 3. Los Angeles Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the Los Angeles Regional Water Board will be focusing on during the next six-year planning period.

#### *a. Initiative RB4.1: Irrigated Agriculture*

##### Background

Agricultural activities can generate pollutants such as sediment, pesticides, and nutrients that degrade water quality and impair beneficial uses. The Regional Water Board has adopted numerous TMDLs that have identified irrigated agriculture as the predominant source of these pollutants. These TMDLs address the following waterbodies and impairments: (1) Calleguas Creek for polychlorinated biphenyls, metals, nitrogen, organochlorine pesticides, organophosphate pesticides, salts, and toxicity; (2) McGrath Lake for historic pesticides and polychlorinated biphenyls; (3) Oxnard Drain #3 for organochlorine pesticides and polychlorinated biphenyls; (4) Santa Clara River for bacteria, chlorides, and nutrients; (5) Santa Clara River Estuary for toxaphene; and (6) Ventura River for algae.

The Regional Water Board renewed the Conditional Waiver of WDRs for Discharges from Irrigated Lands (Order No. R4-2010-0186) on October 7, 2010 (R4 – Irrigated Lands Waiver). The intent of the R4 – Irrigated Lands Waiver program is to attain and maintain water quality benchmarks<sup>3</sup> (Benchmarks) in receiving waters by regulating the discharges from irrigated agriculture lands. The objectives of the program are to provide agricultural farm management educational opportunities to growers, monitor the water quality impacts of runoff from irrigated agriculture facilities on receiving waters and, if required, mitigate the impacts. The R4 - Irrigated Lands Waiver requires agriculture dischargers to (1) enroll in the program, (2) conduct water quality monitoring, and (3) develop a water quality management plan to implement iterative best management practices and attain maintain the Benchmarks. There are approximately 1,640 growers covering approximately 91,900 acres in Ventura County. In Los Angeles County there are approximately 500 to 700

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<sup>3</sup> “Water quality benchmark” means a requirement established by the Regional Board Water Quality Control Plan (including discharge prohibitions and narrative or numeric water quality objectives), a requirement established by an applicable Statewide plan or policy, criteria established by USEPA (including those in the California Toxics Rule and the applicable portions of the National Toxics Rule), and load allocations established pursuant to a total maximum daily load (TMDL) (whether established in the Basin Plan or other lawful means). Water quality benchmarks for discharges from irrigated lands are identified in Appendices 2 and 3 of Order No. R4-2010-0186

growers covering approximately 6,800 acres. During the implementation process, the enrolled acreage, education workshops, and outreach activities and management practice implementation will be documented. Implementation of the R4 - Irrigated Lands Waiver is an iterative process of management practice implementation, monitoring, and upgrading to completely address pollution from agricultural sources.

### Needs Statement

The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. In addition, per the NPS Implementation Policy, waivers of WDRs must be renewed every five years. The R4 – Irrigated Land Waiver will expire in October 2015 and must be renewed or replaced with another acceptable regulatory mechanism.

### Initiative Description

The Regional Water Board will continue to implement the current R4 – Irrigated Land Waiver as described above and renew the existing waiver or replace it with another acceptable regulatory mechanism by October 2015.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB4.1: Reduce NPS discharges from irrigated agricultural lands through implementation of the Regional Water Boards irrigated lands regulatory program (Irrigated Lands Program).

Objective RB4.1.01: Increase interaction with discharger groups and individual dischargers, as necessary, in the areas subject to the R4-Irrigated Lands Waiver (or any subsequent regulatory mechanism developed by the Regional Water Board) to address agricultural dischargers.

Objective RB4.1.02: Increase discharger enrollment and acreage covered under the R4 – Irrigated Lands Waiver (or any subsequent regulatory tool developed by the Regional Water Board) to address agricultural dischargers.

Objective RB4.1.03: Increase implementation of management measures and management practices by dischargers subject to the R4- Irrigated Lands Waiver (or any subsequent regulatory tool developed by the Regional Water Board) to address agricultural dischargers.

Objective RB4.1.04: Improve the effectiveness of the Irrigated Lands Program through enhanced tracking of management measure and management practice implementation and water quality monitoring, and evaluation of water quality trends.

Objective RB4.1.05: Develop and present revised R4- Irrigated Lands Waiver (or other regulatory mechanism to the Regional Water Board) for approval by October 2015.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 11.

#### ***b. Initiative RB4.2: Grazing and Horses/Intensive Livestock***

##### Background

This initiative will address NPS pollution due to (1) grazing activities and (2) horse/intensive livestock facilities. The grazing activities will be addressed through the participation in statewide regulatory efforts and/or the development of a region-specific regulatory program. Horse and intensive livestock facilities will be regulated under a separate region-specific regulatory mechanism.

##### *Grazing*

The grazing program focuses on addressing direct and indirect impacts of grazing activities. While cattle grazing can have an impact on pollutant loading, the impacts are indirect and can be difficult to quantify. For example, when cattle are allowed to graze directly on streambanks, the bank structure can be destabilized, causing soil erosion and associated nutrient loading into the stream. The loss of riparian vegetation also reduces shade and the buffering capacity of the stream. Finally, the loss of riparian vegetation and weakened streambanks decreases the depth and increases the width of the stream, which can increase its temperature. Such indirect effects impact the amount of pollutant loading to the stream and the stream's ecological response to the pollutant loading. The impacts will vary considerably depending on site-specific conditions such as vegetation cover, grazing density, proximity to the stream, and period of use.

The grazing program will gather site-specific data on ranching practices in the Ventura River watershed and throughout the Los Angeles Region in order to quantify baseline pollutant loading from cattle grazing as directed by the Ventura River Nutrients TMDL. The TMDL requires responsible parties for grazing activities to submit the results of baseline monitoring by summer 2017. According to the TMDL, if it is determined that there are water quality impacts due to grazing, then the owners/operators of grazing activities will be required to develop management plans for approval by the Executive Officer and implement management measures identified in management plans. The TMDL directs responsible parties for grazing activities to submit a monitoring and reporting program by June 2018.

### *Horse/Intensive Livestock Facilities*

Horse and intensive livestock facilities will be regulated under a separate regulatory mechanism than grazing activities. The Los Angeles Water Board will determine which horse and intensive livestock facilities will be subject to the WDRs, waivers of WDRs or other regulatory mechanisms during their development based on factors that may include, but are not limited to, type of operation, density of animals, and risk to water quality. It is expected that a program similar to that for irrigated agriculture will be adopted for horse and livestock facilities. As part of the proposed program, horse and intensive livestock facilities will be required to develop management plans for Executive Officer approval and implement management practices identified in the management plans. Monitoring may consist of documentation of management practice implementation, and may include water quality monitoring to determine effectiveness of management practices. The TMDL directs responsible parties for horse/intensive livestock facilities to submit a monitoring and reporting plan by June 2018.

### *Needs Statement*

Grazing activities and horse/intensive livestock facilities can generate pollutants such as sediment, bacteria, and nutrients that degrade water quality and impair beneficial uses. Manure from horse and intensive livestock facilities can be discharged to receiving waters due to poor manure management or washed into receiving waters during wet weather. Grazing activities can disturb stream banks and riparian areas and cause erosion, which increase the discharge of sediment, animal waste, and nutrients to surface waters. Several watersheds in Ventura County are impaired due to nutrients and bacteria, and in particular, the Ventura River Nutrients TMDL assigns load allocations to grazing activities and horse/intensive livestock facilities.

### *Initiative Description*

Per the Ventura Nutrients TMDL, those responsible for grazing activities and horse/intensive livestock facilities must submit a monitoring plan as part of waiver, WDR, or other regulatory mechanism requirement or in response to Regional Water Board order. Consistent with the TMDL requirements, the Regional Water Board will : (1) identify facilities subject to programs; (2) foster the development of third-party technical assistance and administrative oversight groups to represent individual horse facilities and grazing operations; (3) provide education and outreach to dischargers; (4) collect baseline water quality information; (5) conduct inspections; and (6) ensure that dischargers identified as impacting water quality implement appropriate management measures.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB4.2: Reduce NPS discharges from grazing activities and horse/intensive livestock facilities through implementation of the requirements of the Ventura River TMDL.

Objective RB4.2.01: Adopt separate regulatory mechanisms for grazing activities and horse/intensive livestock facilities (either waiver, WDR, or other regulatory mechanism)

Objective RB4.2.02: Collect site-specific data on ranching practices in the Ventura River watershed and throughout the Los Angeles Region in order to quantify baseline pollutant loading from cattle grazing as directed by the Ventura River Nutrients TMDL. The responsible parties for grazing activities are required to submit the results of baseline monitoring by June 2017.

Objective RB4.2.03: Require the owners/operators of grazing activities responsible for water quality impact due to grazing to develop management plans and implement management practices identified in the management plans, as necessary. The responsible parties for grazing activities must submit a monitoring and reporting program by June 2018.

Objective RB4.2.04: Determine which horse and intensive livestock facilities will be subject to the WDRs, waivers of WDRs or other regulatory mechanisms during their development based on factors that may include, but are not limited to, type of operation, density of animals, and risk to water quality

Objective RB4.2.05: Require responsible parties for horse and intensive livestock facilities to develop management plans and implement management practices identified in management plans. The TMDL directs responsible parties for horse/intensive livestock facilities to submit a monitoring and reporting plan by June 2018.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 11.

### ***c. Initiative RB4.3: Contaminated Sediment Remediation***

#### **Background**

Several waterbodies in the Los Angeles Region are impaired due to pesticides and other toxic pollutants in sediments, including McGrath Lake, Machado Lake, and Marina Del Rey Harbor. The contaminated sediments are the result of historically deposited sediments containing toxic pollutants - often banned pesticides that are no longer in use. The concentrations of toxic pollutants in the bed sediment is often so high that the sediments themselves become a source of pollutants to the overlying water column through sediment resuspension, bioturbation, and desorption. In some cases, the TMDLs for these waterbodies have assigned load allocations to the contaminated bed sediment.

The contaminated sediment remediation program focuses on implementation of the TMDLs for these contaminated waterbodies. The TMDLs assign load allocations to the sediments and allow for implementation through a voluntary memorandum of agreement. The TMDLs specify that the memorandum of agreement and subsequent remediation activities must comply with the NPS Implementation Policy, including specifically the five key elements. Cooperating parties identified in the TMDLs must develop workplans detailing how they will remediate the sediments using implementation measures such as dredging, capping, riparian restoration, and monitored natural attenuation. The strategy is for the Regional Water Board to enter into memorandums of agreement with cooperating entities, oversee the development of workplans, and ensure that those workplans are implemented. The Machado Lake final compliance deadline is September 30, 2019 and the McGrath Lake final compliance deadline is June 30, 2025. The Marina Del Rey Harbor TMDL final compliance deadline is 2029.

#### **Needs Statement**

The TMDLs addressing contaminated sediments in the McGrath Lake, Machado Lake, and Marina del Rey Harbor require the cooperating parties identified to: (1) enter into memoranda of agreement with the Regional Water Board; (2) develop water quality management plans that remediate the contaminated sediments; and (3) implement the management plans to achieve the TMDL load allocations water quality objectives. Regional Water Board staff needs to be actively involved in all aspects of this process.

#### **Initiative Description**

The Regional Water Board staff will work with the cooperating parties identified in the contaminated sediment TMDLs to: (1) develop memoranda of agreement; (2)



approve acceptable water quality management plans, and (3) review post-remediation monitoring data.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB4.3: Reduce NPS pollution from contaminated sediments in order to demonstrate attainment and maintenance of load allocations in several Los Angeles Region TMDLs through monitoring and remediation.

Objective RB4.3.01: Adopt memoranda of agreement with cooperating parties and entities identified in the McGrath Lake, Machado Lake, and Marina Del Rey Harbor TMDLs.

Objective RB4.3.02: Approve water quality management plans developed by the cooperating agencies to remediate sediments, including actions such as dredging, capping, and monitored natural attenuation in accordance with the McGrath Lake, Machado Lake, and Marina Del Rey Harbor TMDL implementation schedules.

Objective RB4.3.03: Evaluate pre-and post-remediation sediment monitoring to ensure that remediation activities are successful in attaining and maintaining TMDL load allocations and water quality objectives.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 11.

#### ***d. Initiative RB4.4: Trash***

### Background

A major source of trash in the oceans, beaches, coastal areas, rivers, creeks, and lakes of the Los Angeles Region is litter, which is intentionally or accidentally discarded to the waterbodies. Windblown 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, the Regional Water Board developed and is implementing a waiver program that includes a minimum frequency of assessment and collection program (Trash Minimum

Frequency Program) in conjunction with best management practices (Trash Minimum Frequency –Management Practice Program). The Trash Minimum Frequency – Management Practice Program is implemented for waterbodies that have adopted trash TMDLs. The mission of the Trash Minimum Frequency –Management Practice Program is to attain and maintain zero trash from NPSs. Zero trash is defined as the amount of trash present that does not accumulate in deleterious or nuisance amounts on the surface and the shorelines of waterbodies to adversely affect beneficial uses. The program includes: (1) an assessment of trash on the surface or shoreline of the waterbody of concern; (2) collection of all visible trash that accumulates on the surface or shoreline of the waterbody; and (3) implementation of best management practices to attain a progressive reduction of the amount of trash collected at each collection event. The [Water Board’s Surface Water Program protocols for trash assessment](#) are being implemented throughout the Region.

### *Needs Statement*

The Los Angeles Water Board needs to renew the waiver of WDRs for NPS trash pollution. The waivers were previously included in the TMDLs that included load allocations for NPS trash pollution; those waivers must be renewed on a five-year program. Alternatively WDRs may be adopted to implement the trash load allocations.

### *Initiative Description*

According to the TMDLs that assigned load allocations to NPS trash, the load allocations were to be implemented through either a conditional waiver of WDRs or an alternative program implemented through WDRs or an individual waiver of WDRs. The adopted waiver program specified that NPS dischargers could achieve compliance with the load allocations by implementing a Trash Minimum Frequency – Management Practice Program approved by the Regional Water Board Executive Officer. Responsible jurisdictions that are listed as both point and NPSs will be deemed in compliance with both the waste load allocations and load allocations if a Trash Minimum Frequency –Management Practice Program approved by the Executive Officer, is implemented.

The Regional Water Board will be ensuring through the regulatory mechanism used that the Trash Minimum Frequency –Management Practice Program meets the following criteria:

1. Trash Minimum Frequency –Management Practice Program includes an initial minimum frequency of trash assessment and collection and a suite of structural and/or nonstructural best management practices. The Trash Minimum Frequency –Management Practice Program must also include collection and disposal of all trash found in the water and on the shoreline. Responsible jurisdictions will be

required to implement an initial suite of best management practices based on current trash management practices in land areas that are found to be sources of trash.

2. Trash Minimum Frequency – Management Practice Program includes reasonable assurances that it will be implemented by the responsible jurisdiction.
3. The Trash Minimum Frequency –Management Practice Program includes a trash monitoring and reporting plan (Trash Monitoring Plan), and a requirement that the responsible jurisdictions will self-report any non-compliance with its provisions. The results and report of the Trash Monitoring Plan must be submitted to Regional Water Board on an annual basis.
4. Trash Minimum Frequency Program protocols are based on SWAMP protocols for rapid trash assessment or alternative protocols proposed by the dischargers and approved by the Executive Officer.
5. Implementation of the Trash Minimum Frequency –Management Practice Program includes a Health and Safety Plan to protect personnel. The Trash Minimum Frequency –Management Practice Program does not require responsible jurisdictions to access and collect trash from areas where personnel are prohibited.
6. At the end of the implementation period, a revised Trash Minimum Frequency – Management Practice Program may be required if the Executive Officer determines that the amount of trash accumulating between collections is causing nuisance or otherwise adversely affecting beneficial uses.

Pursuant to Water Code section 13269, waivers of WDRs need to be renewed every five years. The Los Angeles Regional Water Board will renew waivers for its trash TMDLs by 2016 and ensure that the waivers are consistent with the State Board’s Trash Policy, adopted in April 2015. If inconsistencies are found, the Los Angeles Regional Water Board’s trash initiative will be updated to be consistent with the State Board Trash Policy.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB4.4: Attain and maintain zero trash from NPSs in the Los Angeles Region

Objective RB4.4.01: Track the number of Trash Minimum Frequency –Management Practice Program 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.

Objective RB4.4.02: Renew the waivers of WDRs or develop WDRs for NPS trash pollution by December 2016.

*Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 11.

Table 11 . Los Angeles Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
RB4.1: Irrigated Agriculture	RB4.1.01	Continue to develop relationships with discharger groups in Ventura and Los Angeles Counties and individual dischargers, as necessary.	Meet at least once per year with each discharger group and maintain regular contact via e-mail, phone calls, and letters.	
	RB4.1.02	Conduct outreach and enforcement activities to increase enrolment in the R4-Irrigated Lands Waiver	Identify and take progressive enforcement actions against non-enrolled growers as necessary – report number of actions, number of new members, etc.	<p>Increase the enrolled acreage in Ventura County from approximately 75 percent to 100 percent by 2020.</p> <p>Increase the enrolled acreage in Los Angeles County from approximately 25 percent to 100 percent by 2020.</p>
	RB4.1.03	Participate in education events and conduct stakeholder outreach to increase MP implementation	<p>Participate in at least ten education classes, symposiums, and workshops to educate growers about R4 – Irrigated Lands Waiver requirements.</p> <p>Review and approve education credit workshops and class materials.</p> <p>Continue to track number of dischargers that have completed education requirements.</p>	<p>All dischargers complete 8 hours of education. All dischargers improve management practices on their farms to reduce or eliminate discharges. Demonstrated by discharger groups reporting on management practice implementation by HUC-12 or drainage area for a given compliance monitoring location through their WQMPs. Discharger groups will report on total number of MPs, type of MPs (e.g., sediment retention or nutrient management), and area treated by MPs. Verified by Regional Water Board spot inspections to confirm reported MPs are being implemented. These requirements are laid out in R4-Irrigated Lands Waiver or other regulatory mechanism.</p>

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
	RB4.1.04	Work with approved discharger groups to ensure that individual growers are implementing MPs according to their water quality management plans.		Review and provide comments on two discharger groups' annual monitoring reports and updated annual WQMPs to ensure targeted MP implementation.
	RB4.1.05	Maintain GIS maps to aid in outreach, MP implementation, enforcement, and reporting on program progress and success.	Update GIS-based database to track MP implementation (annually).	Use GIS to overlay enrollment numbers and MPs reported as being implemented buy HUC-12 or drainage area for a given compliance monitoring location, so that MP implementation and grower participation can be correlated with water quality data.
	RB4.1.06	Require discharger groups to enter water quality monitoring data into CEDEN.	All monitoring data required for R4 – Irrigated Lands Waiver entered into CEDEN on a quarterly basis starting no later than July 2016.	
	RB4.1.07	Work with discharger groups and/or individual dischargers to obtain financial assistance to implement MPs.	At least one new implementation grant that addresses agricultural NPS pollution awarded to an applicant in the R4 – Irrigated Lands Waiver area by 2020. Work with partners such as RCDs and NRCS to leverage resources and other funding sources such as EQIP and National Water Quality Initiative funding to implement practice standards.	
	RB4.1.08	Develop a revised R4-Irrigated Lands Waiver or other regulatory mechanism and related California Environmental Quality Act (CEQA) documentation.	Revised R4-Irrigated Lands Waiver or other regulatory mechanism and related CEQA documentation developed by August 2015.	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
	RB4.1.09	Bring the revised R4-Irrigated Lands Waiver or other regulatory mechanism and CEQA documentation to the Regional Water Board for consideration and approval.	Revised R4-Irrigated Lands Waiver or other regulatory mechanism and related CEQA documentation adopted by Regional Water Board by October 2015.	
	RB4.1.10	Implement updated 2015 R4-Irrigated Lands Waiver or other regulatory mechanism.	Begin implementation of 2015 R4-Irrigated Lands Waiver or other regulatory mechanism by November 2015.	
	RB4.1.11	Begin work on revised R4-Irrigated Lands Waiver or other regulatory mechanism for consideration in 2020.	Review water quality data and information from GIS database to track trends in water quality and correlations between grower participation, MP implementation, and water quality improvements by July 2020. Apply adaptive management to increase R4-Irrigated Lands Waiver requirements, such as edge of field monitoring, or switching to WDRs as a regulatory mechanism.	
	RB4.1.12	Participate in U.S. EPA, State Board, and Regional Water Board NPS and Irrigated Lands Program teams to share experiences gained through implementation of the Irrigated Lands Program	Attend regular NPS and Irrigated Lands Program Roundtables and host at least one roundtable and/or field trip (biennially) to demonstrate implementation of current Regional Water Board regulatory mechanism for agriculture.	
<u>RB4.2:</u> Grazing and	RB4.2.01	Adopt separate regulatory mechanisms for grazing activities and horse/intensive livestock	Adopt horse/intensive livestock facilities regulatory mechanism by June 2016. Adopt grazing activities regulatory mechanism by	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
Horses/Intensive Livestock		facilities.	June 2017.	
	RB4.2.02	Identify horse/intensive livestock facilities subject to horse/intensive livestock regulatory program (grazing activities subject to grazing activities regulatory program is already known).	Develop database of horse/intensive livestock facilities by July 2015.	
	RB4.2.03	Foster the development of third-party technical assistance and administrative oversight groups to represent individual horse/intensive livestock facilities and grazing activities so they don't have to enroll and comply on their own.	Organization of two discharger groups by July 2015	
	RB4.2.04	Collect baseline water quality data from grazing activities and reduce pollution loading from baseline levels through implementation of management practices.	Require ranchers to submit baseline data by June 2017.  Requires ranchers to submit management plans by June 2018.	.



Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
	RB4.2.05	Reduce pollution loading from horse/intensive livestock facilities	Require horse/intensive livestock facility owners to submit monitoring program to track implementation of management practices by June 2018.	Monitoring may consist of photo documentation of MP implementation at facilities. According to TMDL, horse/intensive livestock facility owners must also participate in watershed-wide water quality monitoring by 2023.
	RB4.2.06	Attend watershed forums and conducting stakeholder outreach and education	Attend at least one workshop, conference, or stakeholder forum per year, and provide and/or participate in ongoing general outreach efforts (annually)	
	RB4.2.07	Pursue opportunities for financial assistance to help offset the costs of regulatory compliance.	Financial assistance awarded to at least one discharger group to implement regulatory program. Leverage funding from NRCS EQIP, in addition to 319 program funds, where applicable.	
	RB4.2.08	Manage grants related to the implementation of grazing and horse/intensive livestock MPs to reduce NPS pollution.	Manage at least one grant related to the implementation of grazing and horse/intensive livestock MPs to reduce NPS pollution (annually).	
	RB4.2.09	Schedule and conducting field inspections of facilities		Perform inspections as needed beginning in January 2018 and prepare inspection reports.
	RB4.2.10	Participate in the statewide grazing regulatory action project.	Attend regular statewide grazing regulatory action project meetings.	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
RB4.3: Contaminated Sediment Remediation	RB4.3.01	Negotiate and adopt memorandums of agreement with cooperating agencies and entities identified in the McGrath Lake, Machado Lake, and Marina del Rey Harbor TMDLs. Under the MOAs, cooperative parties, such as marina owners, land owners, and lake operators, must identify a plan to remediate sediments.	Three memorandums of agreement executed - one by December 2015, one by December 2016, and one by December 2017.	
	RB4.3.02	Work with cooperative parties to develop plans to remediate sediments, including actions such as dredging, capping, and monitored natural attenuation in accordance with the McGrath Lake, Machado Lake, and Marina del Rey Harbor TMDL implementation schedules.	Review of three workplans to remediate contaminated sediments: one workplan by December 2015, one workplan by December 2017, and one workplan by December 2018.	
	RB4.3.03	Work with cooperative parties to obtain financial assistance to assist in offsetting the costs of remediation.	At least one new implementation grant or other funding source that addresses sediment remediation by December 2019, or begin development of cleanup and abatement order if timely progress is not made towards remediating sediments in accordance with the TMDLs.	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
	RB4.3.04	Ensure sediment remediation efforts are effective and that TMDL load allocations and water quality objectives are met through review of pre- and post-remediation monitoring.		Review of post-remediation monitoring data for Machado Lake.
	RB4.3.05	Ensure that sediments in Marina del Rey Harbor are not re-contaminated with copper, while at the same time implementing the water column copper TMDL by reduction in copper loading from boat hull paint.		
<u>RB4.4:</u> Trash	RB4.4.01	Develop a revised R4 – Trash Waiver or other regulatory mechanism and related California Environmental Quality Act (CEQA) documentation, as necessary, for implementation of six TMDLs.	Revised R4 – Trash Waiver or other regulatory mechanism and related CEQA documentation, as necessary, developed by October 2016.	
	RB4.4.02	Bring the revised R4 – Trash Waiver other regulatory mechanism and CEQA documentation, as necessary, to the Regional Water Board for consideration and approval.	Revised R4 – Trash Waiver or other regulatory mechanism and related CEQA documentation adopted by Regional Water Board by December 2016.	
	RB4.4.03	Implement revised R4 – Trash Waiver or other subsequent regulatory mechanism.	Begin implementation of revised R4 – Trash Waiver or other regulatory mechanism by January 2017.	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones	Interim Measures
	RB4.4.04	Conduct inspections of waterbodies subject to the revised R4 – Trash Waiver or other subsequent regulatory mechanism to determine attainment and maintenance of load allocations.		Conduct at least one site inspection per year and prepare site inspection reports.
	RB4.4.05	Conduct stakeholder outreach and education.	Assist responsible parties with at least one stakeholder outreach effort per year	
	RB4.4.06	Work with responsible parties to revise Minimum Frequency of Assessment and Collection Programs as necessary to attain load allocations.		Annually review six reports submitted by responsible parties containing analysis of monitoring data.

## F. Central Valley Regional Water Quality Control Board

### 1. Description of the Region

The Central Valley stretches from the Oregon border to the northern tip of Los Angeles County and includes all or part of 38 of the State's 58 counties (see Figure 9). Three major watersheds have been delineated within the Region, namely the Sacramento River Basin, the San Joaquin River Basin and the Tulare Lake Basin. The three basins cover about 40 percent of the total area of the State and approximately 75 percent of the irrigated acreage. Surface water supplies tributary to or imported for use within the Central Valley, particularly the San Joaquin River and Tulare Lake basins, are inadequate to support the present level of agriculture and other development; therefore, groundwater resources within the valley are being mined to provide additional water to supply demands.

The Sacramento and San Joaquin River Basins are bound by the crests of the Sierra Nevada on the east and the Coast Range and Klamath mountains on the west. They extend over some 400 miles. The Sacramento and San Joaquin River Basins cover about one fourth of the total area of the State and contain over 43 percent of the State's irrigable land. Surface water from these two basins meet and form the Delta, which ultimately drains to San Francisco Bay. Major groundwater resources underlie both river valley floors.

The Sacramento River Basin covers 27,210 square miles. The principal streams in the basin are the Sacramento River and its larger tributaries: the Pit, Feather, Yuba, Bear and American Rivers to the east; and Cottonwood, Stony, Cache and Putah Creeks to the west. Major reservoirs include Shasta, Oroville and Folsom.

The San Joaquin River Basin covers 15,880 square miles. The principal streams in the basin are the San Joaquin River and its larger tributaries: the Cosumnes, Mokelumne, Calaveras, Stanislaus, Tuolumne, Merced, Chowchilla, and Fresno Rivers. Major reservoirs include Pardee, New Hogan, Millerton, McClure, Don Pedro, and New Melones.

The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River and encompasses approximately 17,650 square miles. The valley floor makes up slightly less than one-half of the total basin land area. The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, provide the bulk of the surface water supply native to the basin. Major reservoirs are Pine Flat, Kaweah, Success and Isabella. Imported surface water enters the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta-Mendota Canal.

## 2. Surface Water and Groundwater Quality Issues

In the recent past, Central Valley Regional Water Board's water quality efforts have focused on controlling major ground and surface water quality problems associated with specific point source discharges. Major regulatory programs were developed to control discharges to surface waters from wastewater treatment plants, industries, landfills and other specific sources. State and federal grant programs supported construction of wastewater treatment facilities. Other programs were developed to address thousands of ground water quality problems resulting from prior discharges from landfills, wastewater land disposal units, leaking underground and above ground tanks, military facilities, and from numerous other discrete sources.

Discharges from NPSs such as agriculture, silviculture, urban runoff, past mining activities, dairies, and individual wastewater disposal systems, now cause the most significant and widespread surface and ground water quality problems. Following are the most significant identified water quality issues in the Central Valley Region.

Some of the most significant surface water quality problems in the region results from NPS discharges from agricultural lands. In the San Joaquin River and Sacramento River watersheds and Delta sub-watershed, there are widespread impairments resulting from elevated pesticide concentrations. Salt, selenium and nutrients are major problems in the San Joaquin River and Delta. Erosion contributes to downstream water quality problems, including degraded aquatic and riparian habitat, siltation, increased temperature and changes in stream morphology. In the Central Valley, erosion is occurring from the headwaters down to the valley floor. Although naturally occurring, erosion can be accelerated by timber harvest activities, land use conversion, rural development, and grazing.

Ground water in the San Joaquin Valley is a primary water supply in many instances but it is impaired or threatened because of elevated levels of nitrates and salts that are derived principally from irrigated agriculture, dairies, discharges of wastewater to land, and, to a lesser extent, from septic tanks. In the Sacramento Valley and foothills, discharges from septic tanks are a significant water quality concern. Conditions are expected to worsen unless significant efforts are initiated to reverse the trends. Most of the low elevation surface water streams and lakes in the Sacramento River and San Joaquin River watersheds are impaired because of elevated levels of mercury in fish tissue. The predominate source of the mercury is past mining activities in the Coast and Sierra Nevada ranges.

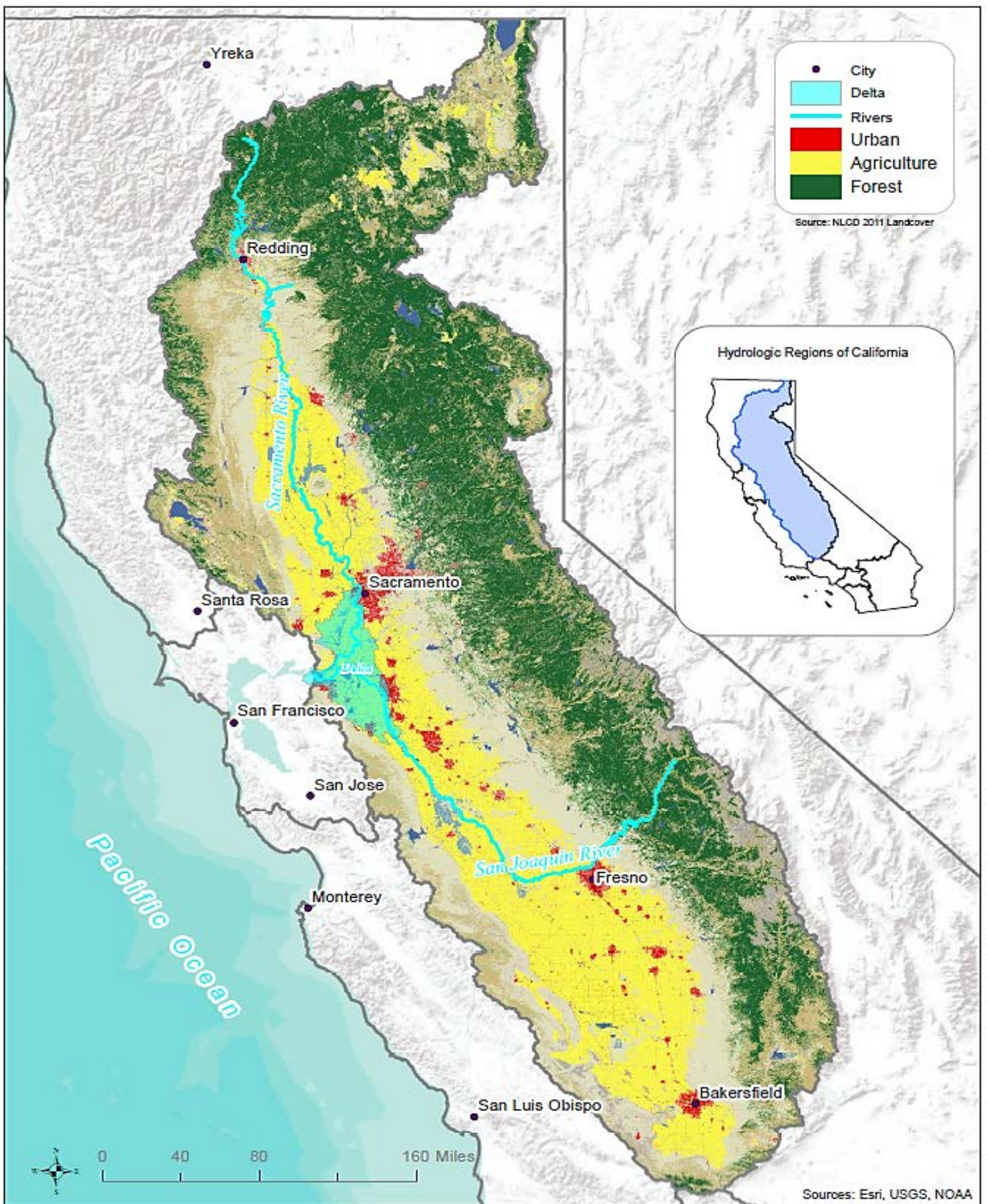


Figure 9. Central Valley Regional Water Board with Major Land Use Categories

### 3. Central Valley Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the Central Valley Regional Water Board will be focusing on during the next six-year planning period.

#### *a. Initiative RB5.1: Protecting Beneficial Uses in the San Francisco Bay/Sacramento-San Joaquin Delta*

##### Background

The San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) is the largest estuary on the west coast of North America. It is composed of approximately 738,000 acres of which about 48,000 acres are water surface area. The Delta is located where California's two major river systems, the Sacramento and San Joaquin Rivers, converge to flow westward, meeting incoming seawater from the Pacific Ocean through San Francisco Bay. This former wetland area has been reclaimed into more than 60 islands and tracts that are now devoted primarily to farming. The Bay-Delta is interlaced with about 700 miles of waterways. The Sacramento and San Joaquin river systems drain about 40 percent of California's water supporting a variety of beneficial uses.

The Bay-Delta is one of the largest, most important estuarine systems for fish and waterfowl production on the Pacific Coast of the United States, including over 280 species of bird and 90 species of fish. The Delta's channels serve as a migratory route and nursery area for Chinook salmon, striped bass, white and green sturgeon, American shad, and steelhead trout. Other resident fishes in the estuary include delta smelt, longfin smelt, Sacramento splittail, catfish, largemouth bass, black bass, crappie, and bluegill. The watershed of the Bay-Delta Estuary also provides a portion of the drinking water to 25 million people in the Bay Area, Central Valley, and Southern California and water to over 3.7 million acres of irrigated farmland, including some of the State's most productive agricultural areas, both inside and outside of Bay-Delta.

The Bay-Delta has been dramatically affected by human activities beginning as early as the mid-1800s with gold mining, flood protection, land reclamation, and other activities that have lasting impacts today. Previous and current urban and agricultural practices contribute contaminants to the ecosystem. Various federal and State water project operations have altered the natural amount, duration, direction, and timing of water flows through the Bay-Delta. In addition, hundreds of exotic species have been intentionally or accidentally introduced. Due to the numerous and competing demands for water from the Bay-Delta and its tributaries, protection of beneficial uses has been, and continues to be, a challenge on numerous fronts. Particularly, concerns related to protection of beneficial uses have intensified due to the decline of pelagic organisms and other aquatic species, increased urbanization, levee stability concerns,



effects of climate change and sea level rise, and other ecosystem, water quality, and water supply related concerns. Currently, several major efforts are underway to address these issues, including, but not limited to, those discussed below.

Although this initiative overlaps multiple NPS initiatives including irrigated lands, salinity management, and nutrient management. The Bay-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 Bay-Delta are the same as those identified in the other initiatives.

### *Needs Statement*

Beneficial uses of the Bay-Delta water are freshwater habitat, water contact recreation, agricultural supply, and municipal and domestic supply. As such, protecting Delta beneficial uses is one of the Central Valley Regional Water Board's highest priorities. Water quality impairments in the Bay-Delta result primarily from contamination being carried into the Estuary by the tributaries, or from in-Delta land use and water management practices. The most significant surface water quality issues in the Delta are bioaccumulative substances, pesticides, salinity, dissolved oxygen, and toxicity. In all cases, NPSs contribute significantly to the loads of these constituents to the Delta.

### *Initiative Description*

This initiative would implement key elements of the Strategic Workplan for Activities in the San Francisco Bay/Sacramento San Joaquin Delta Estuary (Strategic Workplan). The Strategic Workplan was developed and approved by the Regional Water Board in 2008 (2008 Strategic Workplan). The purpose of the initial Strategic Workplan was to coordinate and prioritize actions, establish key deliverables and time schedules, and identify existing and needed resources. The Strategic Workplan was updated in 2014. The 2014 Strategic Workplan is restricted to actions that may significantly benefit Delta water quality. Like the 2008 Strategic Workplan the revised document cover a five year time period and identifies high priority projects, timelines and deliverables, and resources needed.

The 2014 Strategic Workplan includes nine projects for the Central Valley Regional Water Board. Four of these are carryovers from the previous workplan, three new projects were recommended by the Delta Stewardship Council, and two are the result of multiple new CWA section 303(d) listings and/or Regional Water Board staff recommendations.

The four remaining projects from the 2008 Strategic Workplan are:

- Implementing the Mercury Control Program in the Bay-Delta;

- Reviewing the control program for low oxygen levels in the Stockton Ship Channel;
- Developing and implementing a sustainable Regional Monitoring Program; and
- Evaluating control actions to address chronic low oxygen concentrations in Old and Middle Rivers.

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

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

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

- Adopting a diuron herbicide Basin Plan amendment for the Delta; and
- Conducting a toxicological assessment of current use fungicides and herbicides on pelagic primary production in the Delta.

### Goals and Objectives

The goal and objectives for this initiative, which address five of the nine 2014 Strategic Workplan projects, are to:

Goal RB5.1: Address water quality impairments in the Bay-Delta resulting from contamination being carried into the Estuary by the tributaries, or from in-Delta land use and water management practices.

Objective RB5.1.01: Develop and implement a Delta regional monitoring program by December 2018.

Objective RB5.1.02: Develop Control Programs for pyrethroid pesticides by summer 2016.

Objective RB5.1.03: Review the control program for low oxygen levels in the Stockton Ship Channel by February 2015.

Objective RB5.1.04: Implement the Mercury Control Program in the Delta by June 2020.

Objective RB5.1.05: Develop a nutrient research plan for the Delta by 2016.

Objective RB5.1.06: Assess potential impact of nutrients in Bay-Delta aquatic life by spring 2018.

### Activities and Performance Measures

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 12.

### ***b. Initiative RB5.2: Central Valley Salinity Alternatives for Long-Term Sustainability***

#### Background

Central Valley hydrology has been highly modified in order to move water supplies from the north of the valley to the south, both to provide drinking water and also to irrigate a world class agricultural system. With the water comes salt, resulting in more salt entering some areas (e.g. San Joaquin River and Tulare Lake Basins) than leaving. The increasing salt loads, including nitrates, are slowly and steadily contaminating the Central Valley's water and soil. If nothing is done to reverse this trend, salt in the Central Valley will eventually reach levels such that the land and water will not support people or farms. Nitrates are a particularly important part of the salt challenge because at relatively low concentrations they impair the safety of drinking water. Because water from the Central Valley is also delivered to people and businesses from the Bay Area to San Diego, increasing salinity affects business productivity, human health, and the environment across the state.

#### Needs Statement

Increasing concentrations of salt including nitrate, are impairing drinking water as well as agricultural supply water and causing salinization of agricultural soils. An economic study developed by the University of California, Davis (2009) determined that if a salinity management in the Central Valley did not change by 2030, direct annual costs could reach \$1.5 billion while statewide income impacts could exceed \$3 billion/year.

### *Initiative Description*

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a stakeholder driven, strategic initiative to address problems with salinity and nitrates in the surface waters and ground waters of the Central Valley. The Central Valley Water Board and the State Water Board are participating in this stakeholder effort, with an end goal of developing a comprehensive salt and nitrate management plan for the Central Valley. CV-SALTS will propose basin plan amendments that establish regulatory structure and policies to support basin-wide salt and nitrate management. The regulatory structure will have five key elements: 1) refinement of the agricultural supply (AGR), municipal and domestic supply (MUN) and groundwater recharge (GWR) beneficial uses; 2) revision of water quality objectives for these uses; 3) establishment of policies for assessing compliance with the beneficial uses and water quality objectives; 4) establishment of management areas where there are large scale differences in baseline water quality, land use, climate conditions, soil characteristics and existing infrastructure and where short and long term salt and/or nitrate management is needed; and 5) an overarching framework to provide consistency for the development of management plans within the management areas to facilitate implementation efforts and insure a sustainable future. The plan will allow for adaption to insure that final implementation will:

- Sustain the Valley's Lifestyle
- Support Regional Economic Growth
- Maintain World-Class Agriculture
- Maintain Reliable High Quality Urban Water Supply
- Protect & Enhance the Environment

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal R5.2.1: Develop an environmentally and economically sustainable Salt and Nitrate Management Plan (SNMP) for the Central Valley.

Objective R5.2.1.01: Ensure that the regulatory framework proposed in the Central Valley SNMP is technically sound and feasible.

Objective R5.2.1.02: Develop draft SNMP by 2014.

Objective R5.2.1.03: Submit final SNMP to Central Valley Water Board by 2016.

Goal R5.2.2: Incorporate key elements of the Central Valley SNMP into the Water Quality Control Plans for the Central Valley

Objective R5.2.2.01: Develop amendments to the Central Valley Water Quality Control Plan by 2018.

Objective R5.2.2.02: Amend the Central Valley Water Quality Control Plan by 2018.

Goal R5.2.3: Early Implementation Salinity Management

Objective R5.2.3.01: Ensure that Lower San Joaquin River entering the Sacramento San Joaquin Delta meets salinity water quality objectives.

### *Activities and Performance Measures*

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 12.

#### *c. Initiative RB5.3: Dairies*

### *Background*

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 capacity is exceeded, the excessive salts and nutrients are leached to the underlying ground water.

The Central Valley Water Board adopted General WDRs Order R5-2007-0035 (Dairy WDRs) in May 2007 to control the discharges from existing milk cow dairies in the Central Valley. There are currently approximately 1,350 dairies in the Region. The Dairy WDRs were petitioned, which led to a lawsuit that was recently decided. In response to the Court's decision, staff revised the Dairy WDRs to more clearly address State Water Board Resolution 68-16 (Anti-degradation Policy). In addition, staff plans to add monitoring requirements to address Irrigated Lands Regulatory Program requirements.

In 2011, the monitoring and reporting program for the Dairy WDRs was revised to incorporate representative groundwater monitoring. A majority of dairies have joined the Central Valley dairy representative monitoring program (Dairy Monitoring Program), which is a coalition that monitors groundwater from approximately 400 monitoring points at 42 representative dairies under various combinations of environmental conditions and management practices to determine which are

protective of groundwater quality. A small number of dairies have formed a separate coalition or are conducting site-specific groundwater monitoring.

### *Needs Statement*

Compliance and enforcement of the Dairy WDRs is an ongoing priority. Ensuring that dairies submit required reports and comply with the prohibition on improper disposal of mortalities will also be a priority. Another priority is following up on dairies that have certified nutrient management plans or waste management plans which are not adequate or being effectively implemented.

### *Initiative Description*

Results of representative groundwater monitoring will be extrapolated to all dairies in the coalition, based on the condition/management practice factors. The revised Dairy Monitoring Program requires the coalition to submit a summary report by 2017 assessing the monitoring data and evaluating which practices are protective and under which conditions. If data indicate that some management practices are not protective under certain conditions, all dairies fitting that condition are required to propose modifications and a time schedule, to ensure the dairy is in compliance with the Dairy WDRs' groundwater limitations. If early monitoring results indicate widespread problems, staff would consider the need to require upgraded management practices sooner than 2017, the time allotted in the revised Dairy Monitoring Program.

### *Goals and Objectives:*

The goal and objectives for this initiative are to:

Goal RB5.3: Protect surface and groundwater quality from animal wastes (e.g., stockyards, dairies, poultry ranches) which may produce significant amounts of pathogens, nutrients, and salt contamination.

Objective RB5.3.01: Conduct a pilot study to evaluate drinking water treatment technologies for use by small disadvantaged communities, with collaboration of the State Water Resources Control Board Division of Drinking Water (ongoing).

Objective RB5.3.02: Conduct inspections and review monitoring data for dairy operations subject to the Dairy WDRs and, as appropriate, propose modifications to management practices implemented depending on monitoring results.

Objective RB5.3.03: Develop a template for and issue individual orders for dairies that do not qualify under the Dairy WDRs by December 2016.

Objective RB5.3.04: Develop and adopt general WDRs for feedlots by December 2017.

Objective RB5.3.05: Develop and adopt regulatory order for poultry operation by December 2017.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 12.

#### ***d. Initiative RB5.4: Irrigated Lands Regulatory Program Initiative***

### *Background*

California's agriculture is extremely diverse and spans a wide array of growing conditions from northern to southern California. The Central Valley Regional Water Board irrigated lands regulatory program (RB5 – Irrigated Lands Program) addresses discharges from irrigated lands to surface and groundwater. RB5 – Irrigated Lands Program includes approximately 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. Managed wetlands and nurseries are also included in the definition of irrigated lands. A range of pollutants can be found in runoff from irrigated lands, such as pesticides, fertilizers, salts, pathogens, and sediment. At high enough concentrations, these pollutants can harm aquatic life or make water unusable for drinking water or agricultural uses. Discharges include storm water runoff which generally occurs during the winter and spring months and consists of rainfall and irrigation return waters which is generally irrigation water that is applied to croplands during the dryer months of the year, summer and early fall.

The RB5 – Irrigated Lands Program was initiated in 2003 to prevent agricultural runoff from impairing surface waters. Originally, irrigated agriculture lands in the Central Valley Region were regulated by a conditional waiver of WDRs (RB5 – Agriculture Waiver of WDRs). The waiver was adopted by the Regional Water Board on June 22, 2006, and was directed at “coalition groups”. A “coalition group” is defined as a group of dischargers and/or organizations that form to comply with the RB5 – Agricultural Waiver of WDRs. Coalition groups can be organized on a geographic basis or can be groups with other factors in common such as commodity groups. Per the NPS Implementation Policy, the RB5 – Agricultural Waiver of WDRs expired on June 22, 2011, and the Regional Water Board was required to either renew the existing waiver or adopt a different regulatory mechanism such as a WDRs.

To that end, development of WDRs, which will protect both surface water and groundwater, have been and continue to be developed. The new RB5 – Irrigated Lands Program agriculture WDRs (RB5 – Agriculture WDRs) will address irrigated agricultural discharges throughout the Central Valley Region and are specific to identified coalition groups. The Central Valley Regional Water Quality Control

Board adopted the first in a series of these WDRs in December 2012. The adopted WDRs are the product of four years of dialogue among a variety of interested parties, as well as the public input received at numerous Regional Water Board meetings.

### *Needs Statement*

The next six years will be critical to the direction of the RB5 – Irrigated Lands Program. The Regional Water Board needs to maintain a robust irrigated lands program while transitioning from a program that only addresses discharges to surface water to one that also addresses discharges to groundwater. Discharges from irrigated lands will also be regulated under WDRs, rather than waivers of WDRs. In addition to these two factors, the RB5 – Irrigated Lands Program will also need to adjust to any additional changes recommended by the State Water Board’s agriculture expert panel (State Agriculture Expert Panel) (see Initiative SW5.2).

### *Initiative Description*

The RB5 – Irrigated Lands Regulatory Program will be going through a significant transition as staff focus on implementing the newly adopted WDRs that address discharge to both groundwater and surface water. The primary areas of activity in the coming years are: (1) oversight of agricultural water quality coalition activities under the new WDRs, including review of technical reports; (2) outreach, compliance, and enforcement associated with non-participating growers; (3) outreach, compliance, and enforcement associated with promoting grower compliance under the new WDRs and identified water quality problems; (4) adapting internal systems and procedures to support the new WDRs (e.g., developing information management systems, establishing protocols for review of new technical reports); and (5) revising WDRs, as necessary, to incorporate the recommendations of the State Agriculture Expert Panel.

In addition, the RB5 – Irrigated Lands Regulatory Program is confronted by uncertainty that could impact both the program direction and program resources. Each of the WDRs adopted by the Central Valley Regional Water Board, except for Western Tulare Lake and Rice, has been petitioned to the State Water Board. The State Water Board has asked for the administrative record and responses to the Eastern San Joaquin River Watershed petitioners’ contentions. A similar request from the State Water Board may come for the other five Orders petitioned. The State Water Board could issue WDRs that would provide a different direction for the program. There is also a high likelihood that, whether the State Water Board makes changes or not, that the RB5 – Agriculture WDRs will be litigated.

### *Goals and Objectives*

The goal and objectives for this initiative are to:



Goal RB5.4: Develop and implement the RB5 – Agriculture WDRs which will protect both surface water and groundwater. Consideration will be given to management practices which can promote soil health when applied in concert with nutrient management planning (590) and integrated pest management (595). (NRCS practice standards).

Objective 5.4.01: Oversee the agricultural water quality coalition activities under the new RB5 – Agriculture WDRs, including review of technical reports

Objective 5.4.02: Provide outreach, compliance, and enforcement associated with non-participating growers.

Objective 5.4.03: Provide outreach, compliance, and enforcement associated with promoting grower compliance under the RB5 – Agriculture WDRs and identified water quality problems.

Objective 5.4.04: Adapt internal systems and procedures to support the RB5 – Agriculture WDRs (e.g.; developing information management systems, tracking enrollment, establishing protocols for review of new technical reports)

Objective 5.4.05: Revise the General Order(s) of WDRs, as necessary, to incorporate the recommendations of the State Agriculture Expert Panel.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative are presented in Table 12.

### ***e. Initiative RB5.5: Timber Program***

#### *Background*

Activities on California’s federal and non-federal forest lands can significantly impair water quality. These activities are primarily NPSs and include, but are not limited to: timber harvesting, grazing/rangeland management, rural roads, and recreation (e.g., off-highway vehicles). The most common and significant pollutant discharged from activities regulated under the Regional Water Board’s Timber Harvest Regulatory Program (RB5 – Timber Harvest Program) is sediment, but increased water temperature, discharges of fecal bacteria, pesticides/herbicides, and petroleum can also be significant. High-severity wildfires can also be a serious source of pollutants, primarily sediment and nutrients (from leaching of ash).

The Central Valley region encompasses approximately 48 percent of the non-federally owned forested land and approximately 50 percent of the federally owned

forested land in the state. Harvest on private lands in the Central Valley region comprises (on average) 62 percent of the timber commercially harvested each year in the State. On average each year, timber harvest projects cover approximately 300,000 acres in the Central Valley region. The Central Valley Water Board originally adopted a Categorical Waiver of WDRs for Timber Harvest Activities (RB-5 Timber Waiver) in 2003. The RB-5 Timber Waiver was subsequently renewed in 2005, 2010, and in 2014. As such, consistent with the NPS Implementation Policy the waiver is due for renewal or replacement in 2018.

Assembly Bill 1492 was passed in the California Legislature (Legislature) and signed by the Governor in September 2012. Assembly Bill 1492 also extends the time in which a timber harvest plan (on non-federal lands) can be active from a maximum of five years to a maximum of seven years. Assembly Bill 1492 requires annual reporting be coordinated between Cal EPA and the California Department of Natural Resources and submitted to the Legislature each January. Further, the bill requires assurances that all harvest projects on private lands will receive an initial multi-disciplinary review from the appropriate regulatory agencies and departments. These agencies include the California Department of Forestry and Fire Protection, the California Geological Survey, the California Department of Fish and Wildlife, and the regional water boards. It also requires an increase in the number of inspections conducted on harvest projects. These inspections include those that occur prior to project approval, during active operations, and after operations are completed. Assembly Bill 1492 requires the development of ecological performance measures, and an ecological performance evaluation relative to harvesting activities on non-federal lands. As of January 2015, work to address the requirements of the bill with the potential to impact program workload is still in its infancy and so cannot yet be fully accounted for in the Regional Water Board's planning process.

### *Needs Statement*

In order for the Central Valley Region surface waters to maintain high quality when they reach the foothills and valley floor, the quality of forested headwater streams must be protected. Additionally, many timberland streams contain critical cold-water habitat for trout and salmon. Per the NPS Implementation Policy, the Regional Water Board renewed the RB5 – Timber Waiver addressing both federal and non-federal lands. The Timber Waiver will expire in March of 2018 and the Regional Water Board will need to renew the Waiver or consider adoption of another type of regulatory option, such as WDRs for these forest activities. The Regional Water Board also must perform additional timber harvest reviews and reporting consisting with the requirements of Assembly Bill 1492.

### *Initiative Description*

The Regional Water Board will continue to implement the existing RB-5 Timber Waiver which addresses all activities on timberland relating to timber harvesting, including the cutting or removal, or both, of timber and other solid wood forest

products, from timberlands for commercial purposes, together with all the work incidental thereto, including, but not limited to, construction, reconstruction and maintenance of roads, fuel breaks, firebreaks, stream crossings, landings, skid trails, beds for the falling of trees, fire hazard abatement, site preparation that involves disturbance of soil or burning of vegetation following timber harvesting activities, but excluding preparatory tree-marking, surveying or road-flagging. Because the current RB-5 Timber Waiver expires in March 2018, the Regional Water Board will also renew the existing waiver or consider adoption of another type of regulatory option consistent with the requirements of the Porter-Cologne Act. In addition, the Regional Water Board will perform enhanced timber harvest reviews on non-federal lands, participate in the implementation of Assembly Bill 1492 and provide the additional reporting required by Assembly Bill 1492.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB5.5: Minimize the impact associated with timber harvest activities on federal and non-federal lands through the Central Valley Region.

Objective 5.5.01: Continue to implement the existing RB-5 Timber Waiver for both federal and non-federal lands.

Objective 5.5.02: Complete the pre-harvest review and field inspections necessary to meet the requirements of Assembly Bill 1492 and report annually to the California Environmental Protection Agency.

Objective 5.5.03: Develop and adopt a new categorical waiver of WDRs or new WDRs for timber harvest activities that would address both non-federal and federal lands by March 2018.

Objective 5.5.04: Implement an improved information management system for tracking Assembly Bill 1492 requirements by December 2015.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 12.

### ***f. Initiative RB5.6: Watershed Program Efforts to Protect Threatened and High Quality Waters***

### Background

NPS pollution is the main cause of water quality and beneficial use impairments in the Central Valley Region. On a watershed scale, activities such as animal keeping, off highway vehicle use, legacy features, degraded channel conditions, and other disturbances generate accelerated erosion, animal waste runoff, and legacy mercury mobilization, contributing to NPS pollution and aquatic stressors. Cumulatively, these are the main source of water pollutants that cause degraded and impaired waters in the Central Valley Region. A watershed based program that addresses these diverse non-point sources can help protect high quality waters, before it is necessary to list them as impaired waters or develop and implementing TMDLs.

### *Needs Statement*

As presented in Initiatives SW2: Nine-element watershed-based plans (SW2) and SW9: Water Quality Improvement Reporting (SW9) , the CA NPS Program recognizes the importance of “grass roots” watershed based planning efforts that are highlighted in this Regional Water Board initiative. Active stakeholder outreach efforts are necessary to potentially identify the specific source(s) of NPS-related water quality problems and work directly with dischargers to address their resolution. This direct approach when dealing with a limited number of willing and responsible dischargers can often directly ameliorate the water quality problem and avoid the need for the development of a TMDL or direct regulation and enforcement through the Regional Water Board’s Porter-Cologne Act authorities.

### *Initiative Description*

To address waterbodies before TMDLs are required, the Central Valley Regional Water Board will: (1) continue its proactive efforts to coordinate with watershed groups and related watershed programs; (2) work directly with land managers to address discharges from linear power line roads, shooting ranges, and off highway vehicle use areas; (3) assess and develop strategies to address selected impaired water-bodies, such as those subject to catastrophic fire damage.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB5.6: Address NPSs of pollution and water quality impairments in threatened and high quality waters through collaboration, partnership, and traditional regulatory approaches.

Objective RB5.6.01: Provide support and guidance to watershed groups and partner agencies to implement water quality projects and as part of the Integrated Water Management Program.

Objective RB5.6.02: Address previously unregulated NPS pollution such as off-highway vehicle areas and shooting ranges.

Objective RB5.6.03: Support development of grazing measures, initially focusing on a public lands regulatory program, and an outreach program focused on small-scale animal keeping.

Objective RB5.6.04: Address water-bodies subject to catastrophic fire damage, such as Battle Creek, through assessment and implementation of strategic source reduction, using a wide range of tools including monitoring, collaboration, planning and enforcement.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 12.

Table 12 . Central Valley Regional Water Quality Control Board Initiatives, Planned Activities, and Related Performance Measures

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
RB5.1: San Francisco Bay/Sacramento-San Joaquin Delta	RB5.1.01	Develop and implement the Delta Monitoring Program.  <u>Background:</u> The 2014 Delta Strategic Workplan for Activities in the San Francisco Bay-San Joaquin Delta Estuary (Strategic Workplan) coordinates activities between the State Water Board, the San Francisco Bay Regional Water Board and the Central Valley Regional Water Board. The Strategic Workplan requires the Regional Water Board staff to: (1) participate in various Delta workshops; (2) coordinate efforts; and (3) determine the potential impact of nutrients, pesticides, water management, and survey methods on Bay-Delta aquatic life.	Final monitoring program frame work by December 2015.	Implementation of regional monitoring program by December 2017.
				Synthesis and assessment of regional monitoring program data by December 2018.
RB5.1.02	Develop amendments Central Valley Regional Water Board Water Quality Control Plan (Basin Plan) specifically addressing pyrethroid (pesticide).  <u>Background:</u> See “Background” for activity RB5.1.01.	Draft pyrethroid Basin Plan amendment and staff report for available for external peer review by August 2015.		
		Regional Water Board workshop to review and solicit comments on the draft pyrethroid Basin Plan amendment by December 2015.		
		Present pyrethroid Basin Plan amendment to the Regional Water Board to consider		

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
	RB5.1.03	<p>The San Joaquin River Dissolved Oxygen Control Program in the Stockton Ship Channel (Dissolved Oxygen Control Program) Resolution R5-2015-0008.</p> <p><u>Background:</u> See “Background” for activity RB5.1.01.</p>	<ol style="list-style-type: none"> <li>1. Continue the implementation of existing the San Joaquin River Dissolved Oxygen Control Program</li> <li>2. Continue to monitor the DO conditions in the Stockton DWSC</li> <li>3. Support the continuation of the aerator operation to minimize the number of excursions below the DO objectives. Agreement is set to expire in May 2016.</li> </ol>	<ol style="list-style-type: none"> <li>1. Evaluate conditions of the Stockton DWSC and provide new regulatory permits, such as the Irrigated Lands WDRs and small MS4 programs information necessary to address nutrients issues in the upper watershed. (Ongoing)</li> </ol>
	RB5.1.04	<p>Develop and present: (a) a comprehensive report on Phase 1 of the Mercury Control Program in the Delta to the Central Valley Water Board and (b) a Basin Plan amendment concerning the Phase 2 Delta Mercury Control Program.</p> <p><u>Background:</u> See “Background” for activity RB5.1.01. Phase 1, which spans from 2011 to approximately 2020, is primarily a study period during which</p>	<p>Report reviewing progress on the Phase I Delta Mercury Control Program for presentation to the Regional Water Board by December 2019.</p> <p>Present a Phase II Delta Mercury Basin Plan amendment to the Central Valley Board to consider adoption by June 2020 or possibly later in 2020 depending on the</p>	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
		dischargers will develop and evaluate methylmercury control measures. At the end of Phase 1, the Central Valley Water Board will review the study results and consider revising the program as necessary before the start of Phase 2, when dischargers implement the methylmercury controls.	results from Initiative RB5.1.04a.	
	RB5.1.05 & RB5.1.06	<p>Develop and present the nutrient research plan to the Central Valley Water Board and Delta Stewardship Council.</p> <p>Develop and present additional nutrient information to the Central Valley Water Board and evaluate whether nutrients from the Central Valley cause or contribute to water quality impairments in the Delta or San Francisco Bay.</p>	<p>Present the nutrient research plan to the Central Valley Regional Water Board and Delta Stewardship Council by 2016.</p> <p>Present additional nutrient information by 2018.</p>	
<u>RB 5.2:</u> Central Valley Salinity Alternatives for Long-Term Sustainability: Develop and Implement Environmentally and Economically Sustainable Salt and Nitrate Management Plan (SNMP) for the Central Valley of	RB5.2.1.01	<p>Ensure that the regulatory framework proposed in the Central Valley SNMP is technically sound and feasible by developing Complete Initial Conceptual Model (ICM), Strategic Salt Accumulation Land and Transportation Study (SSALTS) and evaluating appropriate application and level of protection for BU's in select waterbodies and bringing to Board for consideration.</p> <p><u>Background:</u> Since the SNMP will guide future salt regulatory activities in the Central Valley, it is critical that the policies and activities proposed be</p>	<p>Complete Initial Conceptual Model (ICM) for 23-zones documenting salt/nitrate source, fate, groundwater assimilative capacity and 20-yr trends (Report by December 2015).</p> <p>Strategic Salt Accumulation Land and Transportation Study (SSALTS): evaluate viable salt disposal alternatives (December 2015).</p> <p><u>c1.</u> Evaluate appropriate application and level of protection for MUN in ag water</p>	<p>Develop process for calculating background concentrations and assimilative capacities using Alta Irrigation District case study (December 2015)</p> <p>Characterize salt accumulation in ten study areas and evaluate sustainability of current practices (December 2014)</p> <p>Review applicability of practices across Central Valley including cost and feasibility (June 2015)</p>



Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
California		grounded in solid science and pre-tested through case studies.	<p>bodies in the Sacramento River Basin; and bring to Board for consideration as Basin Plan Amendment - April 2015)</p> <p><u>c2.</u> Evaluate appropriate application and level of protection for MUN and AGR in a portion of Tulare Lake Bed Groundwater; and bring to Board for consideration as Basin Plan Amendment - December 2016)</p> <p><u>c3.</u> Agricultural zone mapping to characterize areas with like hydrogeology, cropping and management and consistent process to interpret levels of salinity protective of AGR (Report - December 2014)</p> <p><u>c4.</u> Development of Lower San Joaquin River salt and boron water quality objectives and an implementation program ; and bring to Board for consideration as Basin Plan Amendment – December 2016</p> <p><u>c5.</u> Recommend management strategy to facilitate provision of safe drinking water to communities with nitrate impaired groundwater supplies (Report – May 2016)</p>	Propose short and long-term recommended alternatives (December 2015)
	RB5.2.1.02	Utilizing a stakeholder lead process, develop the draft framework for the Central Valley SNMP.  <u>Notes:</u> Annual progress reports to the	<p>1. Annotated Table of Content and timeline for remaining activities (December 2014)</p> <p>2. Complete CEQA and Economic</p>	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
		State Water Board were initiated in 2011. Annual workshops for the Central Valley Water Board began in 2012. Annual progress reports have been and will continue to be posted to Central Valley Regional Water Quality Control Board webpage for CV-Salts.	Review (December 2016)	
	RB5.2.1.03:	Submit final SNMP to Central Valley Water Board.  <u>Notes:</u> Annual progress reports to the State Water Board beginning in 2015. Annual workshops for the Central Valley Water Board beginning in 2015. Annual progress reports have been and will continue to be posted to Central Valley Regional Water Quality Control Board webpage for CV-Salts.	1. Final SNMP Report (December 2017) 2. Develop draft staff report for proposed amendments (2017)	
	RB5.2.2.01	Develop amendments to the Central Valley Water Quality Control Plan to incorporate appropriate portions of SNMP  <u>Background:</u> The SNMP is anticipated to recommend policies and activities that go beyond the authority of the Central Valley Water Board (e.g. water rights trading, etc.); therefore, amendment language will need to be carefully constructed to support the management plan while remaining within our regulatory boundaries.	1. Submit SNMP as appropriate for Peer Review (2016) 2. Develop draft staff report for proposed amendments (2017)	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
	RB5.2.2.02	Amend Central Valley Water Quality Control Plan	<ol style="list-style-type: none"> <li>1. Public Workshop on proposed amendments (2018)</li> <li>2. Adoption Hearing (2018)</li> </ol>	
	RB5.2.3.01	<p>Manage salt loads entering the Sacramento-San Joaquin Delta from the San Joaquin River Basin to ensure water quality objectives are met.</p> <p><u>Background:</u> The lower San Joaquin River discharges into the Sacramento-San Joaquin River at Vernalis. Modifications to the River Basin resulted in the original headwaters being diverted and replaced with more saline Delta water. The end result is a more salt entering the basin than leaving and water quality objectives for salinity being exceeded at Vernalis. This second phase of an existing TMDL allows the river to be utilized to remove excess salt from the basin while meeting salinity objectives at Vernalis.</p>	<ol style="list-style-type: none"> <li>1. Annual workshops for the Central Valley Water Board.</li> <li>2. Adopt salt load allocations into Irrigated Lands Program General WDRs by (2014).</li> <li>3. Develop and adopt Central Valley Water Board approved Real-Time Salinity Management Program (2014).</li> <li>4. Enter into updated Management Agency Agreement with U.S. Bureau of Reclamation to mitigate salt imports (2014).</li> <li>5. Fully implemented Real-Time Salinity Management Program (2019).</li> </ol>	
<u>RB5.3:</u> Dairy Waiver	RB5.3.01	Work with the SWRCB Division of Drinking Water to fund a pilot study to evaluate technologies (particularly biological nitrogen reduction) to treat drinking water supplies for small disadvantaged communities with drinking water supplies that do not meet water quality objectives.	Completed pilot study evaluating technologies (particularly biological nitrogen reduction) to treat drinking water supplies for small disadvantaged communities with drinking water supplies that do not meet water quality objectives.	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
	RB5.3.02	Continue to perform dairy inspections for those dairies subject to the Dairy WDRs and review monitoring results to determine management practice effectiveness.		Inspect at least 300 dairies per year, with proposed modification to MPs as needed.
	RB5.3.03	Work with new or expanding dairies that do not qualify as existing facilities under the Dairy WDRs. Develop a template for issuance of individual WDRs for dairies that do not qualify for coverage under the Dairy WDRs.	Template for issuance of individual WDRs that do not qualify for coverage under the Dairy WDRs by December 2016.	
	RB5.3.04	Draft general WDRs for feedlots (i.e., beef cattle operations and heifer ranches) and release for public comments and bring to the Regional Water Board for adoption consideration.	Draft general WDRs for feedlots by June 2016.	
			Public comment period on general WDRs completed by December 2016.	
			Present agenda item on WDRs to the Regional Water Board for adoption consideration by December 2017.	
	RB5.3.05	Expand Regional Water Board program for concentrated animal facilities to include poultry operations.	Draft general WDRs for poultry operations by June 2016.	
			Public comment period on general WDRs completed by December 2016.	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
			Present agenda item on WDRs to the Regional Water Board for adoption consideration by December 2017.	
RB5.4: Irrigated Lands Regulatory Program Initiative	RB5.4.01	Engage stakeholders in addressing technical program issues	Evaluation of Crop Nitrogen Knowledge Gap Study Plan submitted by the NMP Technical Advisory Workgroup by December 2015.	
	RB5.4.02	Maximize enrollment of growers in the program through outreach, compliance and enforcement activities, and expanding use of available technology		Conduct aerial and field inspections, issue 13260 directives, Notices of Violation, and formal enforcement for owners of commercial irrigated lands who fail to obtain regulatory coverage or are not complying with the WDRs. (ongoing)
	RB5.4.01	Coordinate with Ag Coalitions to ensure that monitoring and management plans are sufficient to meet the requirements of the Irrigated Agriculture WDR. Provide timely and high quality reviews of technical reports submitted by the third-party coalitions. (Objective 5.4.1)	Various deadlines for Groundwater Assessment Reports, Annual Monitoring, Management Plan and Data Reports, Surface Water Quality Management Plans – Timelines are listed in the WDR Orders.	On average, review and approval of a Groundwater Quality Assessment Report takes 4 months after submittal.
	RB5.4.04	Develop effective systems to manage new data, grower enrollment, and track compliance Non-participant and coalition member data are being tracked with MS Excel spreadsheets; a pilot project using the more reliable MS Access database is	MS Access database in place by December 2015.	

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
		underway		
	RB5.4.02 & RB5.4.03	Increase board staff presence in the field through inspections and outreach.		The goal is for ILRP Compliance & Outreach staff to be in the field at least twice a month to conduct non-participant inspections, complaint investigation or water quality surveys.
	RB5.4.06	Successfully defend RB5 – Agriculture WDRs through petition/litigation process.	Develop milestones after we receive direction from State Board (ongoing)	
	RB5.4.07	Develop new RB5 – Irrigated Lands Program WDRs (e.g., specific to managed wetlands; marijuana growers) or revise recently adopted RB5 – Agriculture WDRs in response to petitions or other developments.	Staff will develop a managed wetlands strategy for Board consideration by December 2015.	
<u>RB5.5:</u> Timber Program	RB5.5.01 and RB5.5.02	Participate in inspections, data collection, evaluations of process efficiencies, reporting and other work as mandated by the Assembly Bill 1492.	Conduct an initial timber harvest plan review for 100 percent of plans processed and transmitted through California Department of Forestry and Fire Protection (lead agency).	Conduct 120 inspections of timber harvest activities annually.

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
	RB5.5.02	Report annually in January, all Assembly Bill 1492 - required metrics to the State Water Board.  <u>Background:</u> The required metrics are provided to the California Environmental Protection Agency and then to the California Natural Resources Agency for submittal the California Legislature through an annual report.	Report Assembly Bill 1492 requirements annually to State Water Board in January.	
	RB5.5.03	Revise the RB-5 Timber Waiver or consider adoption of another type of permit, perhaps WDRs for timber harvest activities.	Bring revised RB-5 Timber Waiver for Board consideration by March 2018.	
	RB5.6: Watershed Program	RB5.6.01	Provide technical and other support to:  (1) assist local watershed and California Integrated Regional Water Management (California Integrated Regional Management) programs; (2) State and local water quality programs; (3) assist applicants with funding grant development and review; and (4) develop plans for restoration projects.	Annual summary of local watershed and California Integrated Regional Water Management restoration projects that address impairments and enhance water quality aquatic habitat and beneficial uses (ongoing)
Participation in all California Integrated Regional Management groups addressing Central Valley Regional Water Board watersheds (ongoing)				
	RB5.6.02	To address sediment and metals loading, address off-highway vehicle areas and shooting ranges through assessment and outreach, as well as the use of permitting and enforcement authority through notice		Implement NPS control through best management practices at eight off-highway vehicle and

Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
		of violation and cleanup and abatement orders.		shooting range sites by 2020.
	RB5.6.03	Address small-scale animal keeping, by developing a proactive outreach approach to contact small-scale animal keepers, and provide water quality threat assessment and problem resolution, and where necessary use permitting and enforcement.	Establish an outreach program for small-scale animal keeping (initial focus on northern sub-Region of Central Valley)	
		Working with the USFS, develop a regulatory framework for grazing on public lands.	Advance a draft regulatory framework for public lands grazing by December 2018.	
			Regional Board workshop to review and solicit comments on the draft (2020)	
	RB5.6.04	Protect high priority waters subject to catastrophic fire damage, such as Battle Creek, through threat identification, assessment, enhanced watershed management, and enforcement as needed. Update RB-5 Timber Waiver to include recommended practices (See RB5.5) such as improving legacy roads by working with counties and industrial timber companies, and evaluating effectiveness of and improving post-fire management practices.	<p>Annual NPS response logs with water quality threat assessment and problem resolution in selected waters.</p> <p>Annual summary of technical and other staff support for restoration projects that address impairments and enhance water quality aquatic habitat and beneficial uses.</p> <p>Contribute to Timber waiver update to include post-fire practices (See RB5.5 for timber waiver efforts). March 2018</p>	



Initiative	Initiative No.	Activity (Background Information)	Performance Measures	
			Milestones (Date)	Interim Measures
	RB5.6.04	Protect high priority waters from catastrophic fire damage, such as Battle Creek. Through threat identification and assessment of priority causes of impairment from catastrophic fire damage, develop program for strategic source reduction. Use enhanced watershed management and enforcement as needed.	Develop program to improve legacy roads by working with counties, public land managers and industrial timber, and evaluate effectiveness. 2018	

## G. Lahontan Regional Water Quality Control Board

### 1. Description of the Region

The Lahontan Region is about 32,684 square miles in size or 20 percent of California. Its water resources include over 700 lakes, 3,170 miles of streams and 1,581 square miles of ground water basins (see Figure 10). It includes 42 recognized major watersheds or "hydrologic units", and water bodies of statewide, nationwide, and international importance (e.g., Lake Tahoe and Mono Lake). The major watersheds in the Region are Eagle Lake, Susan River/Honey Lake, Truckee, Carson, and Walker River basins, Mono Lake, Owens River and Mojave, Antelope Valley, and Amargosa River. The Lahontan Region includes the highest (Mount Whitney) and lowest (Death Valley) points in the contiguous United States, and the topography of the remainder of the Region is diverse. The Region includes the eastern slopes of the Warner Mountains and the Sierra Nevada, the northern slopes of the San Bernardino and San Gabriel Mountains; the southern slopes of the Tehachapi Mountains and all or part of other ranges. Topographic depressions include the Madeline Plains, Surprise, Honey Lake, Bridgeport, Owens, Antelope, and Victor Valleys. The Region also has a variety of climates with recorded temperature extremes ranging from -45°F in the Truckee River watershed to 134 °F in Death Valley. The varied topography and microclimates support a rich diversity in plant and animal communities.

The Region includes all or part of the 13 counties of Modoc, Lassen, Plumas, Sierra, Placer, Nevada, El Dorado, Alpine, Mono, Inyo, San Bernardino, Kern and Los Angeles. Principal communities in the Region are Susanville, Truckee, Tahoe City South Lake Tahoe, Markleeville and Bridgeport in the north and Mammoth Lakes, Bishop, Ridgecrest, Mojave, Adelanto, Palmdale, Lancaster, Victorville and Barstow in the south. Much of the Lahontan Region is in public ownership, with land use controlled by agencies such as the U.S. Forest Service, U. S. National Park Service, and U. S. Bureau of Land Management, various branches of the military, the California State Department of Parks and Recreation (Cal Parks and Recreation), and the City of Los Angeles Water and Power (Los Angeles Water and Power). While the permanent resident population of the Region is low (less than 2 percent of the population of California), most of it is concentrated in high density communities in the south. Many communities in the Region are classified as small and disadvantaged. Millions of visitors come to the Lahontan Region for recreation each year. In addition to tourism, other major sectors of the economy are resource extraction (mining, energy production, and silviculture), agriculture (mostly livestock grazing), and defense-related activities. There is relatively little manufacturing industry in the Region.

Consumptive municipal and agricultural use of water is relatively low in most parts of the Lahontan Region compared to other parts of California, due to the low resident population and the agricultural emphasis on range livestock grazing rather than crops. Irrigation is mostly for pasture, rather than for row crops and orchards. Large volumes of

water are exported for consumptive use outside the Lahontan Region. The waters of the Truckee, Carson and Walker Rivers, and of Lake Tahoe, are allocated by court decisions, federal law, and interstate agreements among water users in California and Nevada. The Los Angeles Water and Power diverts water from the Mono and Owens River basins via the Los Angeles aqueduct for use in the Los Angeles area. Some water is imported to the South Lahontan Basin via the State Water Project's California Aqueduct.

Water quality problems in the Lahontan Region are largely related to NPSs (including erosion from construction, timber harvesting, and livestock grazing), storm water, acid drainage from inactive mines, and individual wastewater disposal systems. The concentration of most of the Region's population in a few high density communities has important implications for areas with no community wastewater treatment facilities. There are relatively few point source discharges; these include several wastewater treatment plants, fish hatcheries operated by the Department of Fish and Game, and some geothermal discharges.

With such a large number of water bodies in such a big geographic area, the Lahontan Regional Water Board must address a wide variety of water quality problems with very limited resources.

## 2. Surface Water and Groundwater Quality Issues

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

Protect Human Health: A priority to the Lahontan Regional Water Board is that all Californians have access to safe and clean water that supports the beneficial uses of drinking water supply and both contact/noncontact water recreation. It is committed to water quality planning and actions that promote safe, clean, and accessible water adequate for these uses. Regional Water Board actions supporting this priority include efforts to protect or restore groundwater from pollution by nitrates, salts, chromium, perchlorate, petroleum and metals, and actions to address bacteria, mercury and acid mine drainage in surface waters.

Protect/Improve Aquatic Life and Surface Water Quality: Considered a priority to the Lahontan Regional Water Board is healthy aquatic habitats that support all designated beneficial uses and meet water quality objectives, the prevention and correction of degradation to aquatic habitats, and the protection of unimpaired waterbodies. Actions by the Regional Water Board to support this priority include implementing TMDLs, requiring mitigation and other measures in dredge and fill permits to protect wetlands and riparian areas, and increasing staff field presence for timber harvest, fuel reduction, and forest restoration projects.

Support Environmental Justice/Disadvantaged Communities: The Lahontan Water Board supports the achievement of environmental justice for all Californians so that everyone enjoys the same degree of protection from environmental and health hazards, and has

equal access to the decision-making processes related to water quality. This priority is exemplified by identifying and recognizing the needs of the small and disadvantaged communities (Disadvantaged Communities) in the Lahontan Region, and includes actions such as conducting related public outreach, participating with Integrated Regional Water Management (Integrated Management) groups focusing on projects serving disadvantaged communities, helping to develop fish consumption advisories in multiple languages, and ensuring consideration of tribal cultural resources and tribal community health.

Respond to Climate Change: The Lahontan Regional Water Board considers climate change impacts to California's water resources a priority and is committed to adaptation of its water quality policies, programs and regulatory responses to the environmental conditions resulting from climate change. The Regional Water Board is just starting the process to better understand the changes and impacts from climate changes such as warmer water temperatures, bigger flood flows and less snow. Actions supporting this priority include identifying existing tools and actions, gathering public input and evaluating options before implementing additional climate change adaptations.

The primary causes of NPS pollution impairment in the Lahontan Region are from activities associated with timber harvesting/fuels management, grazing, hydromodification, erosion and related sediments from runoff and legacy mining. Of these, timber harvesting/fuels management, grazing, and control of erosion are high priorities for NPS pollution regulation, while urban runoff pollution, legacy mining and hydromodification are primarily addressed through other Regional Water Board regulatory actions.

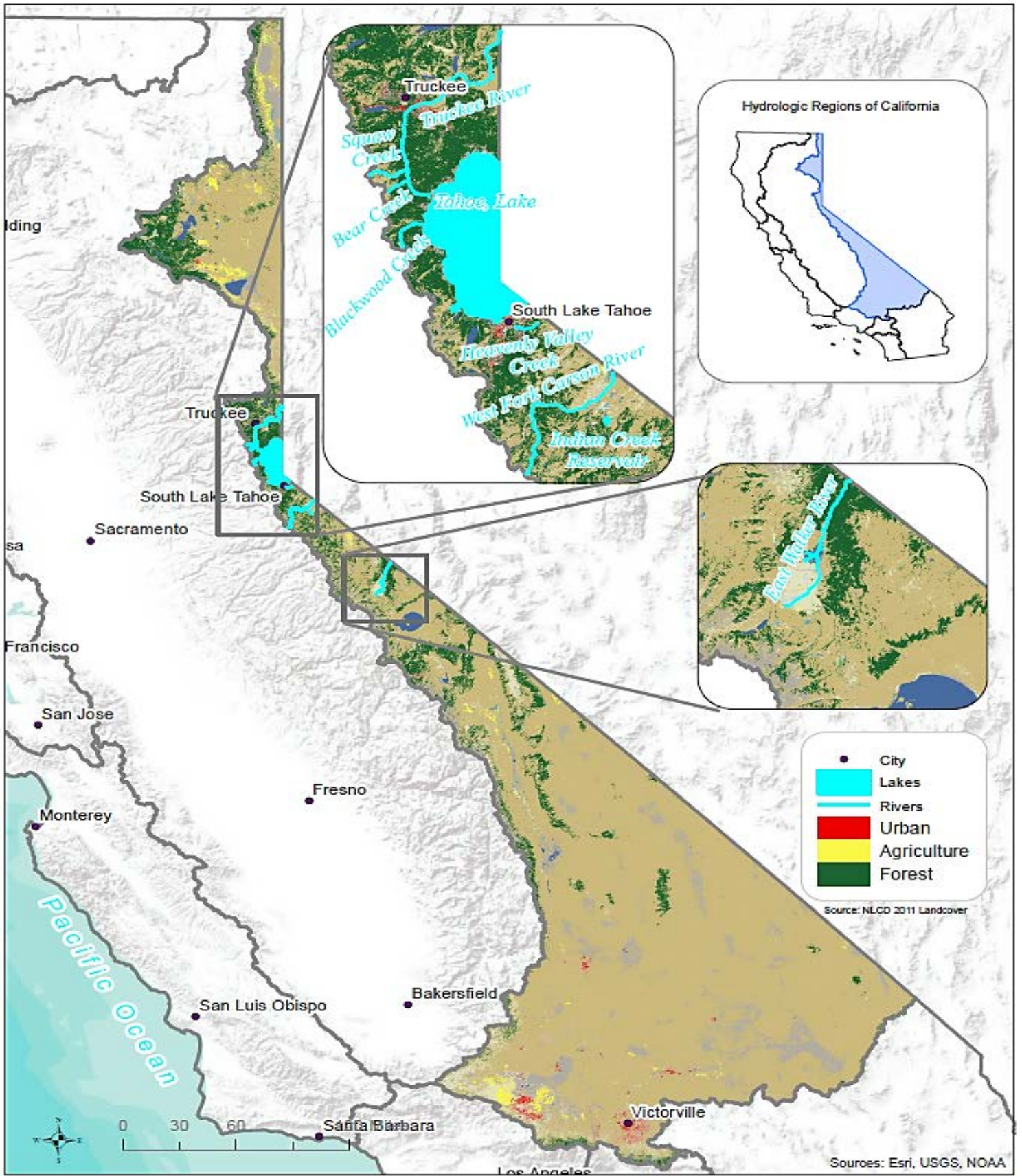


Figure 10. Lahontan Regional Water Board with Major Land Use Categories

### 3. Lahontan Regional Water Board Initiatives

To support both the Lahontan Water Board’s priorities for the Region and its NPS pollution priorities, the following four initiatives for addressing NPS pollution are identified for the 2014-2020 time period. (Note that these initiatives are not listed in order of priority.) The focus on these “initiatives” does not preclude important work on other sources of NPS pollution in the Lahontan Region.

#### *a. Initiative RB6.1: Timber and Fuels Management Program*

##### Background

Public and private 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, clear cutting, 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 reconstruction, log landing clearing, watercourse crossing construction and tree end lining. These activities can result in soil erosion and discharge to surface waters, stream course damage, compaction or removal of riparian soil and vegetation, and soil and plant loss in wetlands.

To protect water quality during timber operations, the Lahontan Regional Water Board adopted its first conditional waiver of WDRs for timber (Timber Waiver) in 2003 with subsequent renewals in 2007, 2009 and 2014. On April 10, 2014, the Lahontan Regional Water Board adopted Order No. R6T-2014-0030, which waives WDRs for discharges resulting from timber harvest and vegetation management activities in the Lahontan Region (RB6 - Timber Waiver).

The RB6 – Timber Waiver is conditional and includes eligibility criteria; conditions; and notification, monitoring, and reporting requirements. It divides eligible activities into six categories. Each category has different requirements tailored to the eligible activities. The lower-order categories (i.e., 1-3) include activities of a limited scale and intensity while the higher-order categories (4-6) may occur on a larger scale with a greater potential for water quality impacts. The segregation of eligible activities into these categories allows the low-threat activities to proceed with minimal conditions.

The RB6 - Timber Waiver applies to projects on both private and public lands. Commercial harvest activities on private lands are subject to the California Forest Practice Rules (Forest Practice Rules) and are regulated through a multi-agency, multi-disciplinary process called the timber harvest plan review team (Timber Harvest Review Team). The team is composed of staff from the California Department of Forestry and Fire Protection and the California Department of Fish and Wildlife as well as Regional Water Board staff.

Increased coordination and reporting by all Timber Harvest Review Team agencies is required by recent legislation (California Assembly Bill 1492 – September 2012). Assembly Bill 1492 also requires the development of ecological performance measures, and an ecological performance evaluation relative to harvesting activities on non-federal lands. Work to address the ecological performance requirements of the bill with the potential to impact workload is in its infancy and so cannot yet be fully accounted for in the Regional Water Board’s planning process.

### *Needs Statement*

The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. In addition, per the NPS Implementation Policy, waivers of WDRs must be renewed every five years. The RB6 - Timber Waiver will expire in April 2019 and must be renewed or replaced with another acceptable regulatory mechanism. The Regional Water Board also needs to perform additional timber harvest reviews and reporting consistent with the requirements of Assembly Bill 1492.

### *Initiative Description*

The Regional Water Board will continue to implement the RB6 - Timber Waiver as described above and renew the existing waiver or replace it with another acceptable regulatory mechanism by April 2019. In addition, the Regional Water Board will perform enhanced timber harvest reviews on non-federal lands and provide the additional reporting required by Assembly Bill 1492.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB6.1: Minimize the impact associated with timber harvest activities on federal and non-federal lands through the Lahontan Region.

Objective 6.1.01: Continue to implement the existing RB6 - Timber Waiver for both federal and non-federal lands.

Objective 6.1.02: Develop and adopt a new categorical waiver of WDRs or new WDRs for timber harvest and fuels management activities that would address both non-federal and federal lands by April 2019.

Objective 6.1.03: Complete the pre-harvest review and field inspections necessary to meet the requirements of Assembly Bill 1492 and report annually to the California Environmental Protection Agency.

### Activities and Performance Measures

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 13.

#### ***b. Initiative RB6.2: Agriculture/Grazing***

##### Background

The surface and ground water resources of the Lahontan Region are, or may be, affected by discharges of waste from agricultural lands including nutrients, salts, pesticides, pathogens, sediment and oxygen-depleting organic matter. Livestock grazing can destabilize stream banks causing soil erosion and resulting in sediment and nutrient loading into the stream. Grazing on riparian vegetation can reduce shade (affecting water temperature) and the buffering capacity for the stream. Loss of riparian vegetation and weakened stream banks can impact stream hydrology by decreasing the depth and increasing width of the stream. Livestock feces can contribute pathogens, nutrients and organic matter to the water. Wastes and wash water from dairies, if not properly managed, can impact surface and ground waters with pathogens, organic matter, sediment, nutrients, and chemicals such as detergents, disinfectants, and biocides. Irrigated lands potential sources including tail water, storm water, infiltration to ground water, subsurface drainage water, tile drain water and frost protection water can impact ground and surface waters from nutrients, salts, sediments and pesticides. Nutrients, pesticides, sediment, salts, and/or pathogens have contributed to the impairment of at least 15 surface waters in the Region.

The Lahontan Water Board is exploring options to address potential impacts from approximately 220,000 acres of irrigated lands to surface waters and ground waters of the Lahontan Region. These irrigated acres are mostly concentrated in limited parts of the Region (e.g., Surprise Valley, Susan River/Honey Lake, Southern Carson Valley, Antelope Valley (Mono County), Bridgeport Valley, Owens Valley, Antelope Valley (Los Angeles/Kern Counties), and Mojave River). The Region's agricultural operations are dominated by alfalfa production and irrigated pasture lands, with some grains and truck crops being grown in the southern portion of the region. Efforts to assess and control nutrient and salt-related ground water pollution in the agricultural areas of the Region will be coordinated with the development of Salt and Nutrient Management Plans as required by the State's Recycled Water Policy.

To protect water quality from adverse impacts from grazing, the Lahontan Water Board adopted its first conditional waiver of waste discharge requirements for Grazing Operations in the East Walker River Watershed (Bridgeport Valley and Tributaries) of the Lahontan Region (Bridgeport Grazing Waiver) in 2007 with a subsequent renewal in 2012. Because many of the Region's waters that are impaired from pathogens are in this watershed, the Board began focusing actions in the East



Walker and will consider future regulatory action in other watersheds as resources allow.

To more efficiently address water quality impairments associated with grazing operations, the Water Boards have formed a team to work on the statewide grazing regulatory action project (Grazing Regulatory Action Project or GRAP). The work team is under the lead of Lahontan Water Board staff with participation from staff at the other Regional Water Boards and from the State Water Board. The work team is developing grazing regulatory tools that may include statewide permitting templates, multi-region permits, statewide policies, or statewide permits. To encourage improved management of grazing operations, staff has pursued funding opportunities for ranchers.

Regional Water Board staff secured a California Proposition 84 (Proposition 84) agricultural water quality grant to implement grazing management practices and assess, through water quality monitoring, the effectiveness of these practices. This Proposition 84 grant is referred to as the Rivers and Ranches Project. Regional Water Board staff has been monitoring bacteria for many years from sites on both public and private lands throughout the Region. This data is used to identify bacteria impacts from grazing or other sources, assess effectiveness of grazing management practices, and document water quality improvements. It will also be used to help modernize the Regional Water Board's water quality standards for bacteria.

To prevent water quality impacts from dairies, the Regional Water Board developed a dairy regulatory strategy in 2010 (RB6 - Dairy Strategy) and is implementing the strategy. The main elements of the RB6 – Dairy Strategy are to assess risk to down gradient drinking water and provide replacement water to residents whose drinking water wells are polluted by the dairies, implement source control using appropriate waste control and disposal practices, evaluate effectiveness of these measures through monitoring, and conduct remediation when necessary.

### *Needs Statement*

The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. In addition, per the NPS Implementation Policy, waivers of WDRs must be renewed every five years. The Lahontan Region uses the Bridgeport grazing waiver (Bridgeport Waiver) to address waste discharges from grazing activities in that area. The waiver will expire in July 2017 and the Regional Water Board must renew or replace the waiver with another acceptable regulatory mechanism.

### Initiative Description

The Regional Water Board will continue to implement current Bridgeport Waiver and renew the waiver or replace it with another acceptable regulatory mechanism by July 2017. Water Board staff will continue its involvement in GRAP.

To protect water quality from adverse impacts from irrigated agriculture, the Regional Water Board is developing an irrigated lands program with an initial focus on nutrient and salt impacts to groundwater. Lahontan Regional Water Board staff will initially be evaluating similar programs currently in use by other Regional Water Boards, and then developing a regulatory strategy addressing the agricultural practices and associated water quality impacts in the Region. The Regional Water Board staff will also ensure that salt and nutrient management plans (Salt and Nutrient Plans) being developed for all groundwater basins as required by the State Water Board's Recycled Water Policy, account for salt and nutrient loads from agriculture as appropriate. Regional Water Board staff will continue to coordinate with the CA Pesticide Regulation through annual pesticide reporting under the Pesticide Contamination Prevention Act (Assembly Bill 2021). This report identifies actions taken by the Water Boards to prevent pesticides from migrating to groundwater. Staff will also ensure that the Salt and Nutrient Plans account for salt and nutrient loads from dairies as appropriate.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB6.2: Implement regulatory and other tools to prevent adverse impacts due to livestock grazing, dairies and irrigated lands. Restore beneficial uses that have been adversely affected by such activities/facilities.

Objective RB6.2.01: Implement the Bridgeport Grazing waiver and renew or replace the waiver with an acceptable regulatory mechanism by July 2017.

Objective RB6.2.02: Provide technical and financial assistance focusing on implementing management practices to address a variety of NPS-related water quality impacts resulting from grazing land uses.

Objective RB6.2.03: Monitor for bacteria in a number of the Region's streams to support removal from the CWA section 303(d) list and to provide information to revise/modernize the Regional Water Board's standard for bacteria by January 2019.

Objective RB6.2.04: Develop an irrigated lands regulatory program by December 2020. This program could include the examination of a suite of conservation practices, focusing on those practices that promote soil health when applied in concert

with nutrient management planning, water conservation and integrated pest management.

Objective RB6.2.05: Continue to develop salt and nutrient management plans for a minimum of five of the Region's priority groundwater basins by December 2016.

Objective RB6.2.06: Implement the Regional Water Board's dairy regulatory strategy.

### *Activities and Performance Measures*

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 13.

### *c. Initiative RB6.3: Onsite Wastewater Treatment Systems*

#### *Background*

Onsite wastewater treatment systems (Onsite Treatment Systems) are useful and necessary structures that allow habitation at locations that are removed from centralized wastewater treatment systems. When properly sited, designed, operated, and maintained, Onsite Treatment Systems treat domestic wastewater to reduce its polluting impact on the environment and to protect public health. In some instances, Onsite Treatment Systems have not satisfactorily protected either water quality or public health. In some instances, disposal system failures are related to the Onsite Treatment Systems not being able to adequately treat and dispose of waste as a result of poor design, improper site conditions, or soil pore space clogging from bacterial growth. Onsite Treatment Systems are operating as designed, but their densities can result in combined effluent flows higher than can be assimilated into the environment.

To prevent such failures creating public health effects and water quality impairment, the State Water Board adopted Resolution No. 2012-0032 that put in place the *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (Onsite Treatment Systems Policy). The Onsite Treatment Systems Policy establishes a statewide, risk-based, tiered approach for the regulation and management of Onsite Treatment System installations and replacements and sets the level of performance and protection expected from these systems. The Onsite Treatment Systems Policy recognizes that responsible local agencies can provide the most effective means to manage Onsite Treatment Systems on a routine basis, and an important element of the policy is to efficiently utilize and improve upon where necessary existing local programs through coordination between the State and local agencies.

Local agencies may submit to the Regional Water Board local agency management programs (Local Management Programs) for approval, and upon approval then manage the installation of new and replacement Onsite Treatment Systems under the Local Management Programs. For those counties under the jurisdiction of multiple Regional Water Boards, the Onsite Treatment Systems Policy designates one Regional Water Board to review and, if appropriate, approve the Local Management Programs.

The Lahontan Regional Water Board is designated for Alpine, Inyo, Lassen, Mono, and San Bernardino counties while either the Los Angeles or Central Valley Regional Water Board is designated for the other eight counties in the Lahontan Region. As specified in the Onsite Treatment Systems Policy, in April 2014, the Regional Water Board incorporated the requirements of the Onsite Treatment Systems Policy into its Basin Plan (approval by SWRCB, OAL and EPA are still pending). In evaluating Local Management Programs, Regional Water Board staff will consider whether the submitted Local Management Programs are protective or if additional controls are necessary. If warranted, staff may request that the Local Management Programs incorporate more protective water quality standards than in the Onsite Treatment Systems Policy.

### *Needs Statement*

According to the Onsite Treatment Systems Policy, the Lahontan Regional has the principal responsibility for overseeing the implementation of this Policy and must complete the approval process for incorporating its requirements into the Lahontan Basin Plan.

### *Initiative Description*

The Lahontan Regional Water Board staff will coordinate with local agencies to develop and approve Local Management Programs for the counties of Alpine, Inyo, Lassen, Mono and San Bernardino and the cities/towns of Adelanto, Apple Valley, Barstow, California City, Hesperia and Victorville that implement Onsite Treatment Systems Policy consistent with the Lahontan Basin Plan.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB6.3: Allow the use of Onsite Treatment Systems while protecting water quality and public health.

Objective 6.3.01: Coordinate with local agencies for the counties of Alpine, Inyo, Lassen, Mono and San Bernardino and the cities/towns of Adelanto, Apple Valley, Barstow, California City, Hesperia and Victorville to develop and approve Local

Management Programs by April 2017. Coordinate with Los Angeles and Central Valley Regional Water Boards to develop and approve Local Management Programs for the other counties in the Lahontan Region by April 2017.

Objective 6.3.02: Amend the Basin Plan as appropriate for consistency with the Onsite Treatment Systems Policy while retaining or adopting more protective water quality standards as necessary by May 2016.

### Activities and Performance Measures

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 13.

#### ***d. Initiative RB6.4: Identifying and Protecting Healthy Watersheds***

##### Background

A healthy watershed has intact and functioning headwaters, wetlands, floodplains, riparian corridors, biotic refugia, in-stream and lake habitat, and water quality that support aquatic and riparian biotic communities and habitats, green infrastructure, natural hydrology, sediment transport and fluvial geomorphology, and natural disturbances expected for its location. The benefits of healthy watersheds are many – sufficient clean water for healthy aquatic ecosystems, habitat for fish and wildlife, safe drinking water; recreation, reduced vulnerability to climate change, and mitigating flood, fire and other hazard damage. As the waters and aquatic ecosystems of watersheds are dynamic systems interconnected in the landscape, protecting their parts (such as water chemistry or stream segments) independently is important, but it is also important to protect them as whole interconnected systems.

Key to identifying and protecting healthy watersheds are partnerships such as integrated regional water management (Integrated Management) groups. Integrated Management groups are inclusive of disadvantaged communities and Native American tribes, and others with diverse water management views, and utilize a collaborative, multi-stakeholder process in planning and addressing water management issues. In their Integrated Management plans and related salt and nutrient management plans (Salt and Nutrient Plans) development, the Integrated Management partnerships consider broader, watershed-based approaches to identify and protect their healthy watersheds, and to improve and restore their impaired watersheds.

Stewardship is also fundamental to healthy watersheds. To increase stewardship, outreach and education for Californians of all ages on the importance of protecting healthy watersheds (including the ecological services they provide and on actions that can be taken to avoid adverse impacts to water quality and watersheds) is vital so that

they will support the Water Board's efforts and understand their own citizens' role in protecting the state's rivers, lakes, streams and coastal waters.

To identify and protect healthy waters requires the development and use of professional and scientifically sound watershed assessment tools. Effective tools assess watersheds as integrated systems and consider landscape condition, habitat, biological integrity, water quality, hydrology and geomorphology. These key features of partnership, stewardship and assessment needed to identify, protect and maintain healthy watersheds are central to federal and State initiatives. California's Healthy Streams Partnership, initiated in 2010, promotes efforts to identify and protect healthy streams. The partnership supports hypothesis-driven data collection, analysis, and reporting to provide integrated information for resource managers at the State and local levels. In collaboration with U.S. EPA's Healthy Watersheds Initiative of 2011, the partnership is using existing data to perform an integrated assessment of watershed health through careful examination of the six healthy watershed attributes: biotic condition, landscape condition, natural disturbance, hydrology, ecological processes, and chemical and physical condition.

### *Needs Statement*

As discussed above, there is a concerted effort within the Lahontan Region by multiple federal, State, and local agencies and local stakeholder groups to develop and implement effective watershed management plans. These plans are integral to maintaining and restoring "healthy watersheds". The Regional Water Board needs to continue their involvement in these efforts to ensure that the Water Board's water quality interests are included.

### *Initiative Description*

The Lahontan Regional Water Board staff will participate in watershed partnership groups such as the six Integrated Management groups in the Lahontan (Lahontan Basins, Tahoe-Sierra, Inyo-Mono, Antelope Valley, Fremont Basin, Mojave) and other local watershed groups and coordinate with CA Water Resources staff to assist Integrated Management groups in development of regional water management plans, and in the review and evaluation of the Integrated Management plans.

### *Goal and Objectives*

The goal and objectives for this initiative are to:

Goal RB6.4: Identify, protect, and maintain healthy watersheds; protect groundwater from salt and nutrient management problems; and effectively interact with stakeholders.

Objective RB6.4.01: Update Integrated Management plans to meet CA Water Resources plan standards for the six Lahontan Region Integrated Management groups (e.g.; Lahontan basins, Tahoe-Sierra, Inyo-Mono, Antelope Valley, Fremont Basin, and Mojave) by December 2015.

Objective RB6.4.02: Provide support for environmental justice and disadvantaged communities through the watershed process.

Objective RB6.4.03: Develop Salt and Nutrient Plans for the Antelope Valley, Mojave, Indian Wells Valley, Honey Lake Valley, Tehachapi Valley East, Owens Valley, Tahoe Valley, and Martis Valley GAMA priority groundwater basins by May 2016.

Objective: RB6.4.04: Provide education and outreach efforts to stakeholders with respect to protecting water quality, healthy watersheds, and environmental stewardship.

Objective RB6.4.05: Identify and respond to emerging issues such as climate change by December 2015.

#### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 13.

Table 13. Lahontan Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
RB6.1: Timber Harvest and Fuels Management	RB6.1.01	Implement the 2014 Timber Waiver – Review and track enrollment in the Timber waiver. Review environmental documents. Conduct inspections. Review monitoring reports. Track inspections and follow-up in CIWQS, using the CIWQS module developed for timber waivers. CIWQS is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest manage permits and other orders, track inspections, and manage violations and enforcement activities.		Complete 20 timber harvest inspections per fiscal year (annually).
	RB6.1.02	Renew the 2014 Timber Waiver or adoption of similar action(s).	Adoption of the 2019 Timber Waiver or adoption of other regulatory action by April 2019.	Prepare the draft Waiver or other regulatory action (and CEQA) for presentation to the public and the Regional Water Board. (Jan to March 2019)  Present the draft Waiver or other regulatory action at a Board meeting for consideration of adoption by the Board. (April 2019)
	RB6.1.03	Participate in the Timber Harvest Plan Review Team – Participate in Review Team activities, and report on those activities as required by Assembly Bill 1492	Reporting as required by Assembly Bill 1492. (Annually 2014-2020)	Conduct an initial timber harvest plan review for 100 percent of plans processed and transmitted through California Department of



Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
				Forestry and Fire Protection (lead agency).
<u>RB6.2:</u> Agriculture and Grazing Program	RB6.2.01	<p>Implement the 2012 Bridgeport grazing waiver of WDRs (Bridgeport Waiver). Ensure enrollment in and compliance with the Bridgeport Waiver. Review ranch water quality management plans (Ranch Management Plans) submitted as a requirement of the Bridgeport Waiver to determine progress toward meeting the interim water quality standard for bacteria. Track implementation of grazing management practices installed by waiver enrollees. Review required annual certification that ranches are in compliance with Ranch Management Plans which will be summarized in the grazing management practice implementation annual report (Annual Grazing Implementation Report).</p> <p>Renew the Bridgeport Waiver or adopt a similar regulatory action(s). Prepare the draft waiver or other regulatory action for presentation to the public and the Regional Water Board. Present the draft waiver or other regulatory action at a Regional Water Board meeting for consideration of adoption by the Board. Adopt the waiver or other regulatory action.</p>	<p>Submittal of Annual Grazing Implementation Reports for each of the 12 ranches enrolled in the Bridgeport Waiver (annually June 2014-July 2017).</p> <p>Renewal of the Bridgeport Waiver or adoption of similar action(s) by July 2017.</p>	

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB6.2.02	Implement the “Rivers and Ranches” Grant Projects (Rivers and Ranches Grant) - Implement grazing management practices on a cost-sharing basis. Assess, through water quality monitoring, the effectiveness of these practices. Conduct outreach activities to promote agricultural best management practices and good stewardship on agricultural lands.	Rivers and Ranches Grant final report by December 2017	Completion of grazing management practice projects on properties in three watersheds with pre- and post- project bacteria data – summary in Rivers and Ranches Grant final report by December 2017.
	RB6.2.03	Monitor water quality for bacteria – Collect water samples from streams in the eastern Sierra Nevada mountains and elsewhere in the Region. Analyze samples for bacterial indicators. Analyze results to determine impacts from grazing or other activities, document water quality improvements, support CWA section 303(d) listing or delisting decisions, and modernize the Regional Water Board’s water quality standard for bacteria.	a. Completed lines of evidence for bacteria to support delisting reach of Trout Creek below Highway 50 by June 2015.	
			b. Revise/modernize Regional Water Board’s water quality standard for bacteria by January 2019.	
	RB6.2.04	Develop an irrigated lands regulatory program – Evaluate existing irrigated lands programs at other Regional Water Boards. Use geographic information systems and other tools to determine the extent of irrigated agriculture in the Lahontan Region. Identify known or potential water quality impacts from irrigation. Identify potential regulatory tools and evaluate applicability of each in the Region. Present regulatory options to the Regional Water	a. Presentation to Regional Water Board on irrigated lands regulatory options by December 2015.	
			b. Development of regulatory option as directed by the Regional Water Board by December 2020. (Note: Beyond planning horizon [June 30, 2020], but will be extensively addressed during 2016 – 2020 time period.)	
			c. Completed Salt and Nutrient Plan for Indian Wells Valley that	

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		Board. Pursue development of regulatory option as directed by the Regional Water Board. Coordinate development of Salt and Nutrient Plans with irrigated lands regulatory strategies to address salt and nutrient loading to groundwater from agriculture.	addresses salt and nutrient loading from agriculture by May 2016.	
			<u>d.</u> Completed Salt and Nutrient Plan for Honey Lake Valley that addresses salt and nutrient loading from agriculture by May 2016.	
			<u>e.</u> Completed Salt and Nutrient Plan for Tehachapi Valley East that addresses salt and nutrient loading from agriculture by May 2016.	
			<u>f.</u> Completed Salt and Nutrient Plan for Owens Valley that addresses salt and nutrient loading from agriculture by May 2016.	
	RB6.2.05	Implement the Regional Water Board's dairy strategy (Dairy Regulatory Strategy) – Ensure replacement water is available to residents whose private well water is affected by dairy operations. Request and review source control plans to address milk barn wash water and manure disposal practices. Request and review stormwater runoff plans to protect surface water. Request and review nutrient management plans to protect groundwater. Coordinate with Natural Resource Conservation Service (Resource Conservation Service) and Resource Conservation District (Resource District) to assist dairies in implementing source controls.	.	Semiannual report to Lahontan Regional Water Board on status of implementing the Dairy Regulatory Strategy annually each May and October

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
<u>RB6.3:</u> Onsite Wastewater Treatment Systems	RB6.3.01	Develop local agency management plan (Local Management Plan) that implements the State's on-site wastewater treatment policy (Onsite Treatment Policy) and is consistent with the Lahontan Basin Plan.	Approved Local Management Plan for Alpine County by April 2017.	Coordinate with Central Valley Regional Water Board and local agencies to develop and approve a local agency management plan (Local Management Plan) for Alpine County
			Approved Local Management Plan for Inyo County by April 2017.	Coordinate with local agencies to develop and approve a Local Management Plan for Inyo County
			Approved Local Management Plan for Lassen County by April 2017.	Coordinate with Central Valley Water Board and local agencies to develop and approve a Local Management Plan for Lassen County
			Approved Local Management Plan for Mono County by April 2017.	Coordinate with local agencies to develop and approve a Local Management Plan for Mono County
			Approved Local Management Plan for San Bernardino County by April 2017.	Coordinate with Colorado River Basin and Santa Ana Water Boards and local agencies to develop and approve a Local Management Plan for San Bernardino County

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
			Approved Local Management Plans for El Dorado, Kern, Los Angeles, Modoc, Nevada, Placer, Plumas and Sierra Counties by April 2017.	Coordinate with the Los Angeles and Central Valley Regional Water Boards that are designated for the other counties in the Lahontan Region (El Dorado, Kern, Los Angeles, Modoc, Nevada, Placer, Plumas & Sierra Counties) to develop and approve Local Management Plans
			Approved Local Management Plan for Adelanto by April 2017.	Develop and approve a Local Management Plan for Adelanto
			Approved Local Management Plan for Apple Valley by April 2017.	Develop and approve a Local Management Plan for Apple Valley
			Approved Local Management Plan for Barstow by April 2017.	Develop and approve a Local Management Plan for Barstow
			Approved Local Management Plan for California City by April 2017.	Develop and approve a Local Management Plan for California City
			Approved Local Management Plan for Hesperia by April 2017.	Develop and approve a Local Management Plan for Hesperia

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
			Approved Local Management Plan for Victorville by April 2017.	Develop and approve a Local Management Plan for Victorville
RB6.3.02	Complete post adoption approval of basin plan amendments for consistency with statewide OWTS policy. Coordinate with the State Water Board, Office of Administrative Law (OAL) and the U.S. EPA to accept and finalize the Lahontan Basin Plan amendment that incorporated the requirements of the Onsite Treatment Policy into the Lahontan Basin Plan	a. State Water Board approval of Lahontan Basin Plan amendment that incorporated the requirements of the Onsite Treatment Policy into the Lahontan Basin Plan by April 2015.		
		b. State Office Administrative Law approval of Lahontan Basin Plan amendment that incorporated the requirements of the Onsite Treatment Policy into the Lahontan Basin Plan by February 2016.		
		c. U.S. EPA approval of Lahontan Basin Plan amendment that incorporated the requirements of the Onsite Treatment Policy into the Lahontan Basin Plan by May 2016.		
<u>RB6.4:</u> Healthy Watersheds	RB6.4.01	Provide support for environmental justice and disadvantaged communities through the watershed process. Participate in watershed partnership groups such as the six integrated regional water management (Integrated Management) groups in the Lahontan Region (e.g.; Lahontan basins, Tahoe-Sierra, Inyo-Mono, Antelope Valley, Fremont Basin, Mojave) and other watershed groups such as Upper Truckee River Watershed Group, Alpine Watershed Group, Susan River Watershed Group, Desert Renewable Energy Conservation Plan Working Group, Mitigation Bank Workgroups, Episodic Technical Advisory	a. Updated Integrated Management Plan to meet CA Water Resources plan standards for the Lahontan basins integrated management group by December 2015.	
			b. Updated Integrated Management Plan to meet CA Water Resources plan standards for the Tahoe - Sierra Integrated Management Group by December 2015.	
			c. Updated Integrated Management Plan to meet CA Water Resources Plan standards for the Inyo - Mono integrated management group by December 2015.	
			d. Updated Integrated Management Plan to meet CA Water Resources plan standards for the Antelope Valley integrated management group	

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
		Committee). Coordinate with CA Water Resources staff to assist Integrated Management groups in development of regional water management plans, and in the review and evaluation of the Integrated Management plans.	by December 2015.	
			<u>e.</u> Updated Integrated Management Plan to meet CA Water Resources plan standards for the Mojave integrated management group by December 2015.	
			<u>f.</u> Updated Integrated Management Plan to meet CA Water Resources plan standards for the Fremont Basin integrated management group by December 2015.	
	RB6.4.02	Support for environmental justice and disadvantaged communities - Through participation in watershed partnership groups, encourage inclusion of a diverse range of stakeholders including disadvantaged communities and native American tribes and other interests in water management. Promote the use of group procedures or processes that include access to information and collaboration among people or agencies, including disadvantaged communities and native American tribes, and others with diverse water management views.	<u>a.</u> Updated Integrated Management Plan to meet CA Water Resources disadvantaged community plan standards for the Lahontan Basins Integrated Management Group by December 2015.	
			<u>b.</u> Updated Integrated Management Plan to meet CA Water Resources disadvantaged community plan standards for the Tahoe -Sierra integrated management group by December 2015.	
			<u>c.</u> Updated Integrated Management Plan to meet CA Water Resources disadvantaged community plan standards for the Inyo Mono integrated management group by December 2015.	
			<u>d.</u> Updated Integrated Management Plan to Meet CA Water Resources disadvantaged community plan standards for the Antelope Valley integrated management group by December 2015.	
			<u>e.</u> Updated Integrated Management Plan to meet CA Water Resources disadvantaged community plan standards for the Mojave integrated management group by December 2015.	

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
			<u>f.</u> Updated Integrated Management Plan to meet CA Water Resources disadvantaged community plan standards for the Fremont Basin integrated management group by December 2015.	
	RB6.4.03	Participate in the development of salt and nutrient management plans (Salt and Nutrient Plans) – through the Integrated Management Program – Salt and nutrient management sub-groups, ensure that salt and nutrient assessment, loading and management is addressed on a watershed scale to ensure effective ground and surface water protection.	<u>a.</u> Completed Salt and Nutrient Plan for Indian Wells Valley that addresses salt and nutrient loading on a watershed basis by May 2016.	
			<u>b.</u> Completed Salt and Nutrient Plan for Honey Lake Valley that addresses salt and nutrient loading on a watershed basis by May 2016.	
			<u>c.</u> Completed Salt and Nutrient Plan for Tehachapi Valley East that addresses salt and nutrient loading on a watershed basis by May 2016.	
			<u>d.</u> Completed Salt and Nutrient Plan for Owens that addresses salt and nutrient loading on a watershed basis by May 2016.	
			<u>e.</u> Completed Salt and Nutrient Plan for Tahoe Valley that addresses salt and nutrient loading on a watershed basis by May 2016.	
			<u>f.</u> Completed Salt and Nutrient Plan for Martis Valley that addresses salt and nutrient loading on a watershed basis by May 2016.	



Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB6.4.04	Participate in outreach and education through development of and participation in proactive measures to protect water quality, healthy watersheds, and promote environmental stewardship. Measures include developing and presenting kindergarten through 12 <sup>th</sup> grade standards-based watershed activities, one-time events, workshops, citizen monitoring event, presentations at conferences or symposiums.	Participation in at least four events per year annually from July 2014-June 2020. Participation in at least one kindergarten through 12 <sup>th</sup> grade educational activity in disadvantaged or tribal communities (annually July 2014 to June 2020).	
	RB6.4.05	Respond to climate change - consider and when possible integrate climate change into water quality decisions and watershed planning processes.	<u>a.</u> Updated Integrated Management Plan to meet CA Water Resources Climate Standards (CA Water Resources Climate Standards) for the Lahontan Basins Integrated Management Group by December 2015.	
			<u>b.</u> Updated Integrated Management Plan to meet CA Water Resources Climate Standards for the Tahoe -Sierra Integrated Management Group by December 2015.	
			<u>c.</u> Updated Integrated Management Plan to meet CA Water Resources Climate Standards for the Inyo Mono Integrated Management Group by December 2015.	
			<u>d.</u> Updated Integrated Management Plan to meet CA Water Resources climate change plan standards for the Antelope Valley Integrated Management Group by December 2015.	

Initiative	Initiative No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
			e. Updated Integrated Management Plan to meet CA Water Resources Climate Standards for the Mojave Integrated Management Group by December 2015.	
			f. Updated Integrated Management Plan to meet CA Water Resources Climate Change Plan Standards for the Fremont Basin Integrated Management Group by December 2015.	

## H. Colorado River Basin Regional Water Quality Control Board

### 1. Description of the Region

The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes all of Imperial County and portions of San Bernardino, Riverside, and San Diego counties. It is bounded on the east by the Colorado River; to the south by the Republic of Mexico; the west by the Laguna, San Jacinto, and San Bernardino Mountains; and to the north by the New York, Providence, Granite, Old Dad, Bristol, Rodman, and Ord Mountain Ranges (Figure 11).

The Colorado River Basin is one of the most arid regions of California. Yet despite the relative lack of precipitation, the Region contains some substantial surface waterbodies, including the Colorado River and the Salton Sea. Many of the alluvial valleys in the Region are underlain by groundwater aquifers that in many cases are the sole source of water for local areas. The Whitewater Hydrologic Unit which includes the Coachella Valley is the most important groundwater basin in the Region.

Some of the primary challenges facing the Region during the next six years include international pollution from Mexico, the Salton Sea, pollution from agricultural runoff, and groundwater pollution. As a result, dischargers in Coachella, Imperial, and Palo Verde Valleys will continue to be targeted for the purposes of NPS management through the development and implementation of agricultural waivers of WDRs, continued implementation of existing TMDLs, and implementation of the State's Onsite Systems Policy.

### 2. Surface Water and Groundwater Quality Issues

The primary surface water quality issues in the Region occur in the Salton Sea Trans-boundary watershed (Salton Sea Watershed). The watershed contains the five main surface waterbodies in the Region: the Salton Sea, the New River, the Alamo River, the Imperial Valley agricultural drains; and the Coachella Valley stormwater channel.

The New River originates in Mexico. It flows approximately 20 miles through the City of Mexicali, Mexico, crosses the International Boundary, continues through the City of Calexico in the United States, and travels northward about 60 miles until it empties into the Salton Sea. The New River carries urban runoff, untreated and partially treated municipal wastes, untreated and partially treated industrial wastes, and agricultural runoff from the Mexicali Valley, Mexico across the International Boundary into the United States. In addition, the River carries urban runoff, agricultural runoff, treated industrial wastes, and treated, disinfected and non-disinfected domestic wastes from the Imperial Valley. It also carries treated wastewater from point sources in Imperial Valley.

Pollutants of concern include legacy and current pesticides; sediments; nutrients; pathogens; soluble materials that cause low dissolved oxygen (biological oxygen demand and ammonia), and toxicity.

The Alamo River originates approximately 2 miles south of the International Boundary with Mexico, and flows northward across the border for about 50 miles until it empties into the Salton Sea. The Alamo River is dominated by agricultural return flows from Imperial Valley. It also carries treated wastewater from point sources in Imperial Valley. Pollutants of concern include legacy and current pesticides; sediments; nutrients; pathogens; soluble materials that cause low dissolved oxygen (biological oxygen demand and ammonia), and toxicity.

The Imperial Valley agricultural drain system comprises over 1,450 miles of surface drains, which discharge into the Alamo and New rivers and the Salton Sea. The drainage system primarily carries agricultural runoff from the Imperial Valley. Agricultural discharges in the Imperial Valley average about 830,000 acre-feet/year. Of this amount, approximately 36 percent is tailwater, 33 percent is seepage, and 30 percent is tile water. The resulting mix of tail water, tile water, and seepage contains pesticides, nutrients, selenium, and silt in amounts that violate water quality standards.

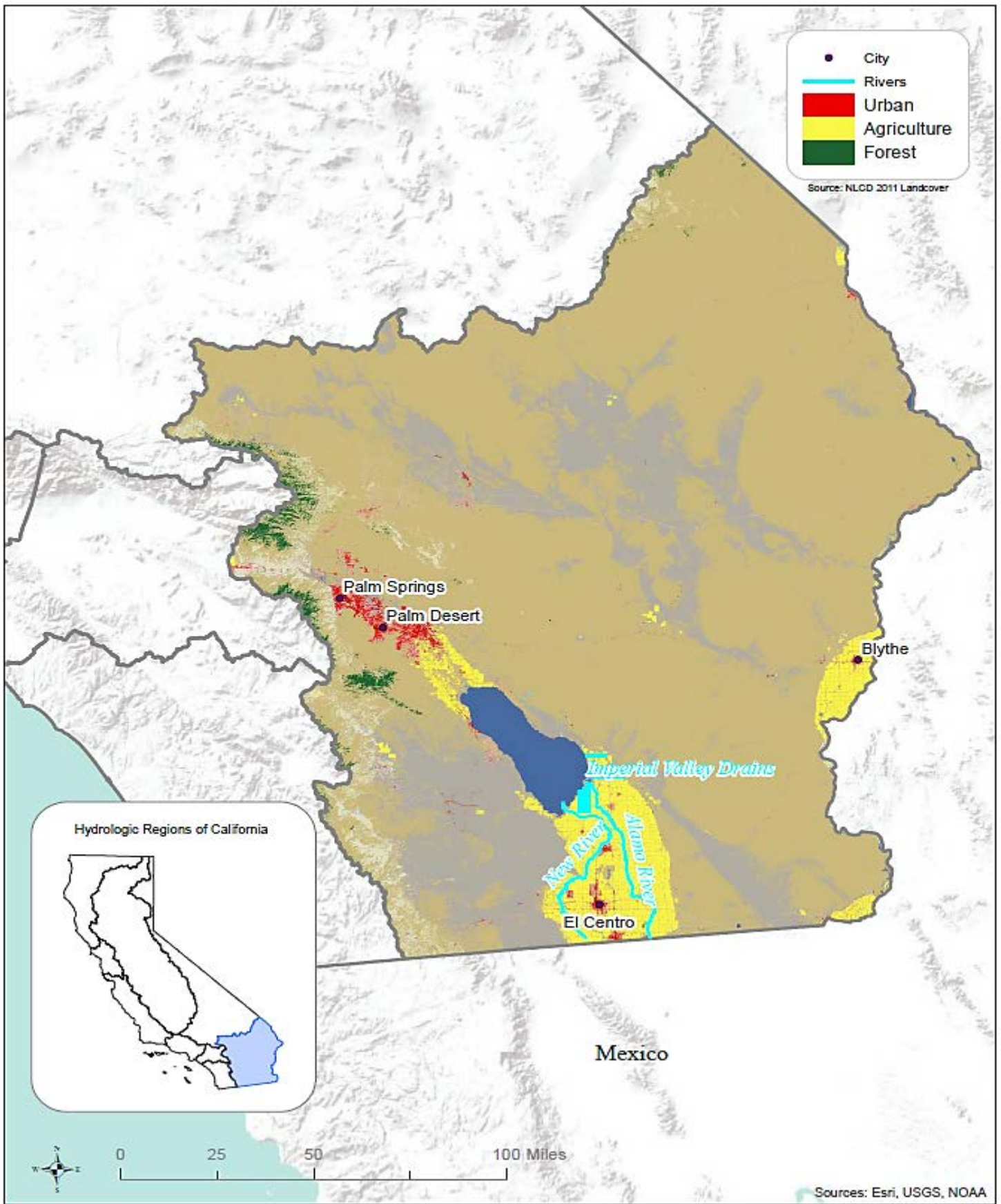


Figure 11. Colorado River Basin Regional Water Board with Major Land Use Categories

### 3. Colorado River Basin Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the Colorado River Regional Water Board will be focusing on during the next six-year planning period. Although not included in these initiatives, the Regional Water Board will also continue its efforts in addressing NPS problems by participating in the Salton Sea Authority. This group works with State and federal government entities to develop plans to improve water quality, stabilize water elevation, and enhance recreational and economic development potential of the Salton Sea.

#### *a. Initiative RB7.1: Develop and Implement Agricultural Waivers*

##### Background

The Water Code requires the Regional Water Boards to control all discharges of waste that affect the quality of State waters. This is accomplished by issuing WDRs, conditional waivers of WDRs, or prohibitions of waste discharge. The Regional Water Board has been proactive in addressing unregulated discharges of waste that affect the quality of States waters in the Region. In 2005 the Regional Water Board adopted a prohibition of silt laden waters from agricultural facilities into Imperial Valley waterways. The use of prohibitions to address agricultural dischargers was subsequently disallowed by a State Water Board decision in January 2012. This decision was based on the need for consistency on a statewide basis for the agricultural regulatory programs to use WDRs or waivers of WDRs for which fees can be collected to support the program. In September 2012, the Regional Water Board adopted a conditional waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Palo Verde Valley and Palo Verde Mesa, Riverside and Imperial counties. In January 2013, the Regional Water Board adopted a conditional waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Bard Unit of the Reservation Division, Imperial County. In June 2014, the Regional Water Board adopted a conditional waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Coachella Valley, Imperial County.

##### Needs Statement

The Regional Water Board needs to continue to develop, adopt, implement, and renew (as appropriate) waivers of WDRs for various agricultural discharges in the Region. This will address the need to bring consistency throughout the Region and compliance with the requirements of the NPS Implementation Policy.

### Initiative Description

This initiative addresses the development, adoption, implementation, and renewal (as appropriate) of waivers of WDRs for agricultural discharges from all agricultural facilities in the Coachella Valley, Imperial Valley, Bard Valley and Palo Verde area.

### Goals and Objectives

The goal and objectives for this initiative are to;

Goal RB7.1: Improve water quality in the Region by regulating all irrigated agricultural facilities in the Region through waivers of WDRs.

Objective RB7.1.01: Continue implementation of the waivers of WDRs within the Palo Verde area and Bard Valley that were adopted on September 20, 2012 and on January 17, 2013, respectively.

Objective RB7.1.02: Implement the waiver of WDRs within the Coachella Valley, Riverside County, which was adopted in June 2014.

Objective RB7.1.03: Implement the waiver of WDRs within the Imperial Valley, Imperial County, which was adopted on January 15, 2015.

Objective RB7.1.04: Renew all existing waivers for agricultural discharges within five years of the original adoption date.

### Activities and Performance Measures

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 14.

### ***b. Initiative RB7.2: – Implement the State’s Onsite Wastewater Treatment System Policy***

#### Background

Onsite Treatment Systems are commonly known as septic systems and primarily treat domestic wastewater and employ subsurface disposal. In California, there are an estimated 1.2 million of these systems in place. In order to allow for their continued use of, while protecting water quality and public health, in 2000, the California Legislature passed Assembly Bill 885 (Water Code section 13290). This required the State Water Board to adopt regulations or standards for the permitting and operation of Onsite Treatment Systems. The Onsite Treatment Systems policy (Onsite

Treatment Policy) takes a risk-based approach, addressing only those systems that threaten water sources serving the general public. The Onsite Treatment Policy was adopted on June 19, 2012 and became effective as of May 13, 2013. It establishes a statewide, risk-based, tiered approach for regulation and management of Onsite Treatment System installations and replacements, and recognizes the effectiveness of local permitting agencies. The Onsite Treatment Policy for the State was incorporated into the Basin Plan for the Colorado River Basin Region on September 19, 2013, approved by the State Board on December 3, 2013 and approved by Office of Administrative Law on March 11, 2014.

### *Needs Statement*

According to the Onsite Treatment Policy, the Regional Water Boards have the principal responsibility for overseeing its implementation. This initiative will allow the continued use of Onsite Treatment Systems, while protecting water quality and public health within the Region.

### *Initiative Description*

The Onsite Treatment Policy recognizes that responsible local agencies can provide the most effective means to manage Onsite Treatment Systems on a routine basis and the Regional Water Board staff will provide guidance on the development of Local Management Programs to meet the Onsite Treatment Policy requirements and plans. This initiative will provide assistance for Local Management Programs to implement area-specific programs with different conditions, different criteria, and different methods of assessing compliance. Local agencies will continue to implement existing Onsite Treatment System permitting programs in compliance with the Basin Plan until May 13, 2018, or until approval of their Local Management Program by the Regional Water Boards. Typically, Local Management Programs are implemented in areas that differ from the conditions considered during the development of the Onsite Treatment Policy. There are some Onsite Treatment Systems that may not qualify for the Local Management Programs required and will need to be addressed by the individual Regional Water Boards through WDRs or waivers of WDRs.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB7.2.1: Reduce impacts to groundwater from septic by implementing the requirements established in the Onsite Treatment Policy.



Objective RB7.2.1.01: Review, and if appropriate, approve Local Management Programs submitted from two county agencies (e.g.; Imperial and Riverside counties) by July 2017.

Objective RB7.2.1.02: Provide oversight to the implementation and management of the two approved Local Agency Management Programs for Imperial and Riverside counties.

Objective RB7.2.1.03: As needed, issue or deny WDRs or waivers of WDRs for any new or replacement Onsite Treatment Systems within a jurisdiction of a local agency without approved Local Management Programs where that Onsite Treatment System meets the minimum standards contained in Tier 1 of the Onsite Treatment Policy.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 14.

Table 14 . Colorado River Basin Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
<u>RB7.1:</u>  Develop and Implement Agricultural Waivers	RB7.1.01	Continue the implementation of the waivers of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Palo Verde area and Bard Valley through June 2020.  <u>Background:</u> It is expected that there will be at least four drain shed coalitions for Agricultural Waivers in the Region. However, it is up to the dischargers how they prefer to organize themselves. Therefore, it could be more than four coalitions.	a. Annual reporting of number of agricultural dischargers participating in the agricultural waiver program.	
			b. Annual reporting of number of acres covered currently vs. total number of acres in future.	
			c. Annual reporting of number of farm water quality plans submitted.	
			d. Review monthly and annual water quality monitoring reports.	
				e. 90 percent of agricultural waste dischargers will participate in drain-shed coalitions that implement the agricultural waiver by 2020.
		f. Renew waiver of WDRs or development of alternative regulatory mechanism (as appropriate) within five years of initial adoption (by 2019).		

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB7.1.02	<p>Implement the waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Coachella Valley, Riverside County, which was adopted on June 26, 2014.</p> <p><u>Background:</u> It is expected that there will be at least four drain shed coalitions for Agricultural Waivers in the Region. However, it is up to the dischargers how they prefer to organize themselves. Therefore, it could be more than four coalitions.</p>	<p><u>a.</u> Regional Water Board adoption of the Coachella Valley agricultural waiver of WDRs by July 2014</p>	
			<p><u>b.</u> Annual reporting of number of agricultural dischargers participating in the agricultural waiver program.</p>	
			<p><u>c.</u> Annual reporting of number of acres covered now vs. total number of acres.</p>	
			<p><u>d.</u> Annual reporting of number of farm water quality plans submitted.</p>	
			<p><u>e.</u> Review monthly and annual water quality monitoring reports.</p>	
				<p><u>f.</u> 90 percent of agricultural waste dischargers will participate in drain-shed coalitions that implement the agricultural waiver by 2020.</p>
				<p><u>g.</u> Renew waiver of WDRs or development of alternative regulatory mechanism (as appropriate) within five years of initial adoption (by 2019).</p>

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
	RB7.1.03	Develop, adopt and implement the waiver of WDRs for agricultural wastewater discharges and discharges of waste from drain operation and maintenance activities originating within the Imperial Valley, Imperial County, to the Regional Water Board for consideration of adoption by September 2014.	a. Develop a waiver of WDRs for Imperial Valley, Imperial County by September 2014.	
			b. Adopt a waiver of WDRs for Imperial Valley and Imperial County by September 2014.	
			c. <u>Annual reporting of number of agricultural dischargers participating in the agricultural waiver program.</u>	
			d. <u>Annual Reporting of number of acres covered now vs. total number of acres.</u>	
			e. <u>Annual reporting of number of farm water quality plans submitted.</u>	
			f. <u>Review monthly and annual water quality monitoring reports.</u>	
				g. 90 percent of agricultural waste dischargers will participate in drain-shed coalitions that implement the agricultural waivers by 2020.

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
				h. Renew waiver of WDRs or development of alternative regulatory mechanism (as appropriate) within five years of initial adoption (by 2019).
RB7.2 Implement the State's OWTS Policy	R7.2.01	Review, and if appropriate, approve Local Agency Management Programs (LAMPs) submitted by two county agencies (Imperial and Riverside counties) during the 2014-2020 time period.	Review and approve, as appropriate, Local Agency Management Programs (LAMPs) for Imperial and Riverside which will be submitted to the Regional Water. Review and approval by July 2017.	

## **I. Santa Ana Regional Water Quality Control Board**

### **1. Description of the Region**

The Santa Ana Region covers the upper and lower Santa Ana River watersheds, the San Jacinto River watershed (tributary to the upper Santa Ana River at Prado Basin), and several smaller coastal watersheds, all of which drain toward the southwest and into the Pacific Ocean (see Figure 12). The 2,800 square mile region, in coastal southern California between Los Angeles and San Diego, is the smallest of the nine Regional Water Boards in California and the most densely populated, covering the northern 2/3 of Orange County as well as the population centers of San Bernardino and Riverside counties. .

### **2. Surface Water and Groundwater Quality Issues**

For the next six years and beyond, the primary Regional Water Board NPS efforts will be focused on developing and carrying out programs necessary to implement TMDLs and to implement management measures to improve water quality in the Region's CWA section 303(d) listed waters. NPS program priorities that have been identified by Santa Ana Regional Water Board staff for action over the next six years include: (a) management of pollutant loads from agricultural operations; (b) oversight of programs to control NPS discharges in marinas throughout the Region; (c) management of NPS pollutant loads from forested areas of the Region, including grazing on three U. S. Forest Service allotments; (d) management of NPS pollutant loads, particularly selenium and sedimentation, caused by hydromodification in the Newport Bay and San Diego Creek watersheds; and (e), management of NPS pollutant loads of heavy metals in lower Newport Bay.

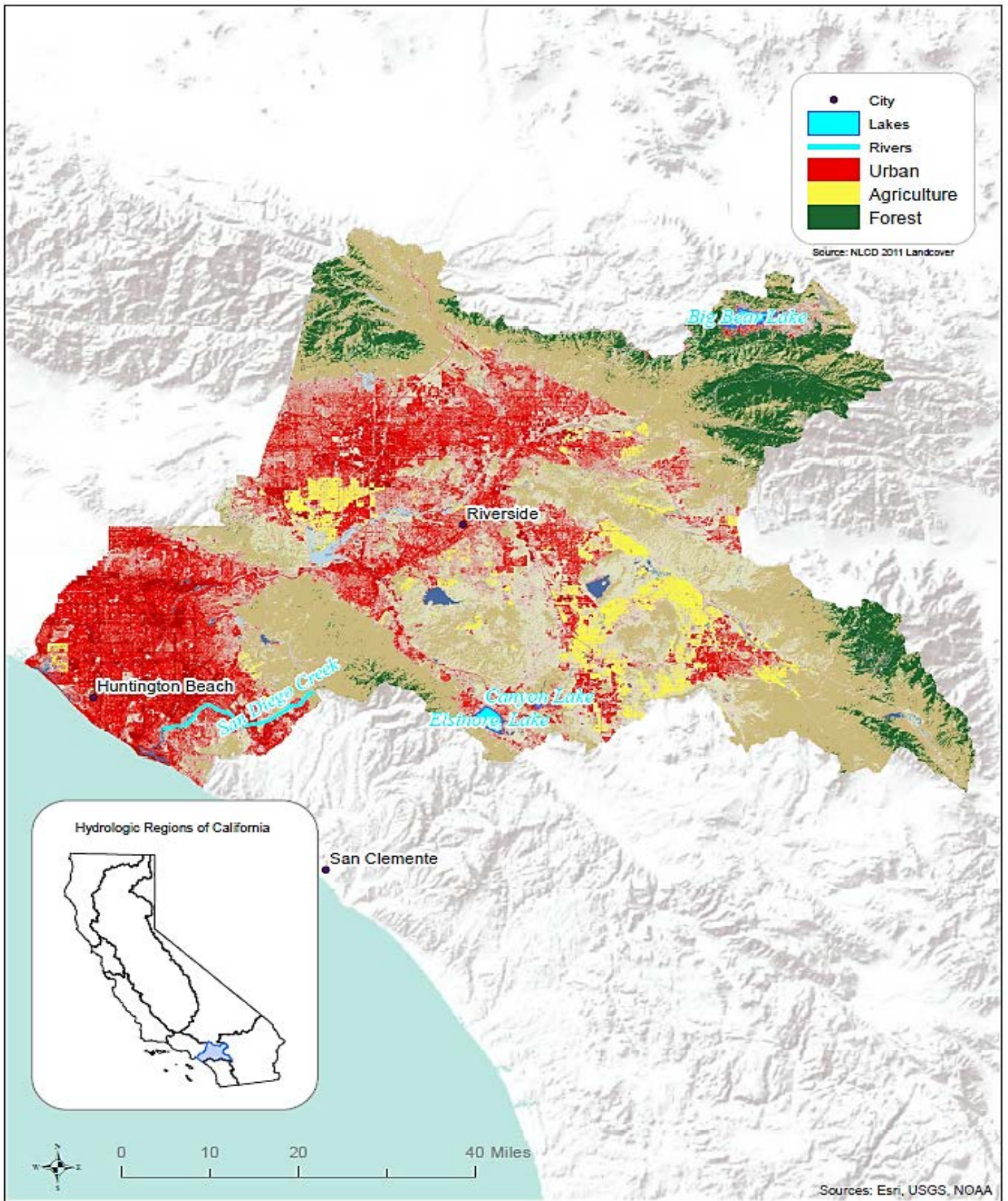


Figure 12. Santa Ana Regional Water Board with Major Land Use Categories

### 3. Santa Ana Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the Santa Ana Regional Water Board will be focusing on during the next six-year planning period.

#### *a. Initiative RB8.1: Management of Pollutant Loads from Agricultural Operations*

##### Background

In the Lake Elsinore / San Jacinto watershed, waste discharges from a variety of sources are contributing to pollution in Canyon Lake and Lake Elsinore. This pollution has caused massive fish kills and huge algae blooms. The runoff discharges from agricultural activities are one of the main NPS pollutants responsible for these violations. In response to these violations, the Regional Water Board adopted separate nutrient TMDLs for Canyon Lake and Lake Elsinore.

In addition to establishing load and waste load allocations, these TMDLs require key stakeholders to cooperatively support implementation of the TMDLs. This requirement has evolved into a program of membership in stakeholder organizations, and allocation and collection of fees to share implementation costs. The conditional waiver of WDRs for agricultural dischargers (RB8 – Agricultural Waiver) program was developed for use as a tool to leverage implementation of the nutrient TMDLs for Canyon Lake and Lake Elsinore. The design of RB8 – Agricultural Waiver for the San Jacinto River watershed is intended to influence the behavior of agricultural operators to reduce NPS pollutant discharges from their operations. The RB8 – Agricultural Waiver includes compliance incentives, such as relaxed monitoring requirements once effective management practices are in place.

Agricultural operations in the San Jacinto River watershed that are covered by the RB8 – Agricultural Waiver include irrigated farming of row and field crops, orchard and grove operations, wholesale and retail plant nurseries, turf farms, and chicken and horse ranching and similar livestock operations. The RB8 – Agricultural Waiver program will work to minimize the discharge of waste to waters in order to ensure water quality objectives and beneficial uses are obtained while allowing the agricultural operators to continue to discharge waste to waters of the State from their operations, provided they comply with the TMDLs by paying implementation fees, taking steps to implement best management practices to reduce the NPS pollutant load of their discharge, etc. Other conditions, such as regular reporting and water quality monitoring, apply as well. The RB8 – Agricultural Waiver program allow some conditions to be met through the collective action of a group or groups of agricultural operators who are enrolled in the program, or by a third party representing a coalition of enrollees.



### Needs Statement

As previously presented, nutrient loadings from agriculture practices have severely impacted the water quality in Canyon Lake and Lake Elsinore. The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. In addition, per the NPS Implementation Policy, waivers of WDRs must be renewed every five years. As such, the Santa Ana Regional Water Board needs to establish and implement a regulatory program to specifically address these discharges from irrigated agriculture and livestock operations not already regulated in the San Jacinto watershed.

### Initiative Description

Regional Water Board staff will continue to develop the RB8 – Agricultural Waiver to establish a water quality regulatory program for agricultural activities in the San Jacinto watershed. It is anticipated that the waiver will be presented to the Santa Ana Regional Water Board for their consideration and approval in July 2015. As part of the implementation of the RB8 – Agricultural Waiver, Regional Water Board staff will: (1) develop and populate an information management system to track pertinent operator information; (2) identify and enroll agricultural and livestock operators; (3) provide education and outreach opportunities for the operators; (4) conduct outreach inspections to assist operators in utilizing the most effective management measures and management practices; (5) review and collect, as necessary, water quality information to determine the effectiveness of operator implementation actions; (6) take enforcement actions against operators that either have not enrolled or are not implementing effective management measures and management practices; and (7) take necessary actions to reissue the RB8 – Agriculture Waiver or develop a new regulatory mechanism by December 2019.

### Goals and Objectives

The goal and objectives for this initiative are to:

Goal RB8.1: Improve the quality of surface waters that receive discharges from agricultural and livestock operations in the San Jacinto watershed through the development and implementation of the RB8 – Agricultural Waiver.

Objective RB8.1.01: Complete development and obtain approval by the Santa Ana Regional Water Board of the RB8 – Agricultural Waiver by July 2015.

Objective RB8.1.02: Develop and begin to populate the RB8 – Agricultural Waiver information management system with information pertinent to effective management

of the Regional Water Board's agriculture program. Effective management would be evaluated based a combination of factors including measurable and verifiable improvements in water quality (surface and ground water), attainment of TMDL water quality objectives for Canyon Lake and Lake Elsinore, implementation of new BMPs, measurable decreases in waste discharge from agriculture operations during dry and wet weather conditions, overall satisfaction with waiver requirements amongst dischargers and stakeholders, etc.

Objective RB8.1.03: Provide assistance to the agriculture and livestock operators through education and outreach workshops on NPS pollution control measures/BMPs, water quality management strategies, pertinent related topics, and work with NRCS to secure USDA Farm Bill (EQIP, etc.) funds for agriculture operations to support compliance.

Objective RB8.1.04: Determine the extent to which pollutant loads that are attributed to agriculture comply with TMDLs through management measure and management practice tracking and water quality monitoring.

Objective RB8.1.05: Reissue the RB8 – Agricultural Waiver or develop another regulatory mechanism within five years of its original approval by the Santa Ana Regional Water Board. This could include the examination of a suite of conservation practices, that when implemented, improve water quality standards and satisfy waste discharge requirements.

### *Activities and Performance Measures*

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 15.

### ***b. Initiative RB8.2: Management of NPS Pollutant Loads from Forested Areas Under U.S. Forest Service Control***

#### *Background*

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

The Regional Water Board has adopted nutrient TMDLs for [Lake Elsinore and Canyon Lake \(in the San Jacinto Watershed\)](#) and for dry hydrologic conditions for Lake. Both the Big Bear Lake and the Lake Elsinore/Canyon Lake TMDLs have specific U.S. Forest Service requirements including the following: (1) meeting specified load allocations for nitrogen and phosphorus; (2) implementing monitoring; (3) updating of water quality models; and (4) developing and implementing nutrient control lake management plans.

While forestry activities are well managed, NPS sediment discharges from leaseholds, areas under U.S. Forest Service use permits, U.S. Forest Service forest roads, and unauthorized off road vehicle use in the national forest remain an ongoing concern. Although the U.S. Forest Service endeavors to implement NPS control measures identified in its forest management plans in a timely manner, it is constrained by limited funding and staffing. In addition, U.S. Forest Service controlled areas affected by wild fires have been a high priority for implementing sediment control management measures.

### *Needs Statement*

The NPS Implementation Policy requires the Water Boards to address all discharges of waste that can affect water quality, including NPSs, using administrative permitting authority in the form of administrative tools (WDRs, waivers of WDRs, and basin plan prohibitions) to address ongoing and proposed waste discharges. Numerous activities taking place on U.S. Forest Service land have a direct impact on water quality. As such, a Region-specific regulatory tool is needed to ensure that the U. S. Forest Service implements those TMDL requirements that are applicable, as well as to direct implementation of the U.S. Forest Service Forest Management Plans for the San Bernardino and Cleveland National Forests as the plans pertain to water quality.

### *Initiative Description*

The Regional Water Board plans to develop WDRs with specific requirements for U.S. Forest Service operations. In particular, the WDRs will include requirements specified in the nutrient TMDLs for the Lake Elsinore/Canyon Lake and Big Bear Lake. The requirements that will be addressed include, but are not limited to: (1) meeting specified load allocations for nitrogen and phosphorus; (2) implementing monitoring; (3) updating of water quality models; (4) developing and implementing nutrient control lake management plans; and (5) other activities on U.S. Forest Service land such as fire suppression.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB8.2: Develop a regulatory tool to ensure the U.S. Forest Service complies with the nutrient TMDLs developed for Lake Elsinore/Canyon Lake and Big Bear Lake watersheds.

Objective RB8.2.01: Prepare the documents and complete the required procedural actions necessary to regulate U.S. Forest Service operations under WDRs. Adoption by June/July 2016.

Objective RB8.2.02: Implement the WDRs for U.S. Forest Service operations through tracking of management measure and management practice implementation, on-site inspections, and water quality tracking.

Objective RB8.2.03: Incorporate any new TMDL requirements into the U.S. Forest Service WDRs, as appropriate.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 15.

### ***c. Initiative RB8.3: Management of NPS Pollutant Loads Due to Hydromodification in the Newport Bay - San Diego Creek and the Newport Coast Watersheds***

#### *Background*

Selenium is a naturally occurring element that persists in soils and aquatic sediments and readily bio-accumulates through the food chain at levels that can cause adverse effects on higher-level aquatic life and wildlife. This includes fish and birds that prey on fish and invertebrates. Selenium concentrations in many of the surface water drainages in the Newport Bay and San Diego Creek watersheds exceed the California Toxic Rule selenium freshwater chronic criterion of 5µg/L.

An investigation of selenium sources shows that shallow groundwater is a significant and constant source of selenium to surface waters in the Newport Bay and San Diego Creek watersheds. Groundwater enters surface waters as seeps and springs, through weep holes and cracks in concrete channel linings, and through the hyporheic zone in channels with natural substrate bottoms. The Newport Bay watershed's upland soils include the Monterey formation, which contains deposits with elevated levels of selenium. Prior to development, the San Diego Creek sub-watershed, which is the largest freshwater tributary in the Newport Bay watershed, and portions of the Santa Ana Delhi Channel sub-watershed, included a large groundwater discharge area known as the Swamp of the Frogs. Run-off from the surrounding foothills, some enriched in selenium, flowed into and accumulated in the swamp over several to tens

of thousands of years. In the late 1800s/early 1900s the swamp was drained to make way first for agriculture, then later for urban development. Figures 13 and 14 depict this transition from a swamp area in the 1850's to a highly urbanized area in the present. Hydromodification has likely strongly influenced selenium concentrations in groundwater and surface waters in this area. The geology and biogeochemical cycling of selenium in Big Canyon varies dramatically from that observed in the San Diego Creek sub-watershed.

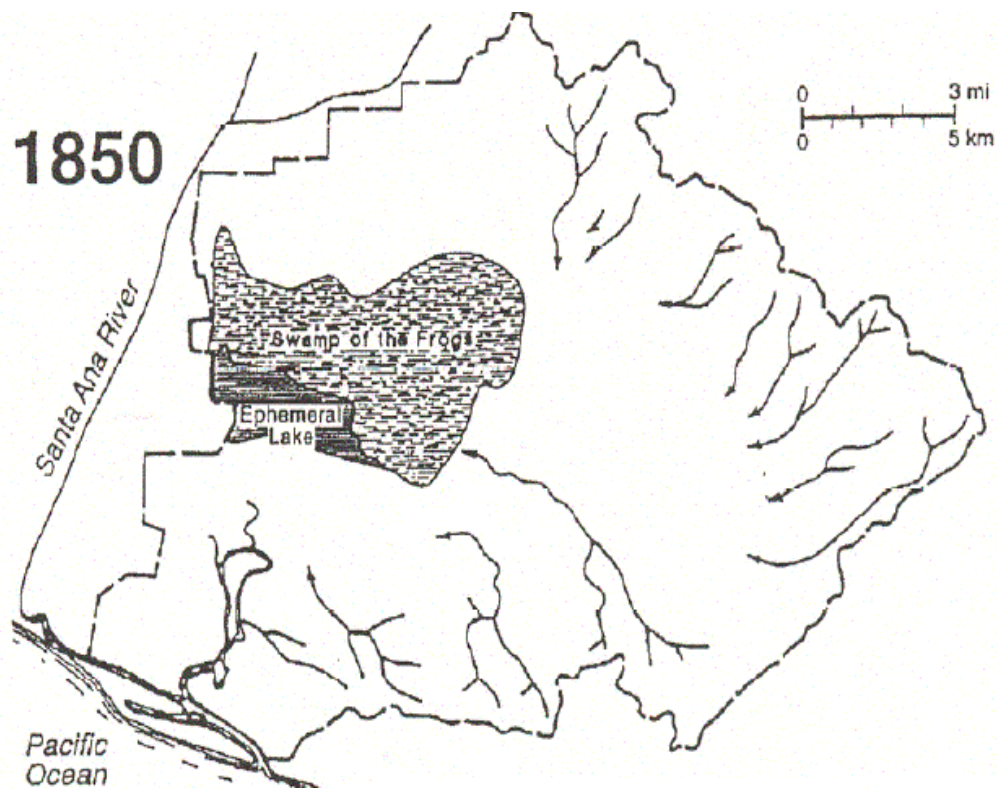


Figure 13 . Swamp of the Frogs Circa 1850 (from Trimble, 1998)

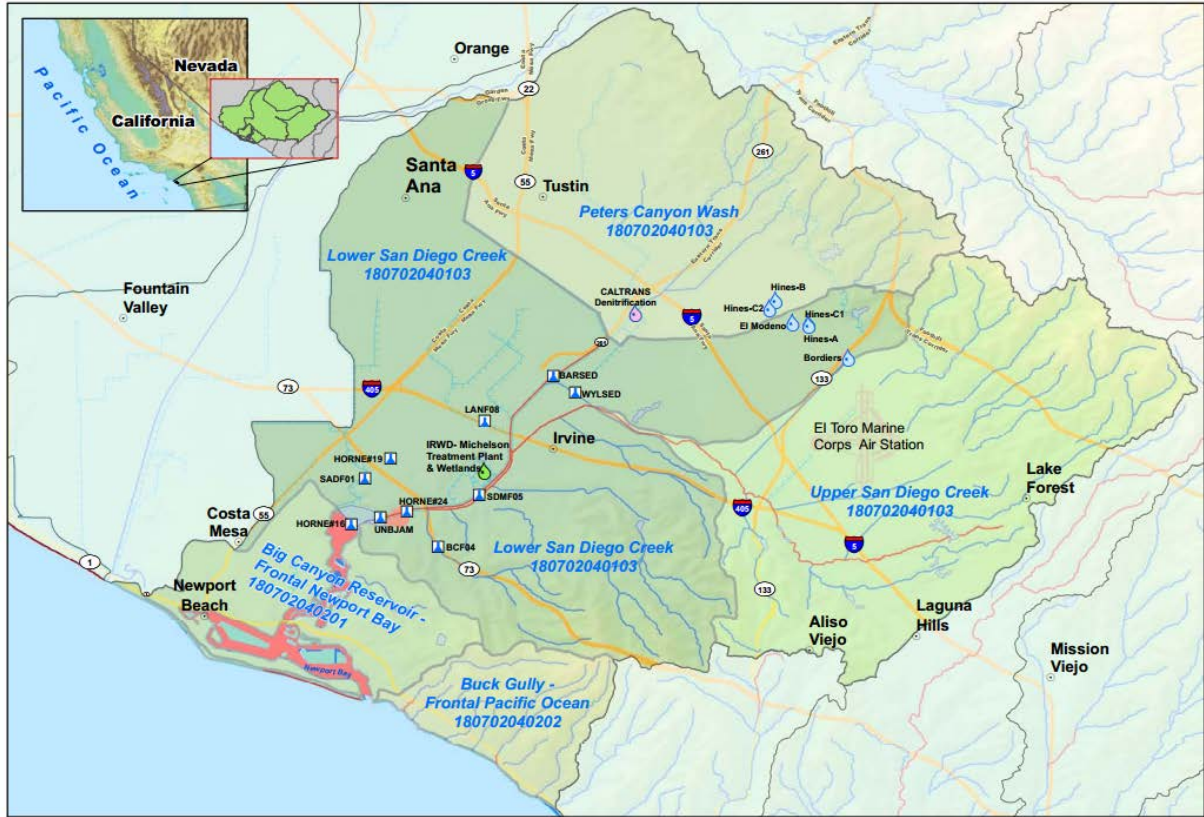


Figure 14. Current Newport Bay HUC-12 Watersheds (from U.S. EPA and Santa Ana Regional Water Board, 2009)

Sediment deposition and erosion is also of concern in the Newport Bay and San Diego Creek watershed. The largest sources of sediment loading to San Diego Creek and Newport Bay are dedicated open space areas such as foothill parks and conservation areas, and eroding channels within and below these areas (such as Borrego Wash). Most of these open space areas were formerly used for cattle and sheep grazing and are currently in a degraded state. Borrego Wash is currently an uncontrolled erosion problem caused by hydromodification resulting from upstream development and radical changes to the hydrology.

Selenium toxicity is highly site-specific due to the complex set of factors that affect the chemical nature, transport, fate and bioavailability of the element. Site-specific objectives are being developed separately, but in parallel with the revised selenium TMDLs. The Big Canyon Wash sub-watershed and a small tributary to upper San Diego Creek (Veeh Creek) will be included in the TMDLs and site specific objectives. The [nitrogen and selenium management program working group](#) and its consultants initiated additional investigations to fill in data gaps and refine our knowledge concerning the sources and adverse effects of selenium in the aquatic food webs in the Newport Bay watershed.

### *Needs Statement*

Full attainment of sediment-related water quality standards in San Diego Creek and Newport Bay depends upon a reduction in sediment loads from open space areas and eroding drainage courses. Additional investigations are necessary for each of the water bodies specified in the TMDL to assess selenium sources and/or fate, especially in the Big Canyon and Veeh Creek areas, and to better develop potential implementation and mitigation strategies for selenium, including assessment of potential treatment methods and best management practices for selenium.

### *Initiative Description*

The Regional Water Board staff will: (1) investigate selenium sources and/or fate within Big Canyon Wash and Veeh Creek areas; (2) develop implementation and mitigation strategies for reducing selenium level in collaboration with the stakeholders, and (3) encourage implementation of stabilization projects within the Borrego Wash.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB8.3: Reduce the selenium levels in surface waters discharging to Newport Bay.

Objective RB8.3.01: Complete at least one study characterizing selenium sources or impairments in the identified selenium hot spot areas that have not been assessed to date by December 2016.

Objective RB8.3.02: Implement at a minimum one selenium reduction project that results in measurable or calculable reductions in selenium loads by June 2020.

Objective RB8.3.03: Bring 50 percent of conserved foothill open space areas under intensive management for control of sediment and stabilize eroded section within the Borrego Wash sub-watershed area by June 2020.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 15.

***d. Initiative R8.4: Management of NPS Pollutant Loads of Heavy Metals in Lower Newport Bay***

**Background**

The Lower Newport Bay is one of the most popular recreational boating harbors in California with approximately 10,000 recreational vessels. Stormwater inputs, including sediments, from the Newport Bay watershed carried by two major tributaries, San Diego Creek and Santa Ana Delhi, result in sediment deposition in Newport Bay. This excess sediment must be dredged periodically in order to maintain the beneficial uses of Lower Newport Bay, which includes navigation. Regional Water Board staff conducted a metals impairment assessment for Upper and Lower Newport Bay and found that: (1) dissolved copper exceeds the saltwater California Toxics Rule criterion in both Upper and Lower Newport Bay; (2) no other dissolved metals exceed the water quality criteria in Newport Bay; (3) sediment copper, zinc and mercury exceed sediment guidelines in parts of Lower Newport Bay; and (4) sediment toxicity is common throughout Newport Bay. With respect to dissolved copper, Regional Water Board staff found that copper from antifouling paints on boats was the highest source of copper in 2013, while tributary runoff is the second highest source of copper to Newport Bay.

Copper is used in antifouling paints to prevent marine organisms from attaching to boat hulls. This copper also makes its way into the water where it can negatively affect other organisms, causing gill and nervous system damage in fish, and mortality in invertebrates that make up the base of the food chain. Sediment copper, zinc and mercury exceedances are likely from boat hull cleaning activities, historic industrial activity, and urban runoff. Zinc anodes on boats may also be a source of zinc to the Newport Bay.

A CWA section 319 grant was awarded to the Orange County CoastKeeper for a Newport Bay copper reduction project to educate boat owners about the copper problem in Newport Bay and nontoxic alternatives to copper paints and to assist them in converting from copper to nontoxic paints. The project successfully conducted a boater education program, assisted in the passing of a City of Newport Beach non-binding resolution to encourage the reduction in use of copper antifouling paints, and provided financial incentives to convert ten boats from copper-based hull paints to non-toxic coatings. The impact of copper anti-fouling paint on the marine environment has been addressed directly in other southern California Regions through the development and implementation of copper load allocations for reductions. These TMDLs were developed for the Shelter Island yacht harbor in San Diego Bay by the San Diego Regional Water Board in 2005 and for Marina Del Rey by the Los Angeles Regional Water Board in 2014.



### *Needs Statement*

Reductions in levels of sediment copper, zinc and mercury, likely from boat hull cleaning activities, historic industrial activity and urban runoff, are needed to protect benthic organisms and infauna of Newport Bay. Zinc anodes on boats may also be a source of zinc to the Bay. A TMDL for Upper and Lower Newport Bay is under development to address these exceedances.

### *Initiative Description*

Regional Water Board staff will conduct toxicity tests in Lower Newport Bay to establish whether copper, zinc, and mercury are contributing to the impairment listing for sediment toxicity. The impairments assessment utilized data from the Metals Sediment Study in Lower Newport Bay, but sediment study was inconclusive.

A copper TMDL is being developed in Lower Newport Bay to address copper exceedances. Implementation of the TMDL will focus on phasing in the use of nontoxic hull paints and coatings, discontinuing the use of copper anti-fouling paints, and reducing copper levels in runoff from the tributary area. The TMDL will also address sediment copper, zinc and mercury.

### *Goals and Objectives*

The goal and objectives for this initiative are to:

Goal RB8.4: Reduce the copper toxicity in water and sediment in Newport Bay

Objective RB8.4.01: Conduct additional toxicity tests to address the sediment toxicity within the CWA section 303(d) listing.

Objective RB8.4.02: Work with the U.S. EPA's Pesticides Program to obtain timely reviews of the registrations for anti-fouling paints, including consideration of pertinent regulations under the federal Clean Boating Act.

Objective RB8.4.03: Continue to encourage curtailment of toxic anti-fouling paint use and determine the effectiveness of education and outreach efforts by December 2016.

### *Activities and Performance Measures*

The specific activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 15.

Table 15. Santa Ana Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
RB8.1: Management of Pollutant Loads from Agricultural Operations	RB8.1.01	Continue to develop the conditional waiver for agricultural dischargers (RB8 – Agricultural Waiver) for the San Jacinto River watershed.	Bring to Regional Water Board for adoption consideration the RB8 – Agricultural Waiver by July 2015.	
	RB8.1.02	Continue to identify potential enrollees in the RB8 – Agricultural Waiver. Conduct escalating enforcement of agricultural operators who fail to enroll in the RB8 – Agricultural Waiver  <i>Background: The initial contact list for the RB8 – Agricultural Waiver program in this watershed will be a combination of data from Western Riverside County Agriculture Coalition, the Riverside County Agriculture Commissioner, Eastern Municipal Water District (supplier of recycled water for agricultural irrigation in the central and lower San Jacinto River Valley), and Lake Hemet Municipal Water District (an irrigation water supplier). If necessary and feasible (i.e., requisite funds are available) Regional Water Board staff will work with grant or contractor assistance to identify agricultural operators and owners of irrigated lands in these watersheds.</i>		<p><u>a.</u> Enroll at least 50 percent of the agricultural operators that have been identified by December 2015.</p> <p><u>b.</u> Enroll at least 90 percent of the agricultural operators that have been identified by June 2020.</p> <p><u>c.</u> Owners and operators of livestock operations of 20 acres or more in area, individually or cumulatively, except Confined Animal Facility Operations (CAFOs) covered by Regional Water Board waste discharge requirements, are dischargers and will be required to enroll in this Conditional Waiver. Potential enrollees will be identified using 2014 land use mapping images of the watershed</p>

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
	RB8.1.03	Develop information on hydrologic conditions resulting from enrollee operations. Obtain baseline information about the quantity, quality, and timing of runoff discharges from the enrollee's operations.		Dischargers will be required to submit a Water Quality Monitoring Program Plan (WQMPP)
	RB8.1.04	Obtain and verify information about the enrollee's management measures and management practices, particularly irrigation and runoff control practices. In cooperation with other appropriate agencies such as NRCS, provide outreach opportunities to advertise the availability of and advance the use of appropriate agricultural runoff NPS pollutant control management measures and management practices.		By August 15 of each year, dischargers shall report on the BMPs that are being used at their agricultural operations. Dischargers may submit this report individually or the report may be submitted by a Discharger Group administrator on behalf of the Group members.
	RB8.1.05	Develop an implementation management system to support implementation of the San Jacinto River watershed RB8 – Agricultural Waiver.  <i>Background: This database will supplement use of the Water Board's CIWQS and an online best management practice inventory tool developed by the Western Riverside County Agriculture Coalition with CWA section 319(h) grant funding.</i>	Using Region 3 (Central Coast) as an example, customize GeoTracker for electronic submittals of an electronic notice of intent form and for maintaining a database for the Ag. waiver by January 2017.	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
	RB8.1.06	In cooperation with other appropriate agencies, conduct outreach inspections at targeted discharger facilities to assist enrollees to identify and apply appropriate agricultural runoff NPS pollutant control management measures. Conduct escalating enforcement of agricultural operators who fail to comply with conditions.		a. Conduct RB8 – Agricultural Waiver outreach or compliance inspections of 40 percent of agricultural operators in the San Jacinto River watershed that have been identified by December 2016.
				b. Conduct RB8 – Agricultural Waiver outreach or compliance inspections of 100 percent of enrolled dischargers and agricultural operators in the San Jacinto watershed that have been identified by December 2017.
				c. Number of enforcement actions taken against of agricultural operators in the San Jacinto watershed who fail to enroll in the RB8 – Agricultural Waiver and enrollees who fail to comply with required conditions.
	RB8.1.07	Develop and submit for approval by the Regional Water Board either a reissue of the current RB8 – Agriculture Waiver or some other regulatory tool.	Evaluate efficacy of the waiver as a regulatory tool and consider merits of alternative strategy, e.g., general WDRs, taking into account program approaches of other regional boards.– July 2019	Reissued version of the existing RB8 – Agricultural Waiver or a new regulatory approach (e.g.; WDRs) by July 2020.

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
<u>RB8.2:</u> Management of NPS Pollutant Loads from Forested Areas Under U.S. Forest Service Control	RB8.2.01	Develop WDRs for lands under U. S. Forest Service control within the Region.	a. Draft WDRs and complete CEQA for U.S. Forest Service by December 2015.	
			b. Revise draft WDRs, if necessary, based on comments on draft Order and CEQA document by March 2016.	
			c. Distribute draft U.S. Forest Service WDRs and California Environmental Quality Act documents for public comment by March 2016.	
			d. Focused meeting with U.S. Forest Service to address draft WDR by March 2016,	
			e. Conduct hearing for U.S. Forest Service WDRs for Regional Water Board adoption/consideration by June/July 2016	
	RB8.2.02	Track and monitor U.S. Forest Service implementation of the WDRs through inspections, meetings, and follow up discussions.		a. Conduct inspections, meetings to verify implementation of U.S. Forest Service WDRs by December 2016.  b. Forest Service implementation plan for addressing the proposed WDRs. (date for submittal to RB-

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
				8) c. the Forest Service's monitoring program will begin by June/July 2016
	RB8.2.03	Internally coordinate between permit writers and TMDL staff to ensure new TMDL requirements are incorporated into the adopted WDRs.		Conduct joint workshops with TMDL staff and permit writers as needed starting in January 2016
<u>RB8.3:</u> Management of NPS Pollutant/Selenium Loads Due to Hydromodification in the Newport Bay and San Diego Creek and the Newport Coast Watersheds	RB8.3.01	Investigate selenium sources and/or fate within Big Canyon Wash and Veeh Creek areas. Analyze the level of selenium impairment and risk to fish and wildlife along the Newport Coast.	At a minimum one study characterizing selenium sources or impairments in the identified selenium hot spot areas that have not been assessed to date by December 2016.	
	RB8.3.02	Collaborate with stakeholders to develop the TMDL Implementation Plan for reducing selenium levels, including assessment of potential treatment methods and best management practices.		Implement at least one selenium reduction project, such as the proposed Peters Canyon Wash pipeline, that results in measurable or calculable reductions in selenium loads by June 2020.
	RB8.3.03	Seek funding to implement stabilization measures for the one mile eroding section of Borrego Wash.	<i>Identify various funding sources for implementation activities</i>	
	RB8.3.04	Work with stakeholders to encourage implementation of at least one habitat restoration project within the foothill reaches of Agua Chinon, Borrego, and Serrano Creeks.		<u>a.</u> Fifty percent of conserved foothill open space areas under intensive management for control

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
				of sediment by June 2020
	RB8.3.05	Work with stakeholders to encourage implementation of at least one stabilization project within the eroded section of Borrego Wash.		b. Fifty percent of Borrego Wash between Magazine Road and Towne Centre Drive stabilized by June 2020.
RB8.4: Management of NPS Heavy Metal Pollutant Loads in Lower Newport Bay	RB8.4.01	Contract for additional toxicity tests in Lower Newport Bay to determine the extent of sediment toxicity and cause(s) of toxicity; determine current concentrations and trends of metals, principally copper, in Lower Newport Bay water column and sediments. Use data to refine metals TMDL implementation plan.  <i>Background Information: Completing this sampling is contingent on fund being provided through Water Board's contracting and/or through stakeholders involved.</i>	Report on the results of toxicity, water quality, and/or sediment testing in Lower Newport Bay to determine current toxicity and metals concentrations (primarily Cu) in water and sediment by December 2019. Use results to refine metals TMDL/implementation plan (Regional Water Board adoption expected Spring 2016).	
	RB8.4.02	Review progress that has been made to limit the use of toxic anti-fouling paints including tracking and commenting on EPA office of pesticide program registration activities, and report via the Region Water Board's contribution to the California NPS Program Annual Report. This review and report will include consideration of whether the activities outlined in this section have resulted in measureable or calculable water quality improvements, and what those improvements are.	Effectiveness determination of outreach efforts to curtail use of toxic anti-fouling paints by estimating the approximate number of Newport Bay boat owners who have opted to install non-toxic alternatives to toxic anti-fouling paint over the prior 5 years, compared to the estimated number of boat owners who had new toxic paints applied by December 2016. Coordinate with TMDL implementation plan strategies to	

Initiative	Activity No.	Activity Description ( <i>Activity Background</i> )	Performance Measures	
			Milestones (Date)	Interim Measures
			address Cu anti-fouling paint.	
	RB8.4.03	Continue to encourage stakeholder monitoring and comprehensive analysis of documented and potential adverse effects caused by copper-based anti-fouling paints.	Effectiveness determination of outreach efforts to curtail use of toxic anti-fouling paints by estimating the approximate number of Newport Bay boat owners who have opted to install non-toxic alternatives to toxic anti-fouling paint over the prior 5 years, compared to the estimated number of boat owners who had new toxic paints applied by December 2016. Coordinate with TMDL implementation plan strategies to address Cu anti-fouling paint.	
	RB8.4.04	Work with U.S. EPA's Office of Pesticide Program about anti-fouling paint registration reviews and other U.S. EPA offices involved in implementing the Clean Boating Act.		



## J. San Diego Regional Water Quality Control Board

### 1. Description of the Region

The San Diego Region is located in the southwestern corner of California (see Figure 15). Most of San Diego County and the southern parts of Orange County and Riverside County are located within the Region. The population of the Region is, for the most part, concentrated near the coast. Agricultural areas are generally located inland from the coast, and much of the area furthest from the coast, including national forest lands, is relatively undeveloped. Waters in the region include the Pacific Ocean; San Diego Bay (the largest enclosed natural bay in southern California); a number of coastal estuaries, lagoons, and stream mouths; many stream systems and associated riparian wetlands, with both perennial and non-perennial reaches; and a number of water supply reservoirs that store local runoff and/or imported water. The Region has very high biodiversity, with a number of special status species, and many designated conservation areas for protection of natural habitats and ecosystems and native species.

### 2. Surface Water and Groundwater Quality Issues

Aside from urbanization, agriculture is one of the most significant land uses impacting water quality in the San Diego Region. The Region has more than 5,000 farms, with the average farm size being less than 10 acres. San Diego County is the 12<sup>th</sup> largest farm economy in the nation. According to the U. S. Department of Agriculture 2007 Census of Agriculture, the value of sales of the top four agricultural commodity groups in San Diego County (e.g., nurseries, floriculture, sod, and avocados) exceeded one billion dollars. Most farms are located in the Rainbow Creek and Santa Margarita watersheds. These waterbodies, and many of their tributaries, are impaired by pollutants directly related to agricultural activities, including nutrients and sediment.

In order to address the impacts of agriculture on waterbodies in the San Diego Region, the NPS program will focus on initiative RB9.1, *Agriculture*, as its highest priority over the 2014-2020 implementation planning period. Initiatives RB9.2, *Shelter Island Yacht Basin*, RB9.3, *Wetlands and Riparian Areas*, and RB9.4, *Practical Vision* will be implemented through a combination of NPS (primarily agriculture) and grant funded activities.

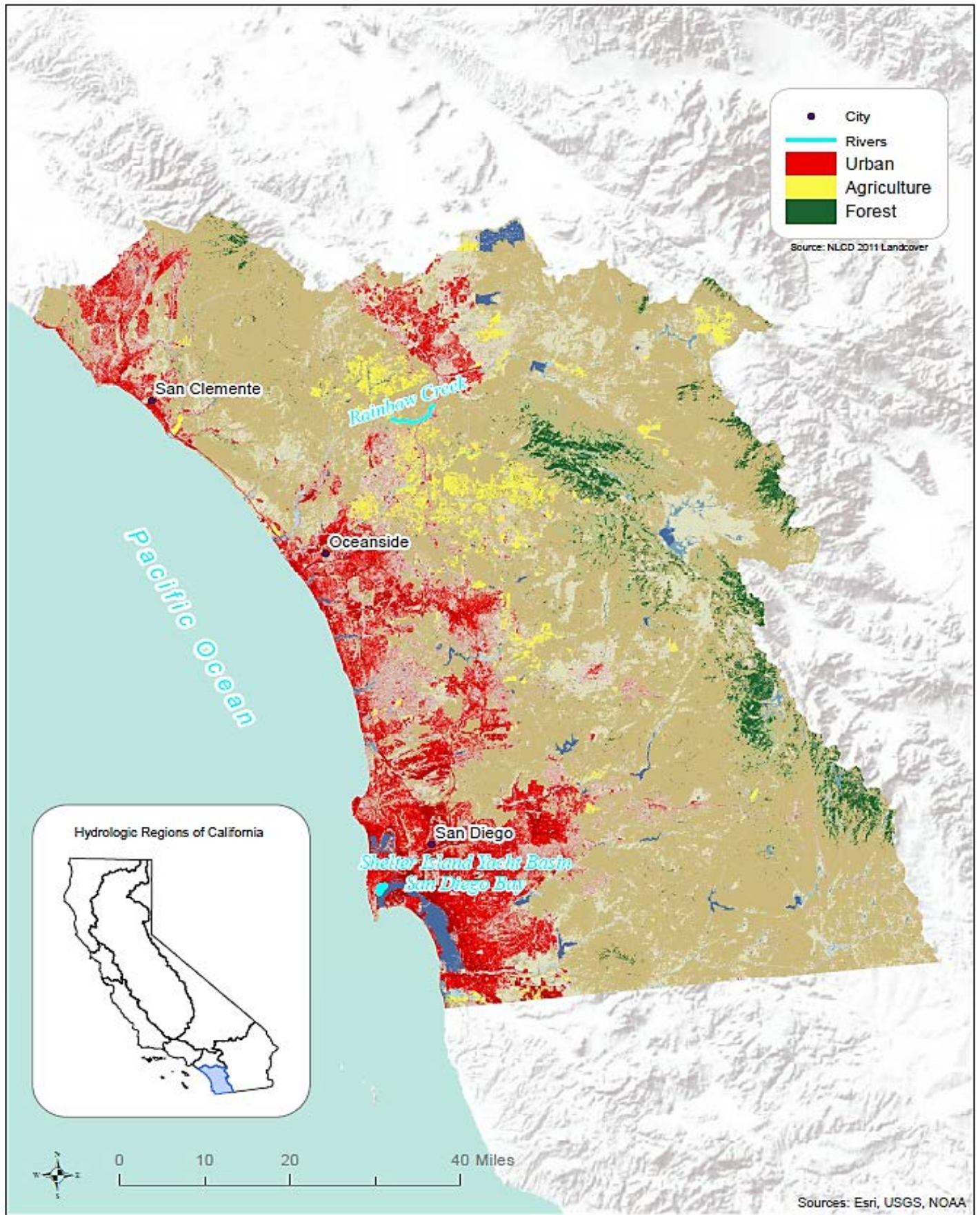


Figure 15. San Diego Regional Water Board with Major Land Use Categories

### 3. San Diego Regional Water Board Initiatives

The following section delineates the water quality improvement and protection initiatives that the San Diego Regional Water Board will be focusing on during the next six-year planning period.

#### *a. Initiative RB9.1: Agriculture*

##### Background

Irrigated lands and nurseries, referred to collectively as agricultural operations, are known potential sources of nutrients, pesticides, and sediment to waterbodies within the San Diego Region. The San Diego Regional Water Board has regulated discharges from these facilities for more than two decades through the implementation of conditional waivers of waste discharge requirements (WDRs). The most recent waiver expired on February 4, 2014.

##### Needs Statement

The San Diego Regional Water Board has determined that a region-wide General Agricultural WDR will be a more effective and long-lasting tool to regulate discharges from agricultural operations. With this in mind, the San Diego Regional Water Board has directed its staff to prepare and present a tentative region wide General Agricultural WDR to the Board for consideration and adoption by December 31, 2015.

##### Initiative Description

The San Diego Regional Water Board intends to adopt, implement and periodically evaluate a region wide General Agricultural WDR to regulated discharges from agricultural operations. (Note: discharges from grazing lands and confined animal feeding operations are regulated under separate conditional waivers of WDRs and are not included as part of this initiative.).

##### Goals and Objectives

The goals and objectives for this initiative are as follows:

Goal RB9.1: Adopt, implement and periodically evaluate a region wide General Agricultural WDR to regulated discharges from agricultural operations.

Objective RB9.1.01: Present a tentative region wide General Agricultural WDR for consideration and adoption by the San Diego Regional Water Board.

Objective RB9.1.02: Implement the region wide General Agricultural WDR.

Objective RB9.1.03: Evaluate the success of the region wide General Agricultural WDR.

*Activities and Performance Measures*

The specific Regional Water Board activities to meet the goal and objectives for this initiative along with related performance measures are presented in Table 16.

Table 16. San Diego Regional Water Quality Control Board Initiatives, Planned Activities and Related Performance Measures

Initiative	Activity No.	Background and Activity Description	Performance Measures	
			Milestones (Date)	Interim Measures
RB9.1: Agriculture	RB9.1.01	Present a tentative regionwide General Agricultural WDR for consideration and adoption by the San Diego Regional Water Board	<ul style="list-style-type: none"> <li>a. Host a series of public workshops related to the tentative General Agricultural WDR in Summer/Fall 2015</li> <li>b. Present a tentative regionwide General Agricultural WDR for consideration and adoption by the San Diego Regional Water Board by December 31, 2015</li> </ul>	
	RB9.1.02	Implement the regionwide General Agricultural WDR	<p>Effective on approval of RB9 – General Agricultural WDR (estimated to be January 2016)</p> <ul style="list-style-type: none"> <li>a. Annually provide updates regarding General Agricultural WDR-related implementation activities</li> <li>b. Annually report the number of agricultural dischargers enrolled under the regionwide General Agricultural WDR</li> <li>c. Annually report the number of acres covered under the regionwide General Agricultural WDR</li> </ul>	<ul style="list-style-type: none"> <li>a. Enroll agricultural dischargers as NOIs received</li> </ul>
	RB9.1.03	Evaluate the success of the regionwide General Agricultural WDR	<ul style="list-style-type: none"> <li>a. Evaluate the success of the regionwide General Agricultural WDR within five years of adoption (estimated to be December 2020)</li> <li>b. Renew/amend the regionwide General Agricultural WDR, as needed, based on the</li> </ul>	<ul style="list-style-type: none"> <li>a. Review annual reports and water quality data annually</li> </ul>

			results of the evaluation	
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## VI. Targeting Waterbody-Pollutant Combinations for Demonstrating Success

### A. Introduction

The goal of the CA NPS Program is to restore and protect the beneficial uses and water quality objectives of the State's waters through the reduction of NPS pollution. That is removing "waterbody-pollutant combinations" from the CWA section 303(d) list and then to continuing to protect these waterbodies following their "de-listing".

As such, to demonstrate success from a water quality improvement perspective, each of the Regional Water Boards identified a series of "targeted waterbody-pollutant combinations" which are anticipated to "demonstrate improvement" or be "de-listed" by 2020 (see Table 17). The performance measure for demonstrating improvement for the "targeted waterbody-pollutant combinations" can be either physical improvements necessary to return beneficial uses (e.g.; long term average channel sinuosity and percent bank stability following restoration relative to restoration activities) or direct water quality measurements.

A more detailed analysis for each of the "waterbody-pollutant combinations" as a function of Regional Water Board is presented in Figures 15 through 23 and Tables 19 through 27. Each Regional Water Board map provides information with respect to a watershed's status: (1) for Report Card development; (2) for SP-12 development; and (3) as a "targeted waterbody-pollutant combination".

The tables provide the following information: (1) the effective date of the applicable TMDL and, if no TMDL has been approved, the date of the Regional Water Board regulatory action to address the problem; (2) anticipated attainment date for meeting the water quality objectives; (3) short term [by 2020] and long term [by 2040] performance goals; (4) the applicable NPS pollutant land use category; (5) Regional Water Board "initiative" implementation actions that affect the short term and long term goals; (6) the method(s) used for the performance measurement; and (7) additional past and future coordinated implementation actions that contribute to water quality improvement.

For the purposes of using water quality improvements as a measure of the progress and success of the CA NPS Program, each Regional Water Board has selected specific waterbody-pollutant combinations with water quality improvement goals specified for the end of the current planning horizon in 2020 and twenty year later in 2040.

**Table 17. Summary of CA NPS Program Targeted Waterbody-Pollutant Combinations and Potential Success Stories by 2020**

No.	Regional Water Board	Waterbody - Pollutant Combination <sup>1</sup>		Potential CWA 319 Success Story
		Waterbody	Pollutant(s)	
1	North Coast	<i>Garcia River</i>	<i>Sediment</i>	
2		<i>Klamath River (Upper)</i>	<i>Nitrogen and phosphorus</i>	
3		<i>Shasta River</i>	<i>Temperature</i>	
4	San Francisco Bay	Napa River	Sediment	
5		Olema Creek	Pathogens	
6		Walker Creek	Mercury	
7	Central Coast	Pajaro River	Pesticides - chlorpyrifos and diazanon	X
8			Nitrate	
9		Salinas River (Lower)	Pesticides - chlorpyrifos and diazanon	
10			Nitrate, unionized ammonia, and orthophosphate	
11		Santa Maria River	Nitrate, unionized ammonia, and orthophosphate	
12			Organophosphates, malathion, pyrethroids, and organochlorines	X
13	Los Angeles	Calleguas Creek	Pesticides - chlorpyrifos and diazanon	
14			Oxidized nitrogen	
15		Machado Lake	Trash	
16		Santa Clara River	Pesticides - chlordane, dieldrin, DDT, and derivatives and PCBs	
17	Central Valley	Sacramento River - Butte Slough	Pesticides - chlorpyrifos and diazanon	X
18		Sacramento River - Natomas East Main Drainage Channel		X
19		Sacramento River - Sacramento Slough		X
20		Sacramento River - Stony Creek		X
21		Sacramento-San Joaquin Delta - Sand Creek		X
22		<i>Sacramento-San Joaquin Delta<sup>1</sup></i>	<i>Mercury</i>	
23		<i>Sacramento-San Joaquin Delta<sup>1</sup></i>	<i>Nutrients</i>	
24		<i>Battle Creek</i>	<i>Sediment</i>	
25		San Joaquin River - Ash Slough	Pesticides - chlorpyrifos and diazanon	X
26		San Joaquin River - Harding Drain		X
27		San Joaquin River - Highline Canal (selected section[s])		X
28		San Joaquin River - Mud Slough	Selenium	
29		San Joaquin River - Mustang Creek	Pesticides - chlorpyrifos and diazanon	X
30		San Joaquin River - Newman Wasteway		X
31	San Joaquin River - Vernalis	Salt		
32	Lahontan	Bear Creek	Sediment	X
33		<i>Blackwood Creek</i>	<i>Sediment</i>	



No.	Regional Water Board	Waterbody - Pollutant Combination <sup>1</sup>		Potential CWA 319 Success Story
		Waterbody	Pollutant(s)	
34		Carson River	Coliform bacteria	
35		Heavenly Creek	Sediment	
36		Indian Creek Reservoir	Phosphorus	
37		Lake Tahoe	Nutrients and sediment	
38		Squaw Creek	Sediment	
39		Truckee River	Sediment	
40		Walker River (East)	Coliform bacteria	
41		Walker River (East) - Clearwater Creek		
42		Walker River (East) - Green Creek		
43		Walker River (East) - Long Valley Creek		
44		Walker River (East) - Robinson Creek		
45		Walker River (East) - Summers Creek		
46		Walker River (East) - Swauger Creek		
47		Colorado River		Alamo River
48			Sediment	
49	Imperial Valley Drains		Pesticides - endosulfan	X
50			Sediment	
51	New River		Pesticides - diazanon and hexachlorobenzene	X
52			Copper and zinc	X
53			Sediment	
54	New River - International Border		Pathogens	
55	Santa Ana	Big Bear Lake	Total phosphorus	
56		Canyon Lake	Total nitrogen and phosphorus	
57		Elsinore Lake	Total nitrogen and phosphorus	
58		Newport Bay - San Diego Creek	Sediment	
59	San Diego	Rainbow Creek	Total nitrogen and phosphorus	X

Performance measures for water body-pollutant combinations in italics are consistent with total maximum daily load requirements and/or for returning waterbody beneficial use functions, but are not water quality measure related. For example, the "surrogate" performance measure for Blackwood Creek (Lahontan Region) is related to improving the geomorphologic function of the creek using measures such as the "long term average channel sinuosity and percent bank stability" following restoration activities.

## 1. North Coast Regional Water Board

The NPS priority pollutant categories for the North Coast Region are: (1) sediment, (2) temperature, (3) nutrients, (4) dissolved oxygen, (5) pathogens, (6) cyanobacteria and cyanotoxins, (7) metals, and (8) bio-stimulatory conditions. The North Coast Regional Water Board has developed and /or updated a total of eight Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Eel River (Lower) – Temperature (2014)
2. Eel River (Upper) – Temperature (2014)
3. Garcia River – Sediment (2013)
4. Gualala River – Sediment (2013)
5. Klamath River - Dissolved oxygen, microcystin, and nutrients (2012)
6. Laguna de Santa Rosa – Nutrients (2012)
7. Mattole River – Sediment (2013)
8. Shasta River – Temperature (2013)
9. Van Duzen River – Sediment (2014)

For the purpose of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Garcia River –Sediment
2. Klamath River (Upper) –Nitrogen and Phosphorus
3. Klamath - Shasta River – Temperature

Figure 16 and Table 18 provide the previously discussed information for the North Coast Regional Water Board.

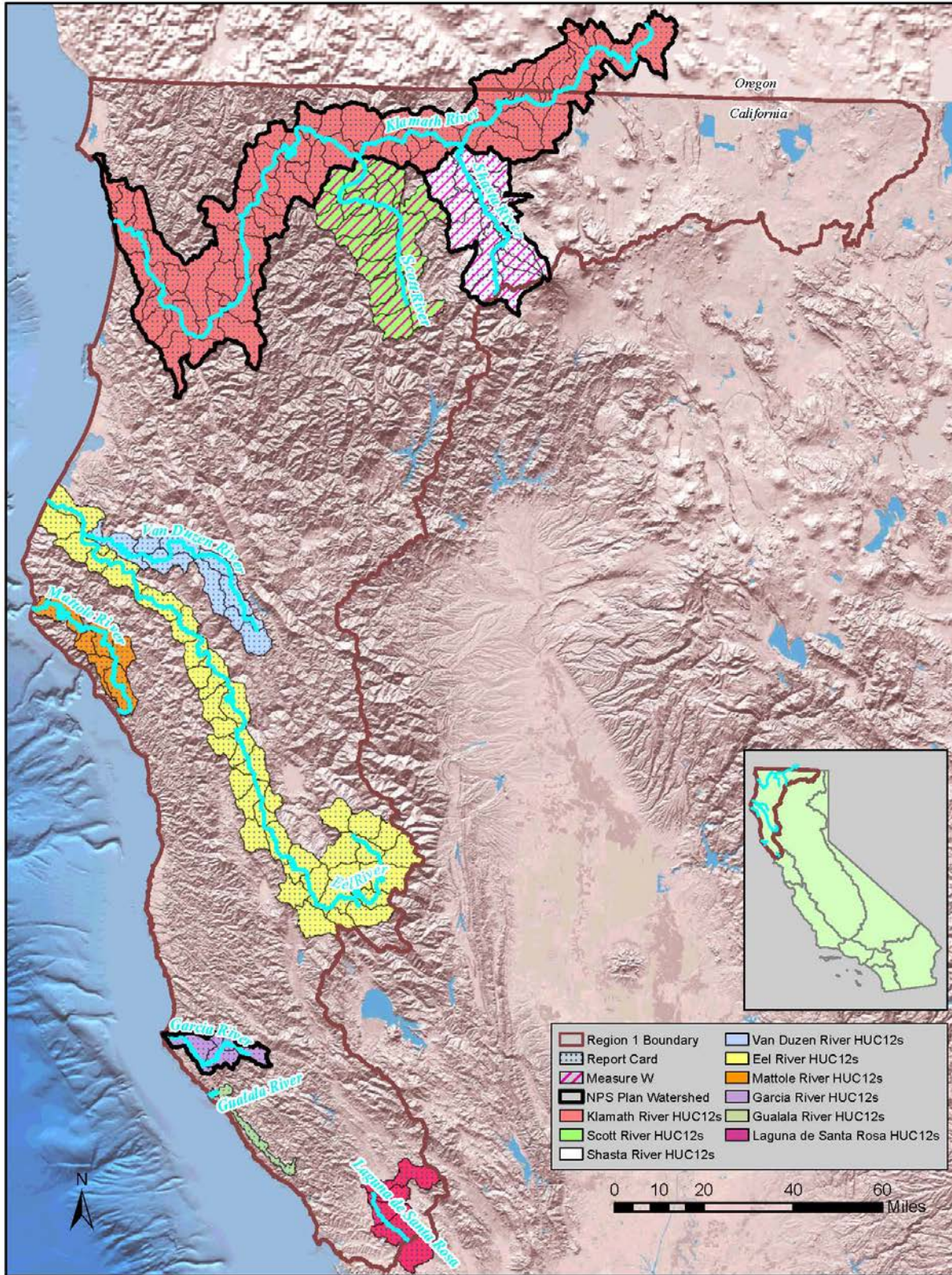


Figure 15. North Coast Regional Water Board Watersheds for CA NPS Program Reporting

Table 18. North Coast Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date	Attainment Date	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Garcia River	Sediment	Clean, fine sediment	Jan 2002	Jan 2049	80 percent of the watershed acreage shall be compliant with TMDL implementation requirements (see below)	No more than 25 percent of the samples collected at 8 sites shall exceed desired condition thresholds for primary pool distribution, thalweg profile, and large wood indices (i.e, 75 percent attainment)	Forestry	<u>R1.1.01.a:</u> Implement timber harvest permit <u>R1.1.04.c:</u> Implement the ownership-wide Mendocino Redwood Company permit following Board adoption <u>R1.2.04.a:</u> Implement the dairy permits <u>R1.3.01.a:</u> Implement the Mendocino County Permit Coordination Program <u>R1.4.01.a:</u> Participate in the Wood for Salmon Workgroup

Methodology Used for Measuring Performance:

By 2020:

58,878 acres out of 73,223 acres (80 percent of the watershed) shall be either compliant with the sediment discharge prohibition (TMDL Implementation Option 1), implementing an approved erosion control plan and the Garcia River Management Plan (Option 2), or implementing an approved erosion control plan and site-specific

management plan (Option 3). This measure is calculated semi-annually by Regional Water Board staff and will be reported in NPS reports and water quality report cards.

By 2040:

No more than 25 percent of the samples collected in 8 watershed monitoring sites shall exceed desired condition thresholds for the following parameters:

Primary pool distribution ≥ 40 percent of the reach is composed of primary pools

Thalweg profile Increasing variation in the thalweg elevation around the mean thalweg profile slope, or bedrock controlled thalweg

Large wood volume > 72m<sup>3</sup>/100m stream reach for ≤ 30m bankfull channel width; > 317m<sup>3</sup>/100m stream reach for > 30m bankfull channel width

Large wood key piece frequency > 11 pieces for ≤ 10m bankfull channel width; > 4 pieces for > 10m bankfull channel width

Desired condition thresholds are described in *Desired Salmonid Freshwater Habitat Conditions for Sediment-Related Indices* (NCRWQCB 2006) and *California Coho Salmon Restoration: A Decade in Review* (Howard et al. 2014). Thresholds may be revised based on new scientific research. Samples are currently being collected and will be collected at the following sites approximately once every three years by Regional Water Board staff under Surface Water Ambient Monitoring Program funding.

Reach ID	Subwatershed	Longitude	Latitude	Reach Length
GAR07679-011	Inman Creek	-123.455869	38.89138461	150 m
GAR07679-015	East of Eureka Hill	-123.5088538	38.89312881	440 m
GAR07679-084	North Fork Garcia River	-123.6290227	38.92602106	600 m
GAR07679-089	Pardaloe Creek	-123.3510301	38.90814027	150 m
GAR07679-105	Lamour Creek	-123.3901132	38.8991055	240 m
GAR07679-112	Victoria Fork	-123.4906936	38.92488313	200 m
GAR07679-178	Signal Creek	-123.4937636	38.87489511	150 m
GAR07679-244	North Fork Garcia River	-123.5924964	38.93161464	220 m

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date	Attainment Date	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	Klamath River (Upper)	Biostimulatory Conditions	Phosphorus and Nitrogen	Dec 2010	Dec 2050 (min)	6 diffuse source treatment wetlands installed in Wood, Williamson, or Sprague River watersheds in Oregon	40 percent reduction in TP and TN annual loads in the Klamath River at Keno from “current” levels identified in the 2010 TMDL at Stateline.	Agriculture	<u>RB1.2.03:</u> Develop and implement the Tule Lake Watershed Agricultural Discharge Permit  <u>RB1.5:</u> Implement the Watershed Stewardship Approach in the Upper Klamath Basin

Methodology Used for Measuring Performance:

By 2020:

This work will be documented by the California Coastal Conservancy, Klamath Basin Rangeland Trust, and/or Stillwater Sciences via a final project report per Contract 14-063-110 with the Water Boards

By 2040:

The total phosphorus load of the Klamath River at Keno will be < 54,000 lbs of total phosphorus per year, which is a 40 percent reduction of the “current total annual loading” of approximately 90,000 lbs/yr in the Stateline-to-Iron-Gate-tributaries reach of the Klamath River as described in the 2010 Klamath River TMDL. The total nitrogen load of the Klamath River at Keno will be < 216,000 lbs of total nitrogen per year, which is a 40 percent reduction of the “current total annual loading” of approximately 360,000 lbs/yr in the Stateline-to-Iron-Gate-tributaries reach of the Klamath River as described in the 2010 Klamath River TMDL. Samples will be collected by the Bureau of Reclamation or other parties as part of regular nutrient sampling under biological opinion requirements. Data will likely be compiled and reported via the Klamath Basin Monitoring Program.

Description of Additional Coordinated Implementation Actions:

The installation of 6 diffuse source treatment wetlands in Oregon to reduce nutrients loads to Upper Klamath Lake and improve California’s Klamath River is underway in collaboration with the California Coastal Conservancy, Klamath Basin Rangeland Trust, and Stillwater Sciences per Contract 14-063-110 with the Water Boards

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date	Attainment Date	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

Methodology Used for Measuring Performance:

By 2020:

50 miles of streams will be fenced This measure will be calculated by participants in Shasta River Watershed stewardship effort, including the Shasta Valley Resource Conservation District and the Regional Water Board. Reporting will occur via stewardship reports.

By 2040:

No more than 60 percent of the maximum weekly maximum temperature (MWMT) values for the coho juvenile out-migration season (February 15 to July 15) will exceed 18°C or 64.4°F in the Shasta River at Highway A-12 (river mile 24.1). The temperature threshold may be revised based on new scientific research. Sampling will be

conducted by participants in the Shasta River Watershed stewardship effort, and data will be reported via stewardship reports and the Klamath Basin Monitoring Program.

Description of Additional Coordinated Implementation Actions:

Stream fencing is underway in collaboration with the Shasta Valley Resource Conservation District (via sub-grants including 11-099-551), the Nature Conservancy on Bigs Springs Creek, and other stakeholders. The Shasta River TMDL Waiver directs North Coast Regional Water Board staff to work with responsible parties whose operations present higher risk to water quality. Responsible parties are required to provide ranch management plans and/or tailwater management plans designed to prevent the discharges of fine sediment, nutrients and other oxygen consuming material, as well as elevated solar radiation loads, from affecting waters in the Shasta River Watershed upon the request of the Executive Officer.



## 2. San Francisco Bay Regional Water Board

The NPS priority pollutant categories for the San Francisco Bay Region are: (1) sediment, (2) pathogens, (3) nutrients, (4) legacy mercury, and (5) pesticides. The San Francisco Bay Regional Water Board has developed and /or updated a total of seven Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Castro Cove – Sediment remediation (2012)
2. Guadalupe River – Mercury (2013)
3. Napa River – Sediment (2013)
4. Richardson Bay – Pathogens (2012)
5. Tomales Bay – Pathogens (2013)
6. Urban Creeks – Pesticides (2012)
7. Walker Creek – Mercury (2012)

For the purpose of measuring the performance of the Regional Water Board's NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following "targeted waterbody-pollutant combinations" will be assessed and reported on:

1. Napa River – Sediment
2. Olema Creek – Fecal coliform
3. Walker Creek – Mercury

Figure 17 and Table 19 provide the previously discussed information for the San Francisco Bay Regional Water Board.

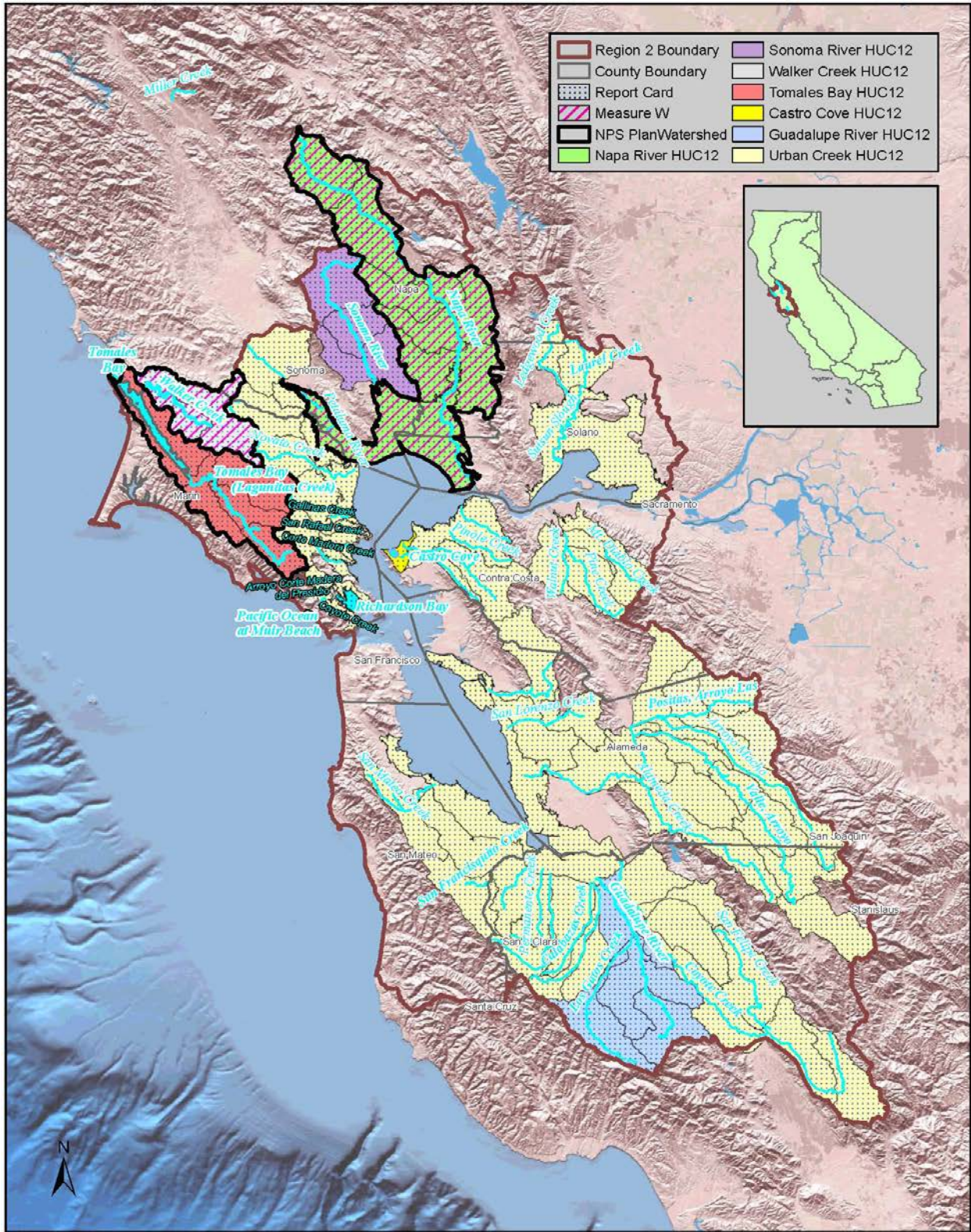


Figure 16. San Francisco Bay Water Board Watersheds for CA NPS Program Reporting

Table 19. San Francisco Bay Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination  Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Napa River	Sediment	Fine sediment	Sep-09	Sep-29	<p><b>150% of natural</b> sediment delivery to channels (30% reduction in anthropogenic load <b>by 2020</b>, as compared to load in 1994-2004)</p> <p>Estimated by rapid sediment budget for Napa River watershed that would approximately characterize the preceding decade</p> <p>(actual analysis period determined per LiDAR and aerial photo dates)</p>	<p><b>125% of natural</b> sediment delivery to channels (55% reduction in anthropogenic load <b>by 2030</b>, as compared to the load for 1994-2004)</p> <p>Estimated by rapid sediment budget for watershed that would approximately characterize the preceding decade, and/or inferred by attainment of numeric targets</p>	<p>Agriculture</p> <p>Grazing</p> <p>Roads</p> <p>Hydro-mod</p>	<p><u>RB2.2.01</u>: Vineyard Program – Develop and implement vineyard WDRs requiring sediment management measures.</p> <p><u>RB2.2.02</u>: Vineyard Program – Develop technical assistance and certification programs.</p> <p><u>RB2.2.03</u>: Vineyard Program – Facilitate grant funding for third-party assistance and education efforts</p> <p><u>RB2.2.05</u>: Vineyard Program - Conduct monitoring, site inspections, and undertake enforcement as needed.</p>

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Methodology Used for Measuring Performance:

Water Board staff will direct the development of a rapid sediment budget (Reid and Dunne, 1996) for the Napa River watershed to characterize sediment delivery rates to channels, characterize natural or anthropogenic causation of sources, as needed to quantify total sediment delivery rate to channels and to characterize the total as a percent of natural. This effort is predicated upon attainment of grant funding to pay for data collection and analysis by academic and/or consulting scientists. Data would be collected over a two-year period. Forensic analytical techniques (time-sequential aerial photographs, reservoir sedimentation surveys, use of natural vegetation and anthropogenic markers to age-date erosion sites, etc.). Complimentary measurements of streambed permeability and redd scour also will be performed at a minimum to develop an updated empirical linkage between sediment supply and streambed permeability, and as needed to evaluate attainment of numeric targets for sediment.

Description of Additional Coordinated Implementation Actions:

- Erosion Control Implementation Actions through Water Board actions/permits (Grazing Waiver of WDRs, Vineyard General WDRs, and Confined Animal Facility Waiver of WDRs and General WDRs, 401 certifications, Napa municipal MS-4 (stormwater) NPDES permit, construction and industrial NPDES permits, and enforcement actions)
- Napa County Public Works Department road repair projects
- Third-party technical assistance and education programs (e.g., Fish Friendly Farming [California Land Stewardship Institute – Napa Green certification]; Napa Valley Vintners; Napa RCD; NRCS; Napa County Farm Bureau)
- Napa River and Fish Passage Restoration Funding & Implementation Actions – Rutherford DUST Restoration Project (SFBWQI, 319 grants, and Napa County Measure A); Oakville to Oak Knoll River Restoration (SFBWQI); habitat restoration (California Department of Fish and Wildlife); Napa Green, Rutherford Restoration, Napa River enhancement projects (State Coastal Conservancy, funding partner; Napa County, restoration partner; Friends of the Napa River, advocacy group; restoration partner)

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	Olema Creek	Bacteria	Fecal coliform	Sep 2005	specified in TMDL	50% reduction in exceedance frequency by location of REC-1 (contact recreation) water quality objectives from pre-TMDL conditions  Pre-TMDL =29%-86% geomean exceedance of REC-1 standards*  Goal is between 14% to 43% REC-1 geomean	By 2025, achieve and maintain 85% reduction in exceedance of REC-1 (contact recreation) water quality objectives from pre-TMDL conditions  Pre-TMDL =29%-86% geomean exceedance of REC-1 standards  Goal is between 4% to 13% REC-1 geomean exceedance	Grazing/ confined animals facilities	<u>RB2.1.01 -1.05</u> : Tomales Bay Grazing Program – Renew and implement the Grazing Program (waiver WDRs for grazing operations), facilitate grant funding to promote third-party technical assistance efforts to help ranchers comply with the requirements of the permits, inspect permitted facilities, and undertake enforcement as needed.  <u>RB2.3.01 - RB2.3.06</u> :  Region wide Confined Animal Facilities (CAFs) Program – Renew and implement the CAF permits, facilitate grant funding to promote third-party technical assistance efforts to help farmers/ranchers/dairymen comply with the requirements of the permits, inspect permitted facilities, and undertake enforcement as needed.

						exceedance rate	rate		
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Methodology Used for Measuring Performance:

Monitoring of bacterial indicators in the watershed, specifically fecal coliform, is ongoing in Olema Creek and will be compared to water quality objectives for contact recreation (200 mpn / 100 ml). Currently, the Water Board, in coordination with the National Park Service, conducts fecal coliform monitoring twice per year in Olema Creek at multiple sampling locations. Baseline data exist that were incorporated into the TMDL. The Water Board will evaluate the fecal coliform sampling results every two years to assess progress made towards attaining the short- and long-term performance measures.

Description of Additional Coordinated Implementation Actions:

- Pathogen Control Implementation Actions (Grazing Waiver of WDRs, Confined Animal Facility Waiver of WDRs and General WDRs, WDRs on small on-site sewage disposal systems, Marin Municipal Stormwater MS4 implementation per TMDL.
- Much of the Olema Creek watershed is land that is managed by the National Park Service and is part of the Golden Gate National Recreation Area. Currently, the National Park Service is the recipient of 319 grants that focus on treating high priority rangeland pathogen sites on parklands that drain to Olema Creek. [NPS (319 grants; partner funds); Marin RCD; Marin Agricultural Land Trust].

\*Geometric mean calculated from 5 sample events collected over 30 days.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Walker Creek	Metals	Mercury	Jan 2007	None specified	20% decrease in total mercury concentration (expressed in dry weight) in recently deposited sediment at the Walker Creek delta as compared to 2009 condition  2009 condition = mean total 0.9 ug/g, dry weight total mercury  2020 goal = 0.75 ug/g, dry weight total mercury in recently	50% decrease in total mercury concentrations (expressed in dry weight) in recently deposited sediment at the Walker Creek delta  2040 goal is attainment of TMDL @ 0.5 ug/g, dry weight total mercury in recently deposited sediment	Grazing/ confined animal facilities	<u>RB2.1.01 -1.05</u> : Tomales Bay Grazing Program – Continue to renew and implement the Grazing Program (waiver WDRs for grazing operations), facilitate grant funding to promote third-party technical assistance efforts to help ranchers comply with the requirements of the permits, inspect permitted facilities, and undertake enforcement as needed.  <u>RB2.3.01 - RB2.3.06</u> :  Region wide Confined Animal Facilities (CAFs) Program – Continue to renew and implement the CAF permits, facilitate grant funding to promote third-party technical assistance efforts to help farmers/ranchers/dairymen comply with the requirements of the permits, inspect permitted facilities, and undertake enforcement as needed.

						deposited sediment			
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Methodology Used for Measuring Performance:

- Suspended, particulate mercury concentrations are currently being monitored by Region 2's Surface Water Ambient Monitoring Program (SWAMP) in Walker Creek during storm-dominated, high-flow discharge events, as described in the TMDL. As noted in the TMDL, suspended sediment concentrations of mercury will be evaluated beginning in 2012 and approximately every five years thereafter, and the results will be compared to baseline values established in the TMDL. Baseline values exist for both pre and post-remediation of the Gambonini mine site. Water Board staff and SWAMP will also monitor recently deposited bed sediment from the Walker Creek delta using methods that are comparable with the TMDL sampling plan.

Description of Additional Coordinated Implementation Actions:

- Erosion Control Implementation Actions (Grazing Waiver of WDRs, Confined Animal Facility Waiver of WDRs and General WDRs), Marin RCD (319); UC Cooperative Extension; Ranchers - BMP implementation
- Monitoring and control measures for methylmercury production (Marin Municipal Water District – Soulajule Reservoir).



### 3. Central Coast Regional Water Board

The NPS priority pollutant categories for the Central Coast Region are nutrients and pesticides. The Central Coast Regional Water Board has developed and /or updated a total of seven Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Chorro Creek – Dissolved Oxygen (2012)
2. Chorro Creek – Nutrients (2012)
3. Clear Creek and Hernandez Reservoir – Mercury (2011)
4. Pajaro River and Llagas Creek – Nutrients (2012)
5. San Luis Obispo Creek – Nutrients (2013)
6. San Luis Obispo Creek – Pathogens (2013)
7. Watsonville Slough – Pathogens ( 2013)

For the purpose of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Pajaro River – Nitrate;
2. Pajaro River – Chlorpyrifos and diazanon
3. Salinas River (Lower) – Nitrate, unionized ammonia, and orthophosphate
4. Salinas River (Lower) – Chlorpyrifos and diazanon
5. Santa Maria River – Nitrate, unionized ammonia, and orthophosphate
6. Santa Maria River – Organophosphates, malathion, pyrethroids, organochlorines

Figure 18 and Table 20 provide the previously discussed information for the Central Coast Regional Water Board.

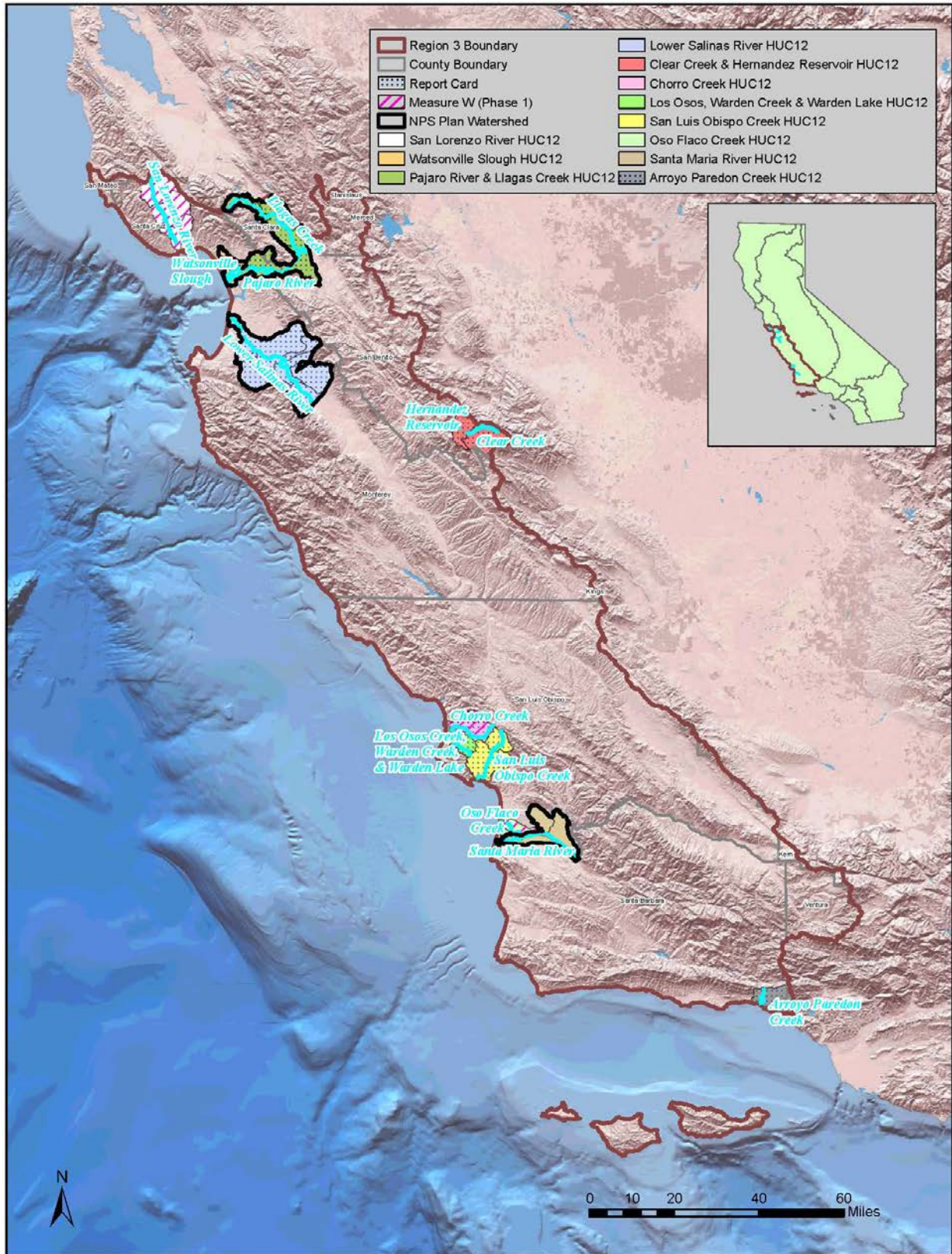


Figure 17. Central Coast Regional Water Board Watersheds for CA NPS Program Reporting

Table 20. Central Coast Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Pajaro River	Nutrients	Nitrate	Oct 2006	Oct 2026	A minimum 25 percent increase in acres of nutrient BMPs implemented and assessed for effectiveness as compared to 2014	Cropland will meet and maintain allocation of 10 mg/L nitrate as N (MUN) by 2026	Agriculture	<p><u>RB3.1.1:</u> Data management and prioritization for agricultural order [ST/LT]</p> <p><u>RB3.1.2:</u> Implementation of nutrient BMPs and capturing or treating tailwaters [ST/LT]</p> <p><u>RB3.1.3:</u> Reporting on nutrient BMP implementation, monitoring data and high priority areas subject to the Central Coast Agricultural Order [ST/LT]</p>
2	Pajaro River	Pesticides	Chlorpyrifos and Diazinon	Nov 2013	Oct 2016	A minimum 25 percent increase in acres of pesticide BMPs implemented and assessed for effectiveness as compared	Continued attainment of acute and chronic numeric targets for chlorpyrifos and diazinon	Agriculture	<p><u>RB3.1.1:</u> Data management and prioritization for agriculture order [ST/LT]</p> <p><u>RB3.1.2:</u> Implementation of pesticide BMPs and capturing or treating tailwaters [ST/LT]</p> <p><u>RB3.1.3:</u> Reporting on pesticide BMP implementation, monitoring data and high priority areas subject to the Central Coast</p>

						to 2014  Attainment of numeric targets for chlorpyrifos (acute 0.025 µg/L; chronic 0.015 µg/L) and diazinon (acute 0.16 µg/L; chronic 0.10 µg/L)			Agricultural Order [ST/LT]
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**Methodology Used for Measuring Performance** - Basin Planning/Central Coast Ambient Monitoring Program and TMDL program staff evaluate attainment of TMDL targets as part of 303(d) listing and TMDL report card development. In addition, every two years Ag Program staff will evaluate water quality data which is collected in the Pajaro watershed by growers and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet Irrigated Lands Regulatory Program requirements. Ag Program staff will assess implementation actions for improvement where needed, and whether additional actions, such as enforcement, are needed. Ag Program staff will evaluate water quality trends and determine whether there are statistically significant improvements. Ag program staff will provide reports to the Regional Water Board with results and recommendations for additional actions if needed.

**Description of Additional Coordinated Implementation Actions**

**Permits/Implementation Mechanisms**

**Nitrate Waste Load Allocations (Urban)** – Nitrate TMDL urban allocations will be addressed through NPDES MS4 permits for the cities of Watsonville, Hollister, Gilroy and Morgan Hill and the South County Regional Waste Water Authority’s discharge order (Order No. R3-2004-0099).

**Nitrate Load Allocations (Irrigated Agriculture)** - The nutrient TMDL relies primarily on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve water quality objectives. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described above.

**Nitrate Load Allocations (Rangeland)** - Based on available information, grazing operations are in compliance with load allocations, and should continue to implement rangeland management plans and other NPS water quality management plans in accordance with technical guidance.

**Pesticide Load Allocations (Irrigated Agriculture)** - The pesticide TMDL relies primarily on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve numeric targets and water quality objectives. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described

above. The pesticide TMDL has no urban or rangeland allocations.

**Grants**

*Pajaro Watershed Agriculture Irrigation and Nutrient Management, Proposition 50 - Implementation of irrigation and nutrient BMPs*

*Implementation of Irrigation and Nutrient Management Projects in the Lower Pajaro Watershed, Proposition 84 - Construct irrigation and nutrient management practices in the Pajaro watershed*

**Groups/Partnerships** - Monterey Bay National Marine Sanctuary developed a Plan for Agriculture in 1998 and has continually worked with agricultural interests in the watershed through the Agricultural Water Quality Alliance (AWQA), which brings together farmers and organizations such as the RCDs, NRCS, and UCCE to improve water quality in agricultural areas (<http://www.awqa.org>).

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Salinas (Lower)	Nutrients	Nitrate, unionized ammonia, and orthophosphate	May 2014	May 2044	A minimum 25 percent increase in acres of nutrient BMPs implemented and assessed for effectiveness as compared to 2014	<p>Achieve and maintain NO3 Municipal objective (10 mg/L-N) and unionized ammonia target (0.025 mg/L-N) by 2026</p> <p>Achieve and maintain wet season nitrate (8 mg/L-N) and orthophosphate (0.3 mg/L-P) targets by 2034</p> <p>Achieve and maintain dry season nitrate (1.4-6.4 mg/L-N) and</p>	Agriculture	<p><u>RB3.1.1:</u> Data management and prioritization for agricultural order [ST/LT]</p> <p><u>RB3.1.2:</u> Implementation of nutrient BMPs and capturing or treating tailwaters [ST/LT]</p> <p><u>RB3.1.3:</u> Reporting on nutrient BMPs implementation, monitoring data and high priority areas subject to the Central Coast Agricultural Order [ST/LT]</p> <p><u>RB3.1.4:</u> Evaluating effectiveness of actions and initiating additional actions, such as increased enforcement, as needed. [ST/LT]</p>

							orthophosphate (0.07-0.13 mg/L-P) targets by 2044		
4	Salinas (Lower)	Pesticides	Chlorpyrifos and diazanon	Oct 2011	October 2025	A minimum 25 percent increase in acres of pesticide BMPs implemented and assessed for effectiveness as compared to 2014	Achieve and maintain numeric targets for chlorpyrifos (acute 0.025 µg/L; chronic 0.015 µg/L) and diazinon (acute 0.16 µg/L; chronic 0.10 µg/L) by 2025	Agriculture	<u>RB3.1.1:</u> Data management and prioritization for agriculture order [ST/LT] <u>RB3.1.2:</u> Implementation of pesticide BMPs and capturing or treating tailwaters [ST/LT] <u>RB3.1.3:</u> Reporting on pesticide BMPs implementation, monitoring data and high priority areas subject to the Central Coast Agricultural Order[ST/LT]

**Methodology Used for Measuring Performance:** Basin Planning/Central Coast Ambient Monitoring Program and TMDL program staff evaluate attainment of TMDL targets as part of 303(d) listing and TMDL report card development. In addition, every two years Ag Program staff will evaluate water quality data which is collected in the Salinas watershed by growers and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet Irrigated Lands Regulatory Program requirements. Ag Program staff will assess implementation actions for improvement where needed, and whether additional actions, such as enforcement, are needed. Ag Program staff will evaluate water quality trends and determine whether there are statistically significant improvements. Ag Program staff will provide reports to the Board with results and recommendations for additional actions if needed.

**Description of Additional Coordinated Implementation Actions**

**Permits/Implementation Mechanisms**

Nutrient Waste Load Allocations (Urban) – The City of Salinas and the County of Monterey will address their nutrient allocations through NPDES MS4 stormwater permits.

Nutrient Load Allocations (Rangeland) - Based on available information, grazing operations are in compliance with load allocations, and should continue to implement rangeland management plans and other NPS water quality management plans in accordance with technical guidance.

Nutrient Load Allocations (Irrigated Agriculture) - The nutrient TMDL relies primarily on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve numeric targets and water quality objectives. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described

above.

**Pesticide Load Allocations (Irrigated Agriculture)** - The pesticide TMDL relies primarily on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve water quality objectives. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described above. The pesticide TMDL has no urban or rangeland allocations.

### **Grants**

*Salinas Valley Watershed Irrigation and Nutrient Management Program*, Proposition 84, Construct irrigation and nutrient management practices in the Salinas watershed.

**Groups/Partnerships** - Monterey Bay National Marine Sanctuary developed a Plan for Agriculture in 1998 and has continually worked with agricultural interests in the watershed through the Agricultural Water Quality Alliance (AWQA), which brings together farmers and organizations such as the RCDs, NRCS, and UCCE to improve water quality in agricultural areas (<http://www.awqa.org>).



Waterbody- Pollutant Combination  Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
5	Santa Maria River	Nutrients	Nitrate, unionized ammonia, and orthophosph ate	May 2014	May 2044	A minimum 25 percent increase in acres of nutrient BMPs implemented and assessed for effectiveness as compared to 2014	Achieve and maintain NO3 Municipal objective (10 mg/L-N) and unionized ammonia target (0.025 mg/L-N) by 2026  Achieve and maintain wet season nitrate (8 mg/L-N) and orthophosph ate (0.3 mg/L-P) numeric targets by 2034  Achieve and	Agriculture	<u>RB3.1.1:</u> Data management and prioritization for agriculture order [ST/LT]  <u>RB3.1.2:</u> Implementation of nutrient BMPs and capturing or treating tailwaters [ST/LT]  <u>RB3.1.3:</u> Reporting on BMPs implementation, monitoring data and high priority areas subject to the Central Coast Agricultural Order [ST/LT]

							maintain dry season nitrate (1.4-6.4 mg/L-N) and orthophosphate (0.07-0.13 mg/L-P) numeric targets by 2044		
6	Santa Maria River	Pesticides and toxicity	Organophosphates (chlorpyrifos, diazinon, malathion); pyrethroids; organochlorine pesticides	January 2014 (CC Water Board approval)	Organophosphates: chlorpyrifos and diazinon - 2020; malathion - 2025	A minimum 25 percent increase in acres of pesticide BMPs implemented and assessed for effectiveness as compared to 2014.	Maintain acute and chronic numeric targets for chlorpyrifos and diazinon	Agriculture	<u>RB3.1.1:</u> Data management and prioritization for Ag order [ST/LT]
					Pyrethroids: 2030	Attain numeric targets for chlorpyrifos (acute 0.025 µg/L; chronic 0.015 µg/L) and diazinon (acute 0.16 µg/L; chronic 0.10 µg/L) by 2020	Attain and maintain numeric targets for malathion (acute 0.17 µg/L; chronic 0.028 µg/L) by 2025		<u>RB3.1.2:</u> Implementation of pesticide BMPs and capturing or treating tailwaters [ST/LT]
					Organochlorines: 2045	Attainment of 80 percent of each numeric target for malathion  Attainment of 30 percent of each numeric target for pyrethroids	Attain and maintain numeric targets for pyrethroids (bifenthrin acute 0.004 µg/L;		<u>RB3.1.3:</u> Reporting on pesticide BMPs implementation, monitoring data and high priority areas subject to the Central Coast Agricultural Order [ST/LT]

						<p>Attainment of 20 percent of each numeric target for organochlorine pesticides</p>	<p>chronic 0.0006 µg/L; cyfluthrin acute 0.0003 µg/L; chronic 0.00005 µg/L; lambda-cyhalothrin acute 0.001 µg/L; chronic 0.0005 µg/L) by 2030</p> <p>Attainment of 80 percent of each numeric target for organochlorine pesticides*</p> <p>Achieve all targets by 2045</p>		
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**Methodology Used for Measuring Performance** - Basin Planning/Central Coast Ambient Monitoring Program and TMDL program staff evaluate attainment of TMDL targets as part of 303(d) listing and TMDL report card development. In addition, every two years Ag Program staff will evaluate water quality data which is collected in the Santa Maria watershed by growers and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet Irrigated Lands Regulatory Program requirements. Ag Program staff will assess implementation actions for improvement where needed, and whether additional actions, such as enforcement, are needed. Ag Program staff will evaluate water quality trends and determine whether there are statistically significant improvements. Ag Program staff will provide reports to the Board with results and recommendations for additional actions if needed.

\*Water column and sediment organochlorine targets listed in TMDL:

Chlordane – 0.00057 µg/L in water; 1.7 µg/kg in sediment

DDD – 0.00083 µg/L in water; 9.1 µg/kg in sediment

DDE – 0.00059 µg/L in water; 5.5 µg/kg in sediment

DDT – 0.00059 µg/L in water; 6.5 µg/kg in sediment

Total DDT – 10 µg/kg in sediment

Dieldrin – 0.00014 µg/L in water; 0.14 µg/kg in sediment

Endrin – no target in water; 550 µg/kg in sediment

Toxaphene – 0.00073 µg/L in water; 20 µg/kg in sediment

### **Description of Additional Coordinated Implementation Actions**

#### **Permits/Implementation Mechanisms**

Nutrient Load Allocations (Irrigated Agriculture) - The nutrient TMDL relies primarily on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve water quality objectives. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described above.

Nutrient Load Allocations (Rangeland) - Based on available information, grazing operations are in compliance with load allocations, and should continue to implement rangeland management plans and other NPS water quality management plans in accordance with technical guidance.

Nutrient Waste Load Allocations (Urban) - City of Santa Maria, City of Guadalupe, County of San Luis Obispo, and County of Santa Barbara will address their allocations through NPDES MS4 permits.

Pesticide Load Allocations (Irrigated Agriculture) - The TMDL relies on the Conditional Waiver of WDR for Irrigated Lands (Order R3-2012-0011) to achieve agricultural load allocations. Water Board Ag Staff are overseeing implementation of the Order, using the performance measures and implementation actions described above.

Pesticide Waste Load Allocations (Urban) - The City of Santa Maria, County of Santa Barbara and the City of Guadalupe have WLAs for pyrethroid and organochlorine pesticides; San Luis Obispo County and Santa Barbara County Public Works and Santa Barbara County Flood Control District have WLAs for organochlorine pesticides related to ditch and flood

control channel maintenance activities. These allocations will be addressed through NPDES MS4 stormwater permits.

**Grants**

*Oso Flaco TMDL Implementation*, TMDL funding, Implement and demonstrate on-farm water quality management practices in the Oso Flaco watershed.

*Central Coast Irrigation and Nutrient Management Program – Santa Maria Watershed*, Proposition 84, Construct irrigation and nutrient management practices in the Santa Maria watershed.

**Groups/Partnerships** - The City of Santa Maria is working with growers and other interested parties in the Santa Maria watershed to implement an agricultural tailwater denitrification project; partners include the RCD, NRCS, Grower-Shippers Association, and Farm Bureau.

#### 4. Los Angeles Regional Water Board

The priority NPS priority pollutant categories for the Los Angeles Region are: (1) nutrients, (2) pesticides, and (3) trash. The Los Angeles Regional Water Board has developed and /or updated a total of seven Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Ballona Creek – Bacteria ( 2013)
2. Calleguas Creek – Metals (2013)
3. Calleguas Creek – Nutrients/organic enrichment (2012)
4. Los Angeles River – Nutrients (2012)
5. Los Angeles River – Trash (2013)
6. Malibu Creek – Bacteria (2013)
7. Santa Monica Bay Beaches – Bacteria ( 2012)

For the purpose of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Calleguas Creek – Oxidized nitrogen
2. Calleguas Creek – Chlorpyrifos and diazinon
3. Machado Lake – Trash
4. Santa Clara River – Chlordane, dieldrin, DDT and derivatives, and PCBs.

Figure 19 and Table 21 provide the previously discussed information for the Los Angeles Regional Water Board.

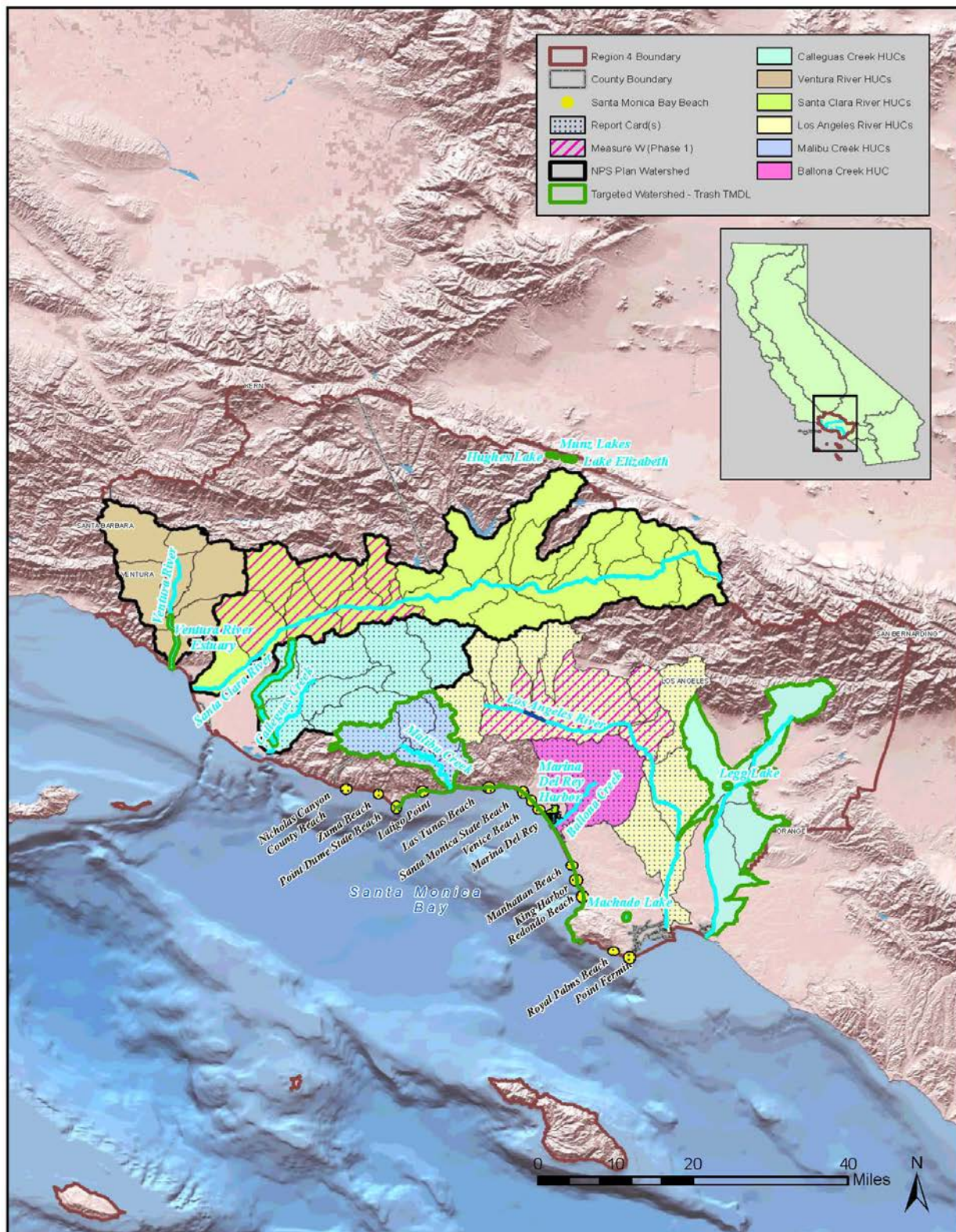


Figure 18. Los Angeles Regional Water Board Watersheds for CA NPS Program Reporting

Table 21. Los Angeles Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Calleguas Creek	Nutrients	Oxidized nitrogen	July 2003	July 2010 (TMDL deadline has passed but NO <sub>3</sub> - N + NO <sub>2</sub> - N  numeric target is not yet attained; WWTPs are meeting their waste load allocation s but irrigated agricultur e is not meeting their load allocation s)	Ten (10) percent reduction in NO <sub>3</sub> -N + NO <sub>2</sub> -N at CCWMP receiving water stations: from a median of 30 mg/L to 27 mg/L.	Attain NO <sub>3</sub> -N + NO <sub>2</sub> -N numeric target of 10 mg/L	Agriculture	<p><u>RB4.1.10</u>: Implement updated 2015 Irrigated Lands Waiver or other regulatory mechanism. [ST/LT]</p> <p><u>RB4.1.03</u>: Participate in education events and conduct stakeholder outreach to increase MP implementation. [ST/LT]</p> <p><u>RB4.1.04</u>: Work with approved discharger groups to ensure that individual growers are implementing MPs according to their water quality management plans. [ST/LT]</p> <p><u>RB4.1.07</u>: Work with discharger groups and/or individual dischargers to obtain financial assistance to implement MPs. [ST/LT]</p> <p><u>RB4.1.06</u>: Require discharger groups to enter water quality monitoring data into CEDEN [ST/LT].</p>



Methodology Used for Measuring Performance:

The Calleguas Creek Watershed Management Plan (CCWMP) is a multi-agency group that coordinates TMDL monitoring and implementation efforts of numerous dischargers representing different source types in the watershed. The CCWMP monitors Calleguas Creek at eighteen receiving water monitoring sites for a variety of pollutants subject to TMDLs, including  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ . The baseline values of  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$  concentrations for determination of the 10 percent reduction in 2020 and attainment of numeric targets in 2040 are the median  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$  concentrations from the CCWMP receiving water sites from 2008-2013. In addition to the CCWMP monitoring, agricultural dischargers fund and conduct water quality monitoring for many agricultural pollutants, including  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ , as required by the Irrigated Lands Waiver. There are six monitoring locations in the Calleguas Creek watershed under the Irrigated Lands Waiver that represent discharges from irrigated lands with no influence by any other sources. These monitoring sites are sampled two times per year in dry weather and two times per year in wet weather. Samples have been collected since 2007 and will continue to be sampled in compliance with the Irrigated Lands Waiver, or any other waiver or WDR that may replace the existing Irrigated Lands Waiver. Data collected under the Irrigated Lands Waiver is used to assess compliance and track trends in agricultural discharges, but the CCWMP receiving water stations will be used to assess attainment of the short-term performance measure for this targeted waterbody-pollutant combination.

Other Coordinated Implementation Actions

In compliance with the Calleguas Creek Nitrogen Compounds TMDL, five WWTPs have been issued updated NPDES permits and have installed nitrification-denitrification processes. As a result, there has been a significant reduction in ammonia discharged from these plants; they are now meeting their permit limits and ammonia concentrations are consistently below TMDL allocations at all Nitrogen TMDL receiving water sites.  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$  still exceeds TMDL objective of 10 mg/L in Mugu Lagoon and the lower reaches of Calleguas Creek due to agricultural dischargers. (WWTPs are the main source of ammonia and agriculture is the main source of  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$ .)

While the Regional Water Board has the regulatory authority, through the Irrigated Lands Waiver or other regulatory mechanism, to require agricultural dischargers to reduce loading of  $\text{NO}_3\text{-N} + \text{NO}_2\text{-N}$  and meet numeric targets of 10 mg/L, the Regional Water Board will also leverage the resources of other non-regulatory programs and agencies to assist dischargers implement management practices to comply with regulatory requirements and improve water quality. Other agencies in the Calleguas Creek watershed who can assist agricultural dischargers include NRCS, which issues EQIP and NWQI funding and technical assistance, and the Ventura County RCD, which operates the Mobile Irrigation Lab and other assistance programs. The TMDL deadline for attaining the numeric target has already passed, and the Regional Water Board anticipates attaining the long-term performance measure prior to 2040.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	Calleguas Creek	Pesticides	Chlorpyrifos and diazinon	April 2006	April 2016	Attain diazinon numeric targets:	Attain chlorpyrifos numeric targets:  Chronic 0.014 ug/L Acute 0.025 ug/L	Agriculture	<u>RB4.1.10</u> : Implement updated 2015 Irrigated Lands Waiver or other regulatory mechanism. [ST/LT]
Chronic 0.4 ug/L Acute 0.82 ug/L						<u>RB4.1.03</u> : Participate in education events and conduct stakeholder outreach to increase MP implementation. [ST/LT]			
Ten (10) percent reduction in median chlorpyrifos concentrations at CCWMP receiving water stations:						<u>RB4.1.04</u> : Work with approved discharger groups to ensure that individual growers are implementing MPs according to their water quality management plans. [ST/LT]			
									<u>RB4.1.07</u> : Work with discharger groups and/or individual dischargers to obtain financial assistance to implement MPs. [ST/LT]

						<p>from 0.04 ug/L to 0.035 to in dry weather (chronic)</p> <p>and</p> <p>from 0.7 ug/L to 0.63 ug/L in wet weather (acute)</p>			<p><b>RB4.1.06:</b> Require discharger groups to enter water quality monitoring data into CEDEN. [ST/LT]</p>
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Methodology Used for Measuring Performance:

In addition to NO<sub>3</sub>-N + NO<sub>2</sub>-N, the CCWMP monitors for chlorpyrifos and diazinon at the eighteen receiving water monitoring in Calleguas Creek. The baseline values of chlorpyrifos and diazinon concentrations are the median concentrations from the CCWMP receiving water sites from 2008-2013. This data shows that the diazinon numeric targets are almost always attained, so it is expected that diazinon targets will be fully attained as a short term performance goal.

The Irrigated Lands Waiver described above is used to address chlorpyrifos and diazinon. As is the case for NO<sub>3</sub>-N + NO<sub>2</sub>-N, data collected under the Irrigated Lands Waiver is used to assess compliance and track trends in agricultural discharges, but the CCWMP receiving water stations will be used to assess attainment of the short-term performance measure for chlorpyrifos and diazinon.

Other Coordinated Implementation Actions

The other sources of chlorpyrifos and diazinon in the watershed are WWTPs and urban stormwater and non-stormwater discharges addressed via the MS4. In accordance with the Calleguas Creek Toxicity TMDL, these permittees have begun implementation actions such as collection and education program for chlorpyrifos and diazinon and investigating potential replacement pesticides and their impacts.

To address agricultural sources of chlorpyrifos and diazinon, as is described for NO<sub>3</sub>-N + NO<sub>2</sub>-N in the previous row, the Regional Water Board will use its regulatory authority to require agricultural dischargers to reduce loading of chlorpyrifos and diazinon and meet numeric targets, and will also leverage the resources of other non-regulatory programs and agencies to assist dischargers.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)				
						3	Santa Clara River /McGrath Lake sub-watershed, including the Central Ditch	Pesticides	Chlordane, dieldrin, DDT and derivatives, and PCBs



assessed.)

The long-term performance measure will be demonstrated with TMDL-required and responsible party-funded monitoring of the sediments in McGrath Lake. The TMDL requires monitoring of chlordane, dieldrin, DDT and derivatives, and PCBs in the lake sediments after the completion of sediment remediation. The TMDL requires that the lake sediments be remediated and meet load allocations by 2026, and the implementation plan for the TMDL has an enforcement backstop, so it is realistic that the long-term measure will be met by 2040.

Other Coordinated Implementation Actions

While the Regional Water Board has the regulatory authority, through the Irrigated Lands Waiver or other regulatory mechanism, to require agricultural dischargers to reduce loading of chlordane, dieldrin, DDT and derivatives, and PCBs concentrations, the Regional Water Board will also leverage the resources of other non-regulatory programs and agencies to assist dischargers implement management practices to comply with regulatory requirements and improve water quality. Other agencies in the Santa Clara watershed that can assist agricultural dischargers include NRCS, which issues EQIP funding and technical assistance for BMPs, the Ventura County RCD, which operates the Mobile Irrigation Lab and other assistance programs, as well as other State and federal funding. For example, one of the agricultural landowners that discharge to the Central Ditch received State funding to install detention basins that have virtually eliminated discharges from this farm to the Central Ditch. Discharges to the Central Ditch from the other farms in the sub-watershed must be addressed, and the Central Ditch itself, which is full of previously deposited pesticide laden sediment, must be addressed, in order to reduce the loading of pesticides to McGrath Lake.

For the long term performance measure, the responsible parties will leverage other funding sources, such as the State Cleanup and Abatement Account, to fund remediation of the lake sediments.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
4	Machado Lake	Trash	Trash	March 2008	March 2016	Zero (0) trash in receiving waters as defined by TMDLs as accumulation of trash in deleterious amounts that cause nuisance or adversely affect beneficial uses between collections	Maintain zero (0) trash	Urban	<p><u>RB4.4.03:</u> Implement revised R4 – Trash Waiver or other subsequent regulatory mechanism.</p> <p><u>RB4.4.03:</u> Conduct inspections of waterbodies subject to the revised R4 – Trash Waiver or other subsequent regulatory mechanism to determine attainment of load allocations</p> <p><u>RB4.4.06:</u> Work with responsible parties to revise Minimum Frequency of Assessment and Collection Programs as necessary to attain load allocations.</p>

Methodology Used for Measuring Performance:

The Trash Minimum Frequency –Management Practice Program includes a trash monitoring and reporting plan. The monitoring program protocols are based on Surface Water Ambient Monitoring Program protocols for rapid trash assessment or alternative protocols proposed by the dischargers and approved by the Executive Officer. The Trash Minimum Frequency –Management Practice Program includes an initial minimum frequency of trash assessment and collection and a suite of structural and/or nonstructural best management practices. Responsible jurisdictions will be required to implement an initial suite of best management practices based on current trash management practices in land areas that are found to be sources of trash to Machado Lake. For Machado Lake, the initial minimum frequency is set as: (1) five days per week on the shoreline and in the Ken Malloy Harbor Regional Park and (2) twice per week on waters of Machado Lake, with reports to RB-4 to assess and quantify trash collected, including prioritization of areas with highest trash and

evaluation of effectiveness of program..

Other Coordinated Implementation Actions

The City of Los Angeles, who is the owner of Machado Lake, is responsible for implementing the Trash Minimum Frequency –Management Practice Program. Cities upstream of the Lake in the Machado Lake subwatershed are responsible for implementing trash full capture devises or other control strategies to address point sources of trash to Machado Lake.



## 5. Central Valley Regional Water Board

As previously discussed, the priority NPS priority pollutant categories for the Central Valley Regional Water Board are: (1) sediment, (2) nutrients, (3) pesticides, and (4) metals. The Central Valley Regional Water Board has developed and /or updated a total of seven Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Cache Creek – Mercury (2012)
2. Clear Lake – Nutrient (2013)
3. Lower San Joaquin River – Diazinon and chlorpyrifos (2013),
4. Sacramento and Feather Rivers – Diazinon (2012),
5. San Joaquin River – Selenium (2009),
6. Stockton Ship Channel – Low dissolved oxygen (2012), and
7. Upper Sacramento River – Metals (2013).

For purposes of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Sacramento River (Butte Slough) – Chlorpyrifos and diazanon
2. Sacramento River (Natomas E. Main Drainage Channel) – Chlorpyrifos and diazanon
3. Sacramento River (Sacramento Slough) – Chlorpyrifos and diazanon
4. Sacramento River (Stony Creek) –Chlorpyrifos and diazanon
5. Sacramento – San Joaquin Delta (Sand Creek) - Chlorpyrifos and diazanon
6. Sacramento – San Joaquin Delta – Mercury
7. Sacramento – San Joaquin Delta – Nutrients
8. Sacramento River (Battle Creek) - Sediment
9. San Joaquin River (Ash Slough) – Chlorpyrifos and diazanon
10. San Joaquin River (Harding Drain) – Chlorpyrifos and diazanon
11. San Joaquin River (Highline Canal) – Chlorpyrifos and diazanon
12. San Joaquin River (Mud Slough) – Selenium
13. San Joaquin River (Mustang Creek) – Chlorpyrifos and diazanon
14. San Joaquin River (Newman Wasteway) – Chlorpyrifos and diazanon
15. San Joaquin River (Vernalis) – Salt

Figure 20 and Table 22 provide the previously discussed information for the Central Valley Regional Water Board.

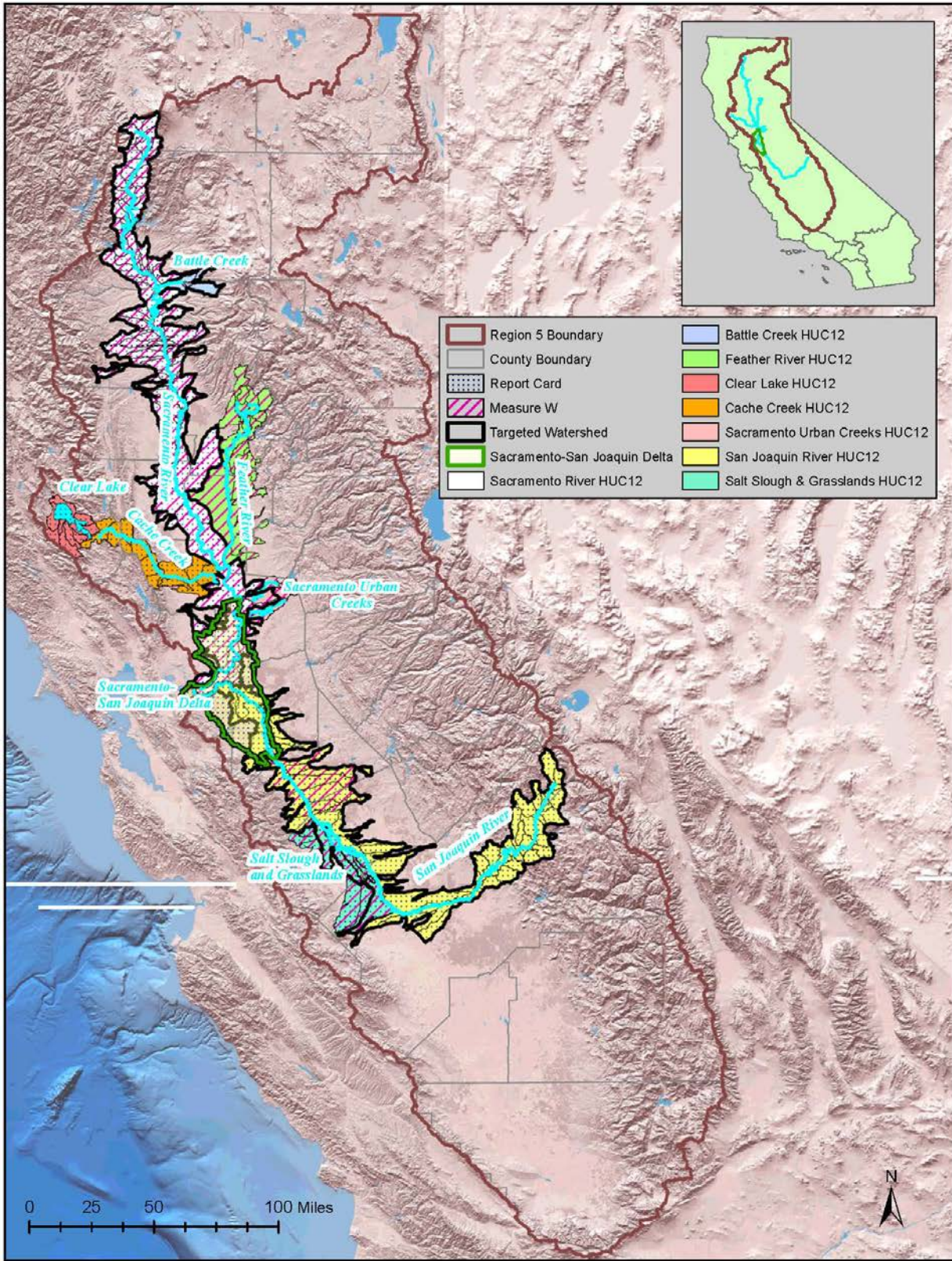


Figure 19. Central Valley Regional Water Board Watersheds for CA NPS Program Reporting

Table 22. Central Valley Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Sacramento River Tributaries  (Butte Slough, Natomas East Main Drainage Canal, Sacramento Slough and Stony Creek)	Pesticides	Chlorpyrifos and Diazinon	March 2014	March 2024	Attain water quality objectives for chlorpyrifos: 0.025 ug/L (1-hour average) and 0.015 ug/L (4-day average) and diazinon: 0.16 ug/L (1-hour average) and 0.10 ug/L (4-day average).	Attain and maintain water quality objectives for chlorpyrifos and diazinon.	Agriculture and Urban	1. Implement the Irrigated Lands Regulatory Program. (RB5.4) (ST/LT)

Methodology Used for Measuring Performance:

Staff will evaluate water quality data collected by Water Quality Coalitions and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet water quality objectives. This data will be evaluated to determine de-listing of waterbodies. Staff will assess implementation actions for improvement, and whether additional actions, such as enforcement, are needed. Staff will make recommendations for additional actions if needed.

Follow up with California Department of Pesticide Regulation and County Agriculture Commissioners if water quality exceedances appear to be related to pesticide label violations. Follow up with U.S. EPA Office of Pesticide Programs and DPR if new label changes or use restrictions are recommended.

Description of Additional Coordinated Implementation Actions:

Develop management plans for listed waterbodies and establish effective communication with County Ag commissioners, DPR and US EPA Office of Pesticide Programs.

Groups/Partnerships: Coalitions, California Department of Pesticide Regulation, County Agriculture Commissioners, U.S. EPA Office of Pesticide Programs, University of California Cooperative Extension

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	San Joaquin River Watershed  (Ash Slough, Duck Slough, Harding Drain, Highline Canal (from Mustang Creek to Lateral No. 8),	Pesticides	Chlorpyrifos and Diazinon	March 2014	March 2024	Attain water quality objectives for chlorpyrifos: 0.025 ug/L (1-hour average) and 0.015 ug/L (4-day average) and diazinon: 0.16 ug/L (1-hour average) and 0.10 ug/L (4-day average).	Attain and maintain water quality objectives for chlorpyrifos and diazinon.	Agriculture and Urban	1. Implement the Irrigated Lands Regulatory Program. (RB5.4) (ST/LT)

	Mustang Creek, and Newman Wasteway)								
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Methodology Used for Measuring Performance:

Staff will evaluate water quality data collected by Water Quality Coalitions and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet water quality objectives. This data will be evaluated to determine de-listing of waterbodies. Staff will assess implementation actions for improvement, and whether additional actions, such as enforcement, are needed. Staff will make recommendations for additional actions if needed.

Follow up with California Department of Pesticide Regulation and County Agriculture Commissioners if water quality exceedances appear to be related to pesticide label violations. Follow up with U.S. EPA Office of Pesticide Programs and DPR if new label changes or use restrictions are recommended.

Description of Additional Coordinated Implementation Actions:

Develop management plans for listed waterbodies and establish effective communication with County Ag commissioners, DPR and US EPA Office of Pesticide Programs.

Groups/Partnerships: Coalitions, California Department of Pesticide Regulation, County Agriculture Commissioners, U.S. EPA Office of Pesticide Programs, University of California Cooperative Extension

Grants – Sustainable Cotton Project: Engage alfalfa, almond and cotton growers in the Lower San Joaquin River Watershed in the implementation of biologically based farming to reduce or eliminate the use of chlorpyrifos and diazinon.

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Sacramento – San Joaquin Delta  (Sand Creek)	Pesticides	Chlorpyrifos and Diazinon	March 2014	March 2024	Attain water quality objectives for chlorpyrifos: 0.025 ug/L (1-hour average) and 0.015 ug/L (4-day average) and diazinon: 0.16 ug/L (1-hour average) and 0.10 ug/L (4-day average).	Attain and maintain water quality objectives for chlorpyrifos and diazinon.	Agriculture and Urban	1. Implement the Irrigated Lands Regulatory Program. (RB5.4) (ST/LT)
<p><u>Methodology Used for Measuring Performance:</u></p> <p>Staff will evaluate water quality data collected by Water Quality Coalitions and Cooperative Monitoring Programs, and BMP implementation reported by growers to meet water quality objectives. This data will be evaluated to determine de-listing of waterbodies. Staff will assess implementation actions for improvement, and whether additional actions, such as enforcement, are needed. Staff will make recommendations for additional actions if needed.</p> <p>Follow up with California Department of Pesticide Regulation and County Agriculture Commissioners if water quality exceedances appear to be related to pesticide label violations. Follow up with U.S. EPA Office of Pesticide Programs and DPR if new label changes or use restrictions are recommended.</p>									
<p><u>Description of Additional Coordinated Implementation Actions:</u></p> <p>Develop management plans for listed waterbodies and establish effective communication with County Ag commissioners, DPR and US EPA Office of Pesticide Programs.</p> <p><u>Groups/Partnerships:</u> Coalitions, California Department of Pesticide Regulation, County Agriculture Commissioners, U.S. EPA Office of Pesticide Programs, University of California Cooperative Extension</p>									

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

Methodology Used for Measuring Performance:

Dischargers participating in the CV Salt Program Real Time Management Program (RTMP) are in compliance with the Control Program as long as salinity water quality objectives are met at Vernalis, which would lead to a de-listing. Participants in the RTMP must submit an annual report that documents the activities of the past year and progress toward meeting the commitments/timelines of the phases by the end of each calendar year. USBR must submit an annual workplan to the Central Valley Water Board as stipulated by the Management Agency Agreement (MAA) detailing planned activities for the RTMP.

Description of Additional Coordinated Implementation Actions:

In addition to the coordinated activities associated with the RTMP, there is a stakeholder-driven Basin Planning effort to develop salinity water quality objectives for the Lower San Joaquin River upstream of Vernalis. A proposed Basin Plan Amendment is tentatively scheduled to be completed in early 2016. This project is serving as a case study for a region-wide effort via the Central Valley Salinity Alternatives for Long-term Sustainability (CV-SALTS) stakeholder effort to develop a Central Valley Wide Salt and Nitrate Management Plan (SNMP).

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
5	San Joaquin River  (Mud Slough)	Metals	Selenium	April 2001	December 2019	Attain water quality objectives of 5 ug/L (4-day average) by December 2019.	Attain and maintain water quality objectives.	Agriculture	1. Irrigated Lands Regulatory Program (RB5.4) (ST/LT)

Methodology Used for Measuring Performance:

Staff will evaluate water quality data collected by the U.S. Bureau of Reclamation (USBR) and contractors for the Grassland Drainage Area irrigation and drainage districts in meeting water quality objectives for Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the Merced River. If the water quality objectives are not met within the schedule set in the Basin Plan, a prohibition of discharge is triggered.

Description of Additional Coordinated Implementation Actions:

Implement recycle and reuse and a pilot study on a closed loop treatment system. Implement irrigated lands program waste discharge requirements for grasslands bypass ((grasslands bypass TMDL is implemented through ILRP Program)

Groups/Participants:

Several agencies are participants in the project management of the Grassland Bypass Project that was established to divert subsurface drainage that contained high concentrations of selenium from wetland supply channels. Agencies, besides the USBR and the Central Valley Water Board, represented in committees include U.S. EPA, US Fish and Wildlife Service, and the California Dept. of Fish and Wildlife. Irrigation and drainage districts within the Grassland Drainage Area, USBR, Coalitions.



Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
6	Sacramento – San Joaquin Delta	Metals	Mercury	October 2011	2030	Meet Delta Methylmercury Control Program requirements for Phase I Methylmercury Control Studies.  Bring to the Regional Water Board for review.	Implement BMPs to maintain progress towards load allocations and water quality objectives.	Agriculture and Wetlands	1. Participate in Delta Mercury Exposure Reduction Program. (RB5.1.05) (ST/LT)

**Methodology Used for Measuring Performance:**

Phase I study workplans and interim and final reports are submitted to the Regional Water Board and approved by the Executive Officer. Prior to approval, staff reviews the workplans and final reports with an independent technical advisory committee and obtains comments. After Phase I workplans are approved, responsible parties begin Phase II of implementation. In 2020, the TMDL will be brought to the Regional Water Board for review. At that time, the Board will decide, based on the Phase I requirements, which dischargers will be required to implement BMPs for mercury and methylmercury reduction.

**Description of Additional Coordinated Implementation Actions:** Study planners and land managers share information at quarterly meetings of the Delta Mercury Tributaries Council. The Department of Water Resources (DWR) and Department of Fish and Wildlife (CDFW) have or are currently conducting methylmercury monitoring in tidal and freshwater wetlands, which adds to monitoring and BMP testing data collected in two 319(h) NPS grants. DWR is developing a numeric model of methylmercury and mercury in the Yolo Bypass that is expected to provide semi-quantitative predictions of results of BMP and control action implementation.

**Groups/Participants:** CDFW, DWR, The Nature Conservancy, mitigation banks, US Bureau of Land Management, US Forest Service, Ducks Unlimited, mercury researchers, and irrigated agriculture coalitions. These groups formed the Delta Mercury NPS Workgroup with 319(h) planning grant support in 2012-2013. Lacking funding the workgroup participants share information but are not actively participating in Phase 1 studies as a group.

**Grants:** Bureau of Land Management: Wetlands Management and Agriculture Organic Matter Reduction to Decrease Methylmercury Loads from the Consumnes River Preserve  
Bureau of Land Management: Mercury on a Landscape Scale: Balancing Regional Exports with Wildlife Health

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
7	Sacramento – San Joaquin Delta	Nutrients	Nutrients	N/A	N/A	Develop a Nutrient Research Plan. Carry out studies in the Plan. Determine if nutrients cause or contribute to the water quality impairments in the Delta or San Francisco Bay	Policy development as needed.	Agriculture, Urban, Wetlands, hydromodificatio n	<ol style="list-style-type: none"> <li>1. Work with stakeholders to develop a Nutrient Research Plan (2016) (RB5.1.05) (ST)</li> <li>2. Present nutrient study finding to the Board (Spring 2016). (RB5.1.04) (ST)</li> <li>3. If Board decides that WQOs are needed, then staff will develop study plans and schedule to determine SSOs. (RB5.1)</li> </ol>

**Methodology Used for Measuring Performance:**

This project is a coordinated stakeholder effort that relies on the input and technical advice from the Stakeholder and Technical Advisory Group, Science Work Groups, and an Independent Science Panel. The project’s Charter identifies product deliverables such as the development of topic-specific White Papers, a Nutrient Research Plan, a solicitation for research to be conducted, the development of a Recommendations Report, and Board presentations. Performance will be assessed by tracking the status and completion of each deliverable and providing quarterly updates to the stakeholders and staff’s Executive Management.

**Description of Additional Coordinated Implementation Actions:**

**Groups/Partnerships:** The interest groups represent the following types of stakeholders – Large Publicly Owned Treatment Works (POTWs), Small POTWs, Municipal Separate Storm Sewer Systems (MS4s), Irrigated Agriculture, Agriculture Agencies, Confined Animal Feeding Operations (CAFOs), Water Supply Agencies, Drinking Water Purveyors, Waterways, Resource Management Agencies, Mosquito Abatement Agencies, and Environmental Groups.

**Additional Groups:** This project has four different Science Work Groups with members comprised of technical specialist staff from the San Francisco Estuary Institute, the Southern California Coastal Water Research Project, Stakeholder and Technical Advisory Group Members, and topic-specific advisors from academia, regulatory agencies, local, state, and federal agencies and/or agency partnerships, and non-governmental offices and consultants.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
8	Battle Creek Watershed	Sediment	Sediment	N/A	N/A	Identify source areas and complete associated management plans.	Implement management plan and BMPs to reduce sediment discharges and protect designated beneficial uses.	Agriculture, Urban and Forestry	<ol style="list-style-type: none"> <li>1. Implement the Irrigated Lands Regulatory Program. (RB5.4) (ST/LT)</li> <li>2. Develop and implement a watershed plan. (SW2.3) (ST/LT)</li> <li>3. Implement the Timber Harvest Program. (RB5.5) (ST/LT)</li> </ol>

**Methodology Used for Measuring Performance:**

Staff will evaluate water quality and channel condition data collected by Battle Creek Conservancy, Surface Water Ambient Monitoring Program, and other sources. Staff will assess implementation actions for water quality benefits, and whether additional actions, such as enforcement, are needed. Staff will make recommendations for additional actions if needed

**Description of Additional Coordinated Implementation Actions:**

Groups/Partnerships: Battle Creek Conservancy, Battle Creek Working Group (public and agency), UC Davis, Tehama County RCD, Western Shasta RCD, PG&E, Bureau of Reclamation, US Fish and Wildlife, California Department of Fish and Wildlife.

Staff will provide permitting and technical advisory support for the ongoing Battle Creek Salmon Restoration Project.

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)			NPS Pollutant Land Use Activity Category	Implementation Actions
						Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040		
9	Clear Lake	Nutrients	Phosphorus	2006	2017	Bring TMDL to Board for guidance on next steps. Continue to implement projects within the watershed to reduce sediment to the lake.	Continue to implement projects to reduce sediment input and nuisance cyanobacteria blooms	Agriculture and Urban	1. RB5.4 - Implement the Irrigated Lands Program (ST-LT)

Methodology Used for Measuring Performance:

Staff will evaluate the data collected by the Department of Water Resources and various special studies that have occurred. Staff will evaluate data to 1) determine if the TMDL is satisfied and 2) support a de-listing.

Description of Additional Coordinated Implementation Actions:

Coordinate with Irrigated Lands Regulatory Program Agricultural coalition, local agencies, tribes and the county to increase wetlands and the implementation of sediment and nutrient practices to control discharges into Clear Lake.

Groups/Participants: Sac Valley Water Quality Coalition - Irrigated Lands Regulatory Program Agricultural coalition, local agencies, tribes and the county.

Grants: West Lake Resource Conservation District – Middle Creek Roads Stormproofing Project

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

Methodology Used for Measuring Performance:

Staff will evaluate water quality data collected by the Department of Water Resources during their San Joaquin DO Run Boat Surveys as well as the California Data Exchange Center to ascertain if the water quality objectives are being met.

Staff will assess implementation actions such as the development of a new aeration agreement and if not completed will make recommendations for additional actions, if needed.

Description of Additional Coordinated Implementation Actions:

Groups/Participants: Port of Stockton, State Water Contractors, San Joaquin River Tributaries Authority, Department of Water Resources, Irrigated Lands Coalitions, City of Stockton, San Joaquin County and Stanislaus County Municipal Stormwater Agencies, San Luis & Delta Mendota Water Authority, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, San Joaquin Valley Drainage Authority, additional water diverters within the San Joaquin Valley watershed

Aeration Agreement: Develop a new aeration agreement and increase the number of stakeholder participating in aeration.



## 6. Lahontan Regional Water Board

The priority NPS priority pollutant categories for the Lahontan Region are: (1) sediment, (2) nutrients, and (3) pathogens. The Lahontan Regional Water Board has developed and /or updated a total of six Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Aspen, Bryant, and Leviathan Creeks – Metals (2012)
2. Heavenly Valley – Sediment (2011)
3. Indian Creek Reservoir – Phosphorous (2013)
4. Lake Tahoe –Sediment (2013),
5. Squaw Creek – Sediment (2012), and
6. Truckee River – Sediment (2011)

For the purpose of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Bear Creek – Sediment
2. Blackwood Creek – Sediment
3. Carson River (West Fork) – Coliform bacteria
4. Heavenly Creek – Sediment
5. Indian Creek Reservoir – Phosphorus
6. Lake Tahoe – Nutrients and sediment
7. Squaw Creek – Sediment
8. Truckee River – Sediment
9. Walker River (East) – Coliform bacteria
10. Walker River (East) – Clearwater Creek– Coliform bacteria
11. Walker River (East) – Green Creek– Coliform bacteria
12. Walker River (East) – Long Valley Creek– Coliform bacteria
13. Walker River (East) – Robinson Creek– Coliform bacteria
14. Walker River (East) – Summers Creek– Coliform bacteria
15. Walker River (East) – Swauger Creek– Coliform bacteria

Figure 21 and Table 23 provide the previously discussed information for the Lahontan Regional Water Board.

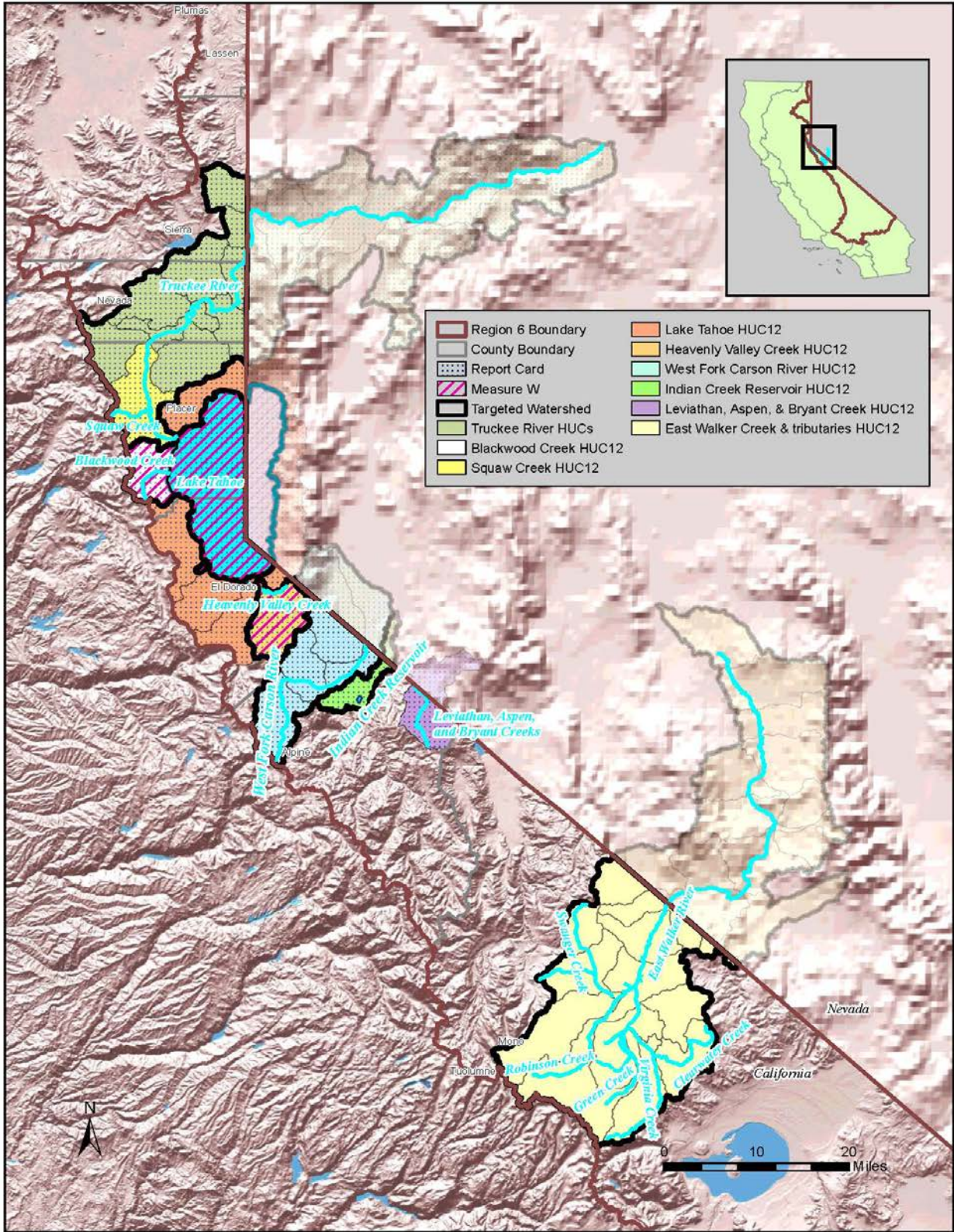


Figure 20. Lahontan Regional Water Board Watersheds for CA NPS Program Reporting



Table 23. Lahontan Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Lake Tahoe (and two select tributaries as listed below)	Sediment	Sediment	Lake Tahoe (April 2011)	Lake Tahoe (April 2025)	Restore Lake Tahoe clarity to depth of 71 feet by 2016.  Lake Tahoe TMDL - Ten percent (10 percent) reduction of Fine Sediment Particles (FSP) from each Urban Jurisdiction by 2016. The basin-wide baseline fine sediment particle load from urban lands (as of 2004) is 3.5E20 particles less than 16 micrometers. The first 5 year implementation milestone is to	Restore Lake Tahoe clarity to depth of 78 feet by 2026 and maintain progress toward clarity goal of depth of 97.4 feet by 2076.	Lake Tahoe - Construction/Land Development; Hydromodification; Recreation Areas and Activities; Urban Runoff; Habitat Modification; Agriculture (grazing); silviculture.	RB6.1: Timber Harvest and Fuels Management (LT)  RB6.4: Healthy Watersheds (LT)

	Heavenly Valley Creek			Heavenly Valley Creek (Sept 2002)	Heavenly Valley Creek (Sept 2021)	<p>reduce that load by 10 percent - down to 2.8E20 particles (a reduction of 3.5E19 particles.</p> <p>Heavenly Valley Creek TMDL - instream total sediment load does not exceed 58 tons/yr as a 5 year rolling average</p>		<p><u>Heavenly Valley Creek</u> - Construction/Land Development; Recreation Area &amp; Activities; Habitat Modification; Hydromodification</p>	
	Blackwood Creek			Blackwood Creek (July 2008).	Blackwood Creek (July 2028)	<p>Blackwood Creek TMDL - the long term average channel sinuosity should be greater than or equal to 1.6 by year 20 following restoration &amp; 80 percent bank stability as measured by standard water</p>		<p><u>Blackwood Creek</u> - Urban Runoff; Construction/Land Development; Agriculture (Range); Hydromodification.</p>	

						quality scientific procedure			
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Methodology Used for Measuring Performance:

Six Lake Tahoe Basin-wide TMDL performance measures (TMDL PMs) that quantify the miles, acres, feet and number of facilities on or for which TMDL implementation activities are undertaken. The six TMDL PMs were selected based on their relevance to lake clarity, their alignment with existing reporting efforts in the Tahoe Basin, and the feasibility of data collection. The six TMDL PMs are 1) miles of roads treated; 2) miles of roads inspected and maintained; 3) miles of roads created; 4) acres of disturbed area restored or enhanced; 5) facilities with stormwater retrofits; 6) linear feet of stream channel restored or enhanced. The year 2004 is the TMDL baseline year during which pollutant loading estimates from each source category will be calculated; 2004 was selected as the baseline year to coincide with the data assessment used in the development of the Pollutant Load Reduction Model.

For Heavenly Valley Creek TMDL, suspended sediment and flow are monitored for calculation of annual load. Annual and Comprehensive Monitoring Reports are submitted to Lahontan Water Board for review as part of the Heavenly Ski Resort, WDRs permit.

For Blackwood Creek TMDL, Annual and Comprehensive Monitoring Reports are submitted to Lahontan Water Board for review as part of the NPDES construction activity stormwater general permit.

Description of Additional Coordinated Implementation Actions:

Urban jurisdictions demonstrate load reductions per the terms of their NPDES permit requirements in California, and Interlocal Agreement (ILA) commitments in Nevada by implementing pollutant controls throughout the year including advanced roadway operations and maintenance practices, stormwater treatment infrastructure to treat runoff from public rights-of-way, and/or best management practices retrofits on public and private parcels. Urban TMDL Implementers include the following public agencies in the Tahoe Basin: California Department of Transportation (Caltrans), City of South Lake Tahoe, Douglas County, El Dorado County, Nevada Department of Transportation (NDOT), Placer County and Washoe County.

Local, state and federal natural resource management agencies operate in the non-urban source categories. These TMDL implementation partners (TMDL Implementers) perform numerous multi-objective land management activities throughout the year, including actions to reduce stormwater runoff and improve surface water quality. Such actions include, but

are not limited to, forest road maintenance and runoff treatment projects, facility retrofits to infiltrate runoff from trailheads, campgrounds, and other developed sites, and land and stream channel restoration and enhancement activities. Non-Urban TMDL Implementers include the following entities: California Department of Parks and Recreation, California Tahoe Conservancy, Diamond Peak Ski Resort (Incline Village General Improvement District), Heavenly Mountain Resort, Homewood Mountain Resort, Nevada Tahoe Resource Team (Nevada Division of State Lands, Nevada Division of State Parks, Nevada Division of Forestry) and U.S. Forest Service Lake Tahoe Basin Management Unit.



						median streambed particle size of 40 mm. as measured by standard water quality scientific procedures	streambed particle size of 40 mm. as measured by standard water quality scientific procedures		
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Methodology Used for Measuring Performance:

The Town of Truckee and Placer County developed the *Truckee River Water Quality Monitoring Plan (TRWMP)* (September 15, 2008) to design a strategy which will allow the County and Town to assess the effectiveness of their ongoing Storm Water Monitoring Programs (SWMPs) with respect to protecting downstream resources. There is a Cooperative Agreement with parties to do monitoring. Annual reports on the TRWMP are submitted to the Lahontan Water Board. Truckee River TMDL compliance is determined by total suspended sediment (TSS) samples measured at least once per month at the California/Nevada state line. Baseline existing conditions were assigned as those as the start of the TMDL development.

Description of Additional Coordinated Implementation Actions:

Coordinated TMDL implementation actions include municipal NPDES Stormwater Permits, the statewide Caltrans permit, WDRs (WDRs) for ski areas and other types of individual projects, Waiver of WDRs for Timber Harvest and Vegetation Management Activities; sediment control BMPs and restoration projects through CWA 319 NPS grants. Examples of specific permits with required control measures for sediment include:

- Placer County 6A310010006 (designated MS4)
- Town of Truckee 6A290712005 (designated MS4)
- Squaw Valley Ski Corporation 6A310118070
- Northstar-at-Tahoe Ski 6A319306003
- Alpine Meadows Ski 6A310003000
- Tahoe Donner Ski Area 6A290009500

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Indian Creek Reservoir	Nutrients	Phosphorus	July 2003	July 2024	0.04 mg/L Total Phosphorus (by 2020) as measured by standard water quality scientific procedures	0.02 mg/L Total Phosphorus (by 2040) as measured by standard water quality scientific procedures	Hydromodification; Habitat Modification; Agriculture; Municipal Wastewater (legacy)	<u>RB6.4: Healthy Watersheds</u> (LT)
<p><u>Methodology Used for Measuring Performance:</u></p> <p>Monitoring data for the Indian Creek Reservoir and tributary waters is collected by the South Tahoe Public Utility District (STPUD). The Regional Water Board does not currently require STPUD to monitor Indian Creek Reservoir in the TMDL, but STPUD does so and submits data to the Regional Water Board as part of the required monthly and annual monitoring reports on its wastewater treatment and disposal activities in the Lake Tahoe Basin and Alpine County. The STPUD maintains its own state certified laboratory. As Indian Creek Reservoir is a completely artificial lake, there are no historic “reference” conditions to be used as a baseline. The year 1999 was the year used to determine for TMDL loading calculations with the final TMDL targets determined by a review of scientific literature related to eutrophication, phosphorus cycling, and lake restoration. The baseline year of 2007 was used based on completion of the TMDL.</p>									

Description of Additional Coordinated Implementation Actions:

Indian Creek Reservoir monitoring is combined by STPUD with its required Waste Discharge Permit monitoring. STPUD also periodically convenes a stakeholder group to help identify sites on public and private lands within the watershed tributary to the irrigation ditch that provides inflow to Indian Creek Reservoir from Indian Creek and the West Fork Carson River needing BMPs (to help improve source water used to maintain the level in the reservoir. Funded in part by a CWA section 319(h) grant, an in-reservoir Oxygen Delivery System (Speece\_Cone), on-site oxygen generation system and underground and submerged utilities connecting the oxygen generator to the Speece Cone were constructed at Indian Creek Reservoir. The construction started in June 2008 and has been operational since late spring 2009. STPUD operates the Hypolimnetic Oxygenation System during the late spring and summer to deliver oxygen for water quality and aquatic improvement by inhibiting TP flux from sediments into water.



Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

Methodology Used for Measuring Performance:

Performance will be determined by compliance with the Region’s Water Quality Control Plan (Basin Plan) water quality objective for fecal bacteria and measured using data collected by grantees and Regional Water Board staff. For grantee sampling, fecal bacteria sampling will be done in accordance with the *Standard Methods for the Examination of Water and Wastewater* (2006) with all analyses done in a certified laboratory. Sampling sites were selected up and downstream of BMPs installed as part of the Proposition 84 Agricultural Water Quality Grant (a.k.a. the “Rivers and Ranches” Grant .) For staff data collection efforts, sampling sites were selected to include a variety of land uses, including residential housing and developed resorts that utilize septic systems for waste disposal, recreation camps that utilize pit toilets and/or closed systems for waste disposal rangelands grazed by livestock (on both federal and nonfederal lands), mixed land uses and several “control sites” with few or no known or potential bacterial discharges. Sites were selected based on ease of access (i.e., highway rights-of-way and/or public lands, and accessible via roads, without long hikes, in order to meet standard 8-hour “holding times” for bacterial analyses. Samples are collected and transported by Water Board staff following standard collection, preservation, and chain-of-custody procedures. All applicable quality assurance and quality control (QA/QC) procedures were followed as specified by the SWAMP mainly at the Region’s in-house laboratory following *Standard Methods for the Examination of Water and Wastewater* (2006). Baseline numbers were established by the 2006 CWA section 303(d) list data.

Description of Additional Coordinated Implementation Actions:

Overall implementation was determined by the Region's Basin Plan section titled *Regional Water Board Control Actions for Livestock Grazing* and by direction from the Regional Water Board in its Grazing Workshop that was part of its October 2006 regular Board meeting. At its Grazing Workshop, the Board generally directed staff to start with watershed-based grazing waivers with a geographic focus, (beginning implementation with the Bridgeport Valley), covering irrigated pasture and non-irrigated rangeland, and watershed data collection, assessment, and monitoring focused on bacteria. Other more specific coordinated implementation actions are detailed in Initiative RB6.2.04. One key action is implementation of Proposition 84 Agricultural Water Quality Grant (a.k.a. the "Rivers and Ranches" Grant.) This grant implements grazing management practices on a cost-sharing basis with a specific implementation project in the West Carson River watershed. Water quality assessment of the effectiveness of these practices is also part of the grant as are outreach activities to promote agricultural best management practices and good stewardship on agricultural lands.

Waterbody -Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
5	East Walker River and select tributaries (Clearwater Creek, Virginia Creek, Green Creek, Long Valley Creek, Summers Creek, Swauger Creek, and Robinson Creek)  (no TMDL)	Pathogens	Coliform bacteria	2006 - based on review of CWA section 303(d) – listed waterbodies & Grazing Workshop at October 2006 Regional Water Board meeting	TBD –	interim standard of 200 FC/100 ml to be attained by 2017 to be statistically determined using log mean during any 30-day sampling period with the log mean ideally based on a minimum of not less than five samples.) as measured by standard water quality scientific procedures	Meet Basin Plan water quality objectives for bacteria( currently 20 FC colonies/per 100 ml but may be modernizing the standard) as measured by standard water quality scientific procedures	Agriculture (grazing); Urban Runoff; Recreation Areas and Activities; waste storage and disposal	<u>RB6.2:</u> Agriculture and Grazing Program (ST/LT)  <u>RB6.3</u> Onsite Wastewater Treatment Systems (ST/LT)

Methodology Used for Measuring Performance

Performance will be determined by compliance with the Region’s Water Quality Control Plan (Basin Plan) water quality objective for fecal bacteria and measured using data collected by dischargers, grantees and Regional Water Board staff. For discharger sampling, methodology (including number, frequency and timing of sampling) is described in detail in the General Conditional Waiver of Water Discharge Requirements for Grazing Operations in the East Walker River Watershed (Bridgeport Valley and Tributaries) of the Lahontan Region (No. R6T-2012-0041 or Bridgeport Waiver). Fecal bacteria sampling will be done in accordance with the *Standard Methods for the Examination of Water and Wastewater* (2006) with all analyses done in a certified laboratory. Sampling sites for the Bridgeport Waiver were selected up and downstream

of each ranching operation covered by the Waiver. For grantee sampling, fecal bacteria sampling will be done in accordance with the *Standard Methods for the Examination of Water and Wastewater* (2006) with all analyses done in a certified laboratory. Sampling sites were selected up and downstream of BMPs installed as part of the Proposition 84 Agricultural Water Quality Grant (a.k.a. the “Rivers and Ranches” Grant .) For staff data collection efforts, sampling sites were selected to include a variety of land uses, including residential housing and developed resorts that utilize septic systems for waste disposal, recreation camps that utilize pit toilets and/or closed systems for waste disposal rangelands grazed by livestock (on both federal and nonfederal lands), mixed land uses and several “control sites” with few or no known or potential bacterial discharges. Sites were selected based on ease of access (i.e., highway rights-of-way and/or public lands, and accessible via roads, without long hikes, in order to meet standard 8-hour “holding times” for bacterial analyses. Samples are collected and transported by Water Board staff following standard collection, preservation, and chain-of-custody procedures. All applicable quality assurance and quality control (QA/QC) procedures were followed as specified by the SWAMP Samples are analyzed mainly at the Region’s in-house laboratory following *Standard Methods for the Examination of Water and Wastewater* (2006). Baseline numbers were established by the 2006 CWA section 303(d) list data.

Description of Additional Coordinated Implementation Actions:

Overall implementation was determined by the Region’s Basin Plan section titled *Regional Water Board Control Actions for Livestock Grazing* and by direction from the Regional Water Board in its Grazing Workshop that was part of its October 2006 regular Board meeting. At its Grazing Workshop, the Board generally directed staff to start with watershed-based grazing waivers with a geographic focus, (beginning implementation with the Bridgeport Valley), covering irrigated pasture and non-irrigated rangeland, and watershed data collection, assessment, and monitoring focused on bacteria. Other more specific coordinated implementation actions are detailed in Initiative RB6.2.02 and RB6.2.04 One key action is implementation of the Bridgeport Waiver to determine progress toward meeting the interim water quality standard for bacteria. Another important action is implementation of the Rivers and Ranches Grant. This grant implements grazing management practices on a cost-sharing basis with specific implementation projects in the Swauger Creek tributary. Water quality assessment of the effectiveness of these practices is also part of the grant as are outreach activities to promote agricultural best management practices and good stewardship on agricultural lands.

## 7. Colorado River Basin Regional Water Board

As previously discussed, the priority NPS priority pollutant categories for the Colorado River Basin Region are: (1) nutrients, (2) pathogens, (3) pesticides, (4) trash, (5) sediment, and (6) soluble material causing low dissolved oxygen (biological oxygen demand (BOD) and ammonia). The Colorado River Basin Regional Water Board has developed and /or updated a total of seven Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Alamo River – Sediment (2012)
2. Coachella Valley Stormwater Channel – Bacteria (2013)
3. Imperial Valley Drains – Sediment (2012)
4. New River – Dissolved oxygen (2013)
5. New River – Pathogens (2011)
6. New River – Sediment (2012)
7. New River – Trash (2013)

For the purpose of measuring the performance of the Regional Water Board's NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following "targeted waterbody-pollutant combinations" will be assessed and reported on:

1. Alamo River – Endosulfan
2. Alamo River – Sediment
3. Imperial Valley Drains – Endosulfan
4. Imperial Valley Drains – Sediment
5. New River – Copper and zinc
6. New River – Diazanone and hexachlorobenzene
7. New River – Sediment
8. New River (International Border) – Pathogens

Figure 22 and Table 24 provide the previously discussed information for the Colorado River Regional Water Board.

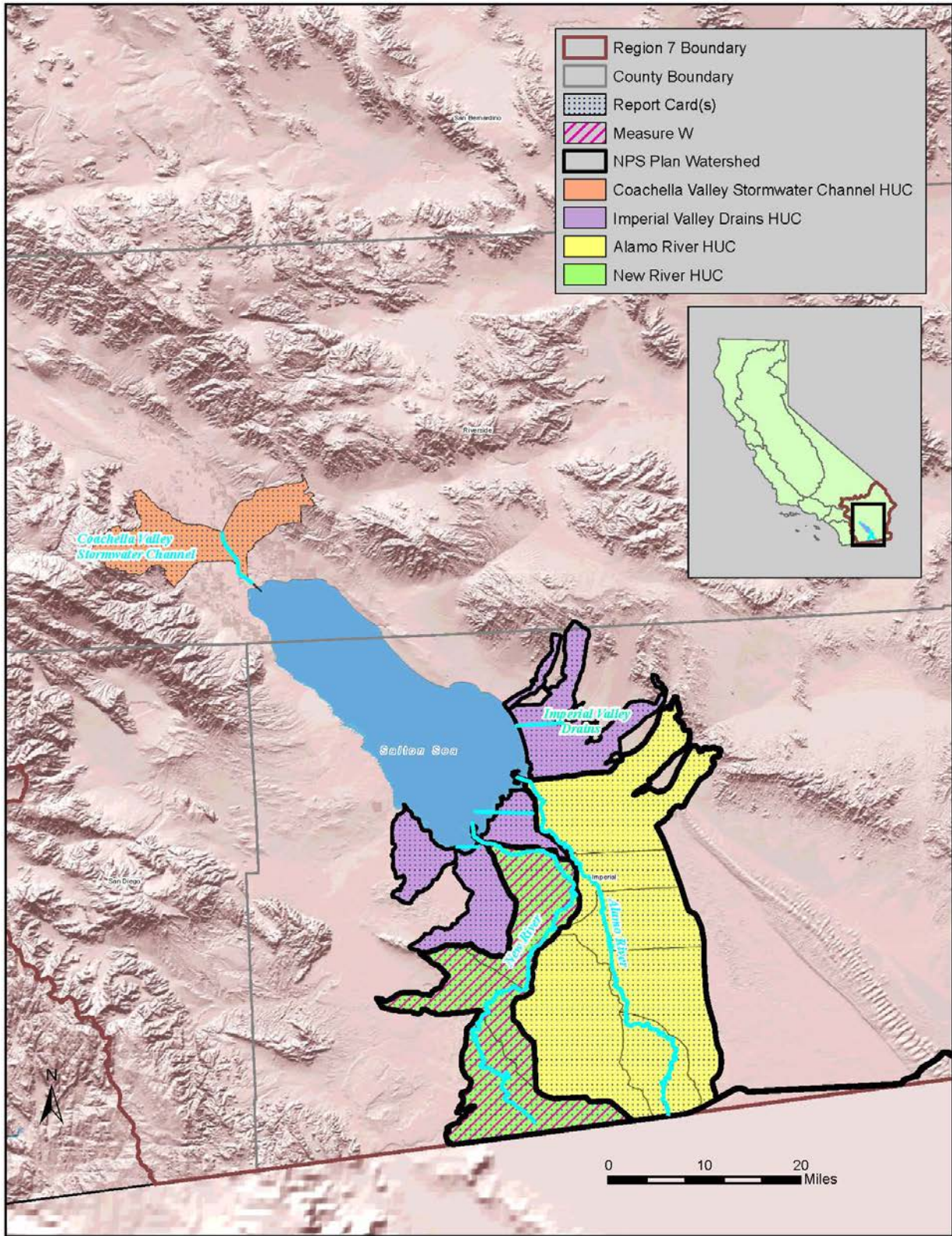


Figure 21. Colorado River Regional Water Board for CA NPS Program Reporting

**Table 24. Colorado River Basin Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations**

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

Methodology Used for Measuring Performance:

Pathogens – (a) The measures of performance are:

**TMDL Waste Load Allocations/Load Allocations**

Indicator Parameter	WLAs and LAs	
	30-Day Log Mean <sup>a</sup>	Maximum
Fecal Coliforms	200 MPN <sup>b</sup> /100ml	c
E. coli	126 MPN/100 ml	400 MPN/100 ml
Enterococci	33 MPN/100 ml	100 MPN/100 ml

- a. Based on a minimum of no less than 5 samples equally spaced over a 30-day period.
- b. Most probable number.
- c. No more than 10 percent of total samples during any 30-day period shall exceed 400 MPN/100 ml.

(b) The baseline established by the TMDL ranged from 30,000 to 16,000,000 MPN/100 ml fecal coliform concentrations during a 12 month sampling in the New River at the International Boundary. The average of all data from 2000 is 777,500 MPN/100 ml fecal coliform (c) The New River was sampled for fecal coliform and E.coli by the Regional Water Board at 4 locations monthly after TMDL approval as resources allowed. SWAMP did some monitoring in 2013-14. The monthly sampling will resume in early 2016 by Imperial Irrigation District under the Imperial Valley Agricultural Waiver program. Also the US Section of the International Boundary and Water Commission (US IBWC) monitors fecal coliform monthly at the International Boundary for at least 10 years. (d) The reduction of pathogen load will be evaluated monthly in approximately 4 locations along the river. IID is working on the Monitoring Plan and QAPP at this time and the sampling locations are unknown at this time. IBWC continues with the monthly monitoring at the International Boundary.

Description of Additional Coordinated Implementation Actions:

Agriculture was not determined to be a source of pathogens to the New River. Five NPDES permitted facilities discharging municipal wastewater installed disinfection operation: The City of Brawley WWTP, Seeley County Water District WWTP, Date Gardens Mobile Home Park WWTP, City of Westmorland WWTP, McCabe Union School District WWTP. Therefore, all point source dischargers discharging waste with bacteria into the New River and/or surface waters tributary to the New River have disinfection operation and are monitored monthly according their permits. All CAFOS are enrolled in the new CAFO permit and are inspected every year. RB staff works with dischargers to obtain funding to repair-upgrade.

Regional Water Board staff participates in the Binational Technical Committee for the New River/Mexicali Sanitation Program and the Binational Observation Tours of New River in Mexicali. Also staff coordinates with the monthly International Boundary and Water Commission water quality samplings.

The US IBWC and U.S. EPA - Improvements in wastewater treatment reducing the amount of sewage from Mexico (\$84.5 million):

- 11 emergency repairs (\$7.5 million);
- Mexicali I Projects (\$51 million): sewer main rehabilitated (~20 miles), telemetry equipment;



- Las Arenitas WWTP (\$26 million): 20 million gallons/day pumping plant, force main, treatment plant;
- Binational Monitoring Program.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	Alamo River	Sediments	Total Suspended Solids	June 2001 for RB adoption of sediment TMDLs.	June 2015 for sediments prescribed in the TMDL.	Forty two (42) percent reduction of total suspended solids from the initial loading (baseline) of the TMDL that is equivalent to a concentration of 219 mg/L TSS. The baseline is 377 mg/L TSS.	Forty seven (47) percent reduction of total suspended solids from the initial loading (baseline) of the TMDL that is equivalent to a concentration of 200 mg/L TSS. The baseline is 377 mg/L TSS.	Agriculture	<u>RB7.1.3:</u> Implement Irrigated Lands Regulatory Program (Irrigated Lands Program) waiver. (ST/LT)

Methodology Used for Measuring Performance:

Sediment – (a) the performance measure is the numeric target of 200 mg/L of Total Suspended Solids (TSS) required by the Alamo River Sediment TMDL. (b) The baseline established by the TMDL is the Alamo River 1980-2000 average concentration of 377 mg/L TSS. (c) The Alamo River was sampled by the Regional Water Board at 5 locations monthly after TMDL approval as resources allowed. The monthly sampling will be resumed in early 2016 by Imperial Irrigation District under the Imperial Valley Agricultural Waiver program. (d)

The reduction of sediment will be evaluated monthly at least in 5 locations along the river. IID and the Imperial Valley Agricultural Coalition are working on the Monitoring Plan and QAPP at this time.

Description of Additional Coordinated Implementation Actions:

Alamo River Sediment TMDL - Farmers may submit Sediment Control Programs (SCPs) to RB individually or as a part of a group program under the TMDL. All have chosen to participate in Imperial County Farm Bureau (ICFB) group program. SCPs are due by September 28 of each year. ICFB hold 9 annual drainshed meetings to provide education and outreach. IID implement Drain Water Quality Improvement Program (DWQIP) to control drain non-point sources from the dredging activities. Fourteen NPDES permittees in the Alamo River Watershed were identified and assigned sediment WLAs. WLAs are double the Effluent Limit to allow for facility expansion. RB staff works with dischargers to obtain implementation funding resources.

SWAMP contributes to the RB monitoring of sediments.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Imperial Valley Drains	Sediments	Total Suspended Solids	January 2005 for RB adoption of sediment TMDLs.	September 2015 for sediments prescribed in the TMDL.	Forty seven (47) percent reduction of total suspended solids from the initial loading (baseline) of the TMDL that is equivalent to a concentration of 222 mg/L TSS. The baseline is 418 mg/L TSS.	Fifty two (52) percent reduction of total suspended solids from the initial loading (baseline) of the TMDL that is equivalent to a concentration of 200 mg/L TSS. The baseline is 418 mg/L TSS.	Agriculture	<u>RB7.1.3</u> : Implement Irrigated Lands Regulatory Program (Irrigated Lands Program) waiver. (ST/LT)

Methodology Used for Measuring Performance:

Sediment – (a) the performance measure is the numeric target of 200 mg/L of Total Suspended Solids (TSS) required by Imperial Valley Drains Sediment TMDL. (b) The baseline established by the TMDL is the Imperial Valley Drains 2002 average concentration of 418 mg/L TSS. (c) The Imperial Valley Drains were sampled at 3 locations monthly after TMDL approval as resources allowed. The monthly sampling will be resumed in early 2016 by Imperial Irrigation District under the Imperial Valley Agricultural Waiver program. (d) The reduction of sediment will be evaluated monthly in at least 3 locations in the Imperial Valley Drains. IID and the Imperial Valley Agricultural Coalition are working on the Monitoring

Plan and QAPP at this time.

Description of Additional Coordinated Implementation Actions:

Imperial Valley Drains Sediment TMDL - Farmers may submit Sediment Control Programs (SCPs) to RB individually or as a part of a group program under the TMDL. All have chosen to participate in Imperial County Farm Bureau (ICFB) group program. SCPs are due by September 28 of each year. ICFB hold 9 annual drainshed meetings to provide education and outreach. IID implement Drain Water Quality Improvement Program (DWQIP) to control drain non-point sources from the dredging activities. RB staff works with dischargers to obtain implementation funding resources.

There are no NPDES permittees in the Imperial Valley Drains Watershed.

SWAMP contributes to the RB monitoring of sediments.

Waterbody- Pollutant Combination  Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)				
						4	New River	Sediments	Total Suspended Solids

Methodology Used for Measuring Performance:

Sediment – (a) the performance measure is the numeric target of 200 mg/L of Total Suspended Solids (TSS) required by the New River Sediment TMDL. (b) The baseline established by the TMDL is the New River 1980-2001 average concentration of 306 mg/L TSS. (c) The New River was sampled at 4 locations monthly after TMDL approval as resources allowed. The monthly sampling will be resumed in early 2016 by Imperial Irrigation District under the Imperial Valley Agricultural Waiver program. (d) The reduction of sediment will be evaluated

monthly in at least 4 locations along the river starting in 2016. IID and the Imperial Valley Agricultural Coalition are working on the Monitoring Plan and QAPP at this time.

Description of Additional Coordinated Implementation Actions:

New River Sediment TMDL - Farmers may submit Sediment Control Programs (SCPs) to RB individually or as a part of a group program under the TMDL. All have chosen to participate in Imperial County Farm Bureau (ICFB) group program. SCPs are due by September 28 of each year. ICFB hold 9 annual drainshed meetings to provide education and outreach. IID implement Drain Water Quality Improvement Program (DWQIP) to control drain non-point sources from the dredging activities. Eight NPDES permittees in the New River Watershed were identified and assigned sediment WLAs. WLAs are double the Effluent Limit to allow for facility expansion. RB staff works with dischargers to obtain implementation funding resources.

SWAMP contributes to the RB monitoring of sediments.

## 8. Santa Ana Regional Water Board

The priority NPS pollutant categories for the Santa Ana Region are: (1) sediment, (2) nutrients, (3) pathogens, and (4) metals. The Santa Ana Regional Water Board has developed and /or updated a total of eight Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Canyon Lake – Nutrients (2013)
2. Lake Elsinore – Nutrients (2013)
3. Rhine Channel (Lower Newport Bay) Metals, Organics – (2012)
4. Newport Bay Metals – (2013)
5. Newport Bay – Nutrients (2011)
6. Newport Bay/San Diego Creek – Diazinon (2012)
7. Newport Bay/San Diego Creek – Metals and organics (2012)
8. Santa Ana River (Middle) – Bacteria indicators (2012)

For the purpose of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Big Bear Lake – Total phosphorus
2. Canyon Lake – Total nitrogen and phosphorus
3. Elsinore Lake – Total nitrogen and phosphorus
4. Newport Bay/San Diego Creek – Sediment

Figure 23 and Table 25 provide the previously discussed information for the Santa Ana Regional Water Board.



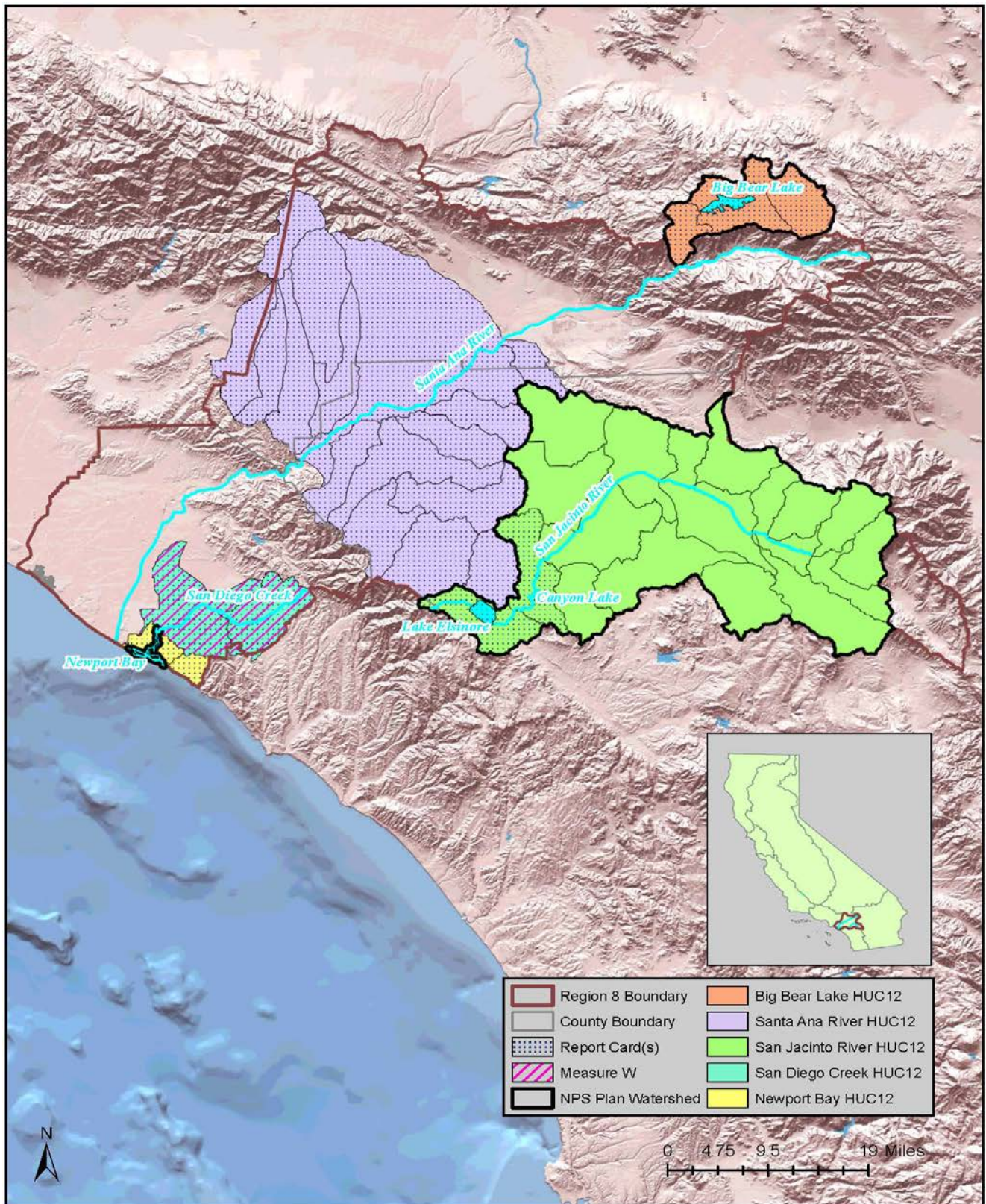


Figure 22. Santa Ana Regional Water Board Watersheds for CA NPS Program Reporting

Table 25. Santa Ana Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainmen t Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Big Bear Lake	Nutrients	Total Phosphoru s	Aug- 2007	Dec-2015	Total P concentratio ns no greater than 35 µg/L  Chlorophyll <i>a</i> concentratio n growing season average no greater than 10 µg/L	Total phosphorus concentration annual average no greater than 20 µg/L  Total nitrogen concentration annual average no greater than 1000 µg/L  Macrophyte coverage 30-60 percent on a total area basis  95 percent eradication on a total area basis of Eurasian water mifoil and any other invasive aquatic plant species	Forestry	RB8.2 – (ST/LT)  USFS WDR  Establish new WDR / Conditional Waivers  Revise existing WDRs  Review/Revise site-specific Water Quality Objectives for Big Bear Lake  Review collected data on beneficial use impairment from nutrients in Rathbun Creek, Summit Creek, and Grout Creek and assess whether TMDLs need to be developed  Utilize new monitoring data and model simulations to establish load and wasteload allocations for wet and average hydrological periods and/or to revise the dry weather nutrient TMDLs.  Conduct atmospheric deposition studies

							Chlorophyll <i>a</i> concentration growing season average no greater than 5.0 µg/L		
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Methodology Used for Measuring Performance:

Performance will be measured by collecting water samples and comparing them to the performance measures.

Description of Additional Coordinated Implementation Actions:

External nutrient dischargers participate in the development of internal sediment loading control measures and macrophyte reduction / aquatic plant management programs.

Parties continue to conduct watershed and in-lake monitoring, which will be used to refine the dry condition TMDLs and to develop TMDLs for wet and average hydrologic conditions.

Parties participate in programs designed to refine the watershed and in-lake nutrient models and develop a multimetric index for Big Bear Lake.

Additionally, special studies will be conducted including the in-lake treatment of sediment to remove nutrients and the watershed nutrient model will be updated/revised as additional data are generated. The identified responsible parties will develop and implement an aquatic plant management plan and will develop a multimetric index for Big Bear Lake.

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainme nt Date (Month- Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
2	Canyon Lake and Lake Elsinore	Nutrients	Total Nitrogen	Dec-2004	Dec-2020	10-yr. Running Average TN TMDL is 37,735 kg/yr for Canyon Lake and 239,025 kg/yr for Lake Elsinore		Open Space, Urban, Agriculture	RB8.1 - Develop CWAD for the San Jacinto River watershed and enroll agricultural operators once Waiver is adopted. [ST/LT]
									RB8.1 - Conduct outreach or compliance inspections of enrolled dischargers. [ST/LT]
									RB8.1 - Implemented a Nutrient Water Quality Monitoring Program.  Agricultural operators developed a nutrient management plan which is under review pending adoption of the Regional Water Board CWAD.  Urban sources have revised and implemented Comprehensive Nutrient Reduction Plans and Drainage Area Management Plans for MS4 permit compliance. Task force members have installed and operate a mixing and aeration system in Lake Elsinore designed to maintain DO levels in the lake, and to reduce the release of P

									<p>bound to lake bottom sediments. In addition, task force members have evaluated the effectiveness of alum treatment to bind dissolved P and sequester it in Canyon Lake sediments. The task force is in the process of developing/revising Canyon Lake and Lake Elsinore watershed and in-lake models to assist in the revision of the LAs and WLAs, given new data that has become available since the TMDL adoption.</p> <p>[ST/LT]</p>
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Methodology Used for Measuring Performance:

Lake wide monitoring programs have been developed for both Lake Elsinore and Canyon Lake that measure TN, TP, ammonia, chlorophyll a, and dissolved oxygen to determine compliance with the numeric targets and load allocations established in the TMDL. Assuring compliance with the numeric targets and load allocations will ensure compliance with the Basin Plan objectives that are designed to maintain and protect beneficial uses.

Description of Additional Coordinated Implementation Actions:

None

Waterbody- Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month- Year)	Attainme nt Date (Month- Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
3	Canyon Lake and Lake Elsinore	Nutrients	Total Phosphorou s	Dec-2004	Dec. 2020	10-yr. Running Average TP TMDL is 8,691 kg/yr for Canyon  Lake and 28,584 kg/yr for Lake Elsinore		Open Space, Urban, Agriculture	RB8.1 - Develop CWAD for the San Jacinto River watershed and enroll agricultural operators once Waiver is adopted. [ST/LT]
									RB8.1 - Conduct outreach or compliance inspections of enrolled dischargers. [ST/LT]
									RB8.1 - Implemented a Nutrient Water Quality Monitoring Program, agricultural operators developed nutrient management plans, urban sources have revised and implemented the Drainage Area Management Plan, installed and operate a mixing and aeration system in Lake Elsinore to reduce TN and TP in the sediments and other loads, evaluated the effectiveness of alum treatment to fix phosphorous in Canyon Lake sediments, developed and modified watershed, Canyon Lake and Lake Elsinore models to assist in the revision of the LAs and WLAs [ST/LT]

Methodology Used for Measuring Performance:

Lake wide monitoring programs have been developed for both Lake Elsinore and Canyon Lake that measure TN, TP, ammonia, chlorophyll a, and dissolved oxygen to determine compliance with the numeric targets and load allocations established in the TMDL. Assuring compliance with the numeric targets and load allocations will ensure compliance with the Basin Plan objectives that are designed to maintain and protect beneficial uses.

Description of Additional Coordinated Implementation Actions:

None.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
4	Newport Bay/San Diego Creek watershed	Sediment	Sediment	April 1999	April 2009	Maintain 50 percent available storage capacity levels in San Diego Creek watershed in-channel and foothill basins.  Reduce	Upper Newport Bay existing aquatic and wildlife habitat acreages not changed by more than 1 percent as the result of sediment	Streambank erosion  Downstream streambed aggradation  Hydromodification	RB8.3 - Sediment TMDL Regional Monitoring Program (RMP) ST/LT  RB8.3 - Annual Reporting of watershed in-channel and foothill sediment basins at least 50 percent design capacity ST

						annual average sediment load from 250,000 tons/year to 125,000 tons/year to reduce sediment load to Upper Newport Bay to 62,500 tons/year.	deposition.		
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Methodology Used for Measuring Performance:

The NB/SDC sediment TMDL specifies: Compliance determined with short-term targets by calculating the annual average amount of suspended solids measured in SDC at Jamboree Boulevard and Campus Drive over a ten year period, and by evaluating the scour studies of the creek channels and topographic surveys of all the sediment control basins in the watershed to estimate the amount of deposition as a 10 year running annual average to account for variance in weather and other conditions.

Compliance measurement of short and long-term targets by conducting bathymetric and scour studies to establish actual sediment deposition in Newport Bay and SDC channels, determine compliance with 50 percent reduction target & accuracy of monitoring data.

Additionally, this project will aid in reducing sediment-bound pollutants including nutrients and organochlorine compounds. These are separate waterbody-pollutant listings on the CWA section 303d list that have approved TMDLs.

Description of Additional Coordinated Implementation Actions:

The County of Orange and the Santa Ana Regional Water Board are members of the Stormwater Monitoring Coalition (SMC), a Southern CA organization that works cooperatively to develop technical information to better understand stormwater mechanisms and impacts, and then develop appropriate decision tools that will effectively and efficiently improve stormwater decision-making. The SMC has funded projects to evaluate hydromodification, sediment load reduction, and ecological condition assessments. See [ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/639\\_SMC\\_StreamsYear1.pdf](ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/639_SMC_StreamsYear1.pdf) and [http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/828\\_SMCResearchAgenda.pdf](http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/828_SMCResearchAgenda.pdf).



## 9. San Diego Regional Water Board

As previously discussed, the priority NPS priority pollutant categories for the San Diego Region are: (1) sediment, (2) nutrients, (3) metals, (4) bacteria, and (5) pesticides. The San Diego Regional Water Board has developed and /or updated a total of six Report Cards. Existing Report Cards and the year of their last update in parentheses are listed below:

1. Baby Beach in Dana Point Harbor – Bacteria (2012)
2. Shelter Island – Bacteria (2012)
3. Chollas Creek – Diazinon (2011)
4. Shelter Island Yacht Basin – Dissolved copper (2013)
5. Rainbow Creek – Nutrients (2012)
6. San Diego Bay – PCB contaminated sediment (2013)

For purposes of measuring the performance of the Regional Water Board’s NPS program activities for the planning periods ending in 2020 (short term) and 2040 (long term), the following “targeted waterbody-pollutant combinations” will be assessed and reported on:

1. Rainbow Creek – Total nitrogen
2. Rainbow Creek – Total phosphorus

Figure 24 and Table 26 provide the previously discussed information for the San Diego Regional Water Board.

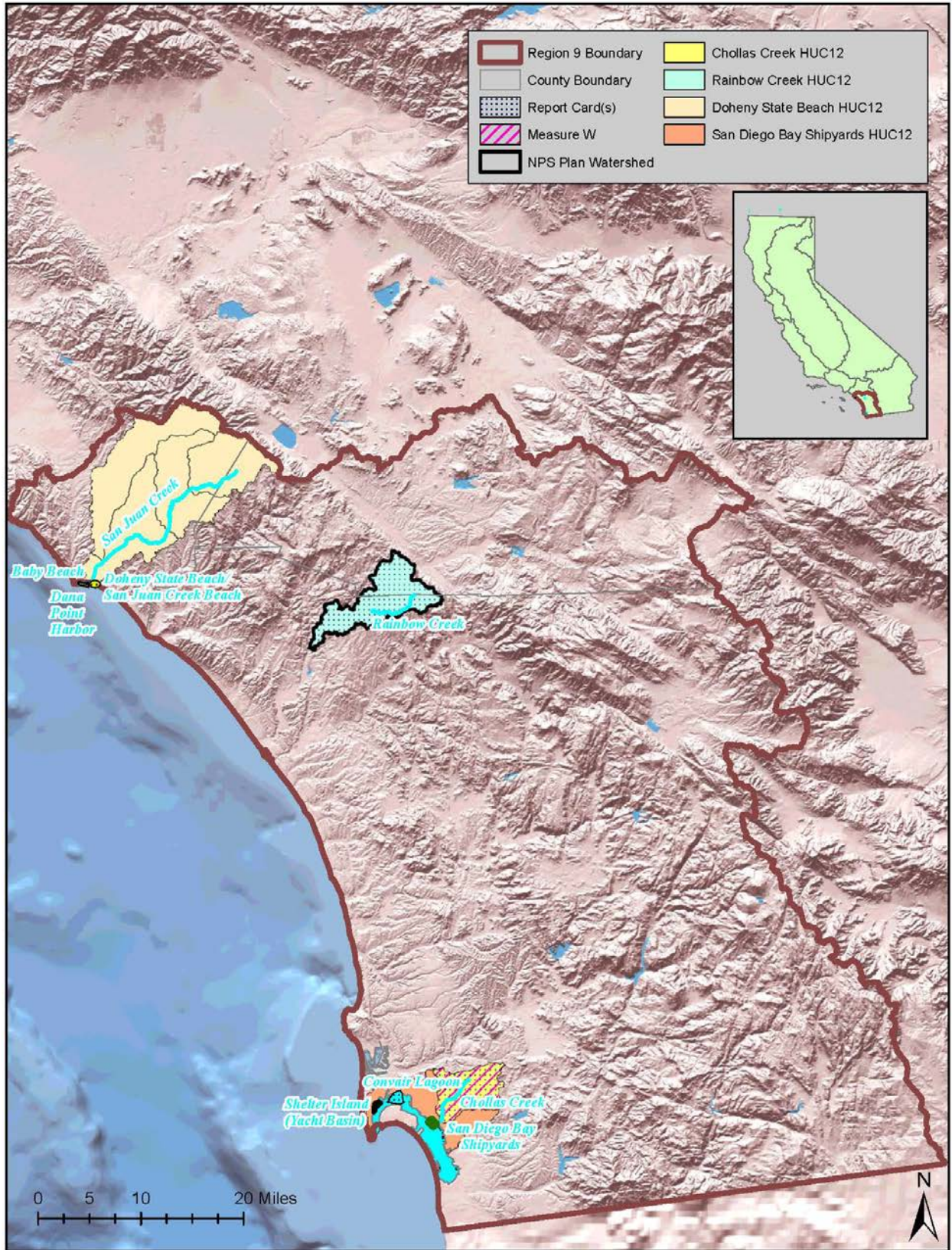


Figure 23. San Diego Regional Water Board Watersheds for CA NPS Program Reporting

Table 26. San Diego Regional Water Quality Control Board Targeted Waterbody-Pollutant Combinations

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions
1	Rainbow Creek	Nutrients	Total nitrogen	3/22/2006	12/31/2021	ST by 2021: achieve an annual load of total nitrogen of 1,658 kg/yr by 2021, reduced from 3,834 kg/yr in 2005. The 1,658 kg/yr loading of total nitrogen will not cause the current water quality objective for total	LT by 2040: Maintain target of annual load of 1,658 kg/yr.	Agriculture; septic tanks; and freeway runoff	<p>RB9.1.1: Adopt general waste discharge requirements for agricultural and nursery operations (General Ag WDRs) applicable throughout the San Diego Region by December 31, 2015, to achieve both ST and LT performance measures.</p> <p>RB9.1.2: Complete projects associated with NPS grant No: 12-412-559 by June 30, 2016, to reduce the nonpoint source nutrient loading from agricultural and residential properties and septic systems to achieve both ST and LT performance measures.</p>

						nitrogen of 1mg/L to be exceeded			
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**Methodology Used for Measuring Performance:** The final performance measures for nitrogen and phosphorus are based on the Rainbow Creek Total Nitrogen and Total Phosphorus Total Maximum Daily Loads (Rainbow Creek TMDLs; [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/tmdls/rainbowcreek.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/rainbowcreek.shtml)). The waste load allocations in the Rainbow Creek TMDLs were based on the water quality objectives assigned to the Rainbow Creek Watershed. Data used as the basis for the development of the Rainbow Creek TMDLs and as a means of monitoring progress in attaining ST and LT performance measures is gathered by the County of San Diego. The County has more than twelve monitoring stations to monitor total nitrogen and total phosphorus monthly. The General Ag WDRs may expand the number of stations being monitored in the Rainbow Creek Watershed.

**Description of Additional Coordinated Implementation Actions:** In accordance with the San Diego Regional Municipal Separate Storm Sewer System (MS4) Permit ([http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/stormwater/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/index.shtml)), a number of agencies, including the County of San Diego, the State of California, Department of Transportation (CALTRANS), the State of California, Department of Forestry and Fire Protection (CDFFP) are required to coordinate with each other to control MS4 discharges to Rainbow Creek, to develop and implement a Nutrient Reduction and Management Plan, to develop and implement a Groundwater Investigation and Characterization Workplan, and to perform water quality monitoring. The General Ag WDRs will require that the agricultural community also participate in cleanup efforts.

Waterbody-Pollutant Combination Reference No.	Waterbody - Pollutant Combination					Performance Measure		Regional Water Board NPS Program Initiative Implementation Actions	
	Waterbody	Pollutant Category	Targeted Pollutant	Effective Date (Month-Year)	Attainment Date (Month - Year)	Short Term Performance Measure (ST) by 2020	Long Term Performance Measure (LT) by 2040	NPS Pollutant Land Use Activity Category	Implementation Actions

2	Rainbow Creek	Nutrients	Total phosphorus	3/22/2006	12/31/2021	<p>ST by 2021: achieve an annual load of 165 kg/yr of total phosphorus by 2021, reduced from 394 kg/yr in 2005. The 165 kg/yr loading of total phosphorus will not cause the current water quality objective for total phosphorus of 0.1mg/L to be exceeded.</p>	<p>LT by 2040: Maintain target of annual load of 165 kg/yr.</p>	<p>Agriculture; septic tanks; and freeway runoff</p>	<p>RB9.1.1: Adopt General Ag WDRs applicable throughout the San Diego Region by December 31, 2015, to achieve both ST and LT performance measures.</p> <p>RB9.1.2: Complete projects associated with NPS grant No: 12-412-559 by June 30, 2016, to reduce the NPS nutrient loading from agricultural and residential properties and septic systems to achieve both ST and LT performance measures.</p>
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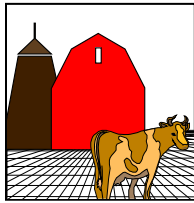
**Methodology Used for Measuring Performance:** The final performance measures for total nitrogen and total phosphorus are based on the Rainbow Creek Total Nitrogen and Total Phosphorus Total Maximum Daily Loads (Rainbow Creek TMDLs; [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/tmdls/rainbowcreek.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/rainbowcreek.shtml)). The wasteload allocations in the Rainbow Creek TMDLs were based on the current water quality objectives assigned to the Rainbow Creek Watershed. Data used as the basis for the development of the Rainbow Creek TMDLs and as a means of monitoring progress in attaining ST and LT performance measures is gathered by the County of San Diego. The County has more than twelve monitoring stations to monitor total nitrogen, total phosphorus, and flow monthly in Rainbow Creek and its tributaries. The County of San Diego also does the trend analysis for the monitoring data. The General Ag WDRs may expand the number of stations being monitored in the Rainbow Creek Watershed.

Description of Additional Coordinated Implementation Actions: In accordance with the San Diego Regional Municipal Separate Storm Sewer System (MS4) Permit ([http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/stormwater/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/stormwater/index.shtml)), a number of agencies, including the County of San Diego, the State of California, Department of Forestry and Fire Protection (CDFFP) are required to coordinate with each other to control MS4 discharges to Rainbow Creek. In the Rainbow Creek Watershed, the California Department of Forestry and Fire Protection (CDFFP) implemented a Nutrient Reduction and Management Plan, monitored the depth of groundwater, and performed water quality monitoring. This Nutrient Reduction and Management Plan performance measures for total nitrogen and total phosphorus in the Rainbow Creek Watershed. The General Ag WDRs will require that the agricultural community also participate in c

# Appendices

## Appendix A: California Management Measures for Polluted Runoff

### Agriculture



The SWRCB, CCC, and other State agencies have identified seven management measures to address agricultural NPSs of pollution that affect State waters. The agricultural management measures include practices and plans installed under various NPS programs in California, including systems of practices commonly used and recommended by the USDA as components of RMS, WQMPs, and Agricultural Waste Management Systems. These RMSs are planned by individual farmers and ranchers using an objective-driven planning process outlined in the NRCS National Planning Procedures Handbook. The RMSs are designed to achieve sustainable use of the different natural resource areas—soil, water, air, plants, animals, and human considerations.

According to U.S. EPA (1993), agriculture contributes more than half of the pollution entering the Nation's water bodies; recent studies have identified it as the greatest source of water pollution in the United States. The primary agricultural NPS pollutants are nutrients, sediment, animal wastes, pesticides, and salts. Agricultural activities may also affect habitat through physical disturbances caused by livestock or equipment or through the management of water.

California's management measures to address agricultural sources of NPS pollution in California:

- 1A. Erosion and Sediment Control
- 1B. Facility Wastewater and Runoff from Confined Animal Facilities
- 1C. Nutrient Management
- 1D. Pesticide Management
- 1E. Grazing Management
- 1F. Irrigation Water Management
- 1G. Education/Outreach

### Management Measures:

**Erosion and Sediment Control.** Management measures 1A addresses NPS problems associated with soil erosion and sedimentation. Where erosion and sedimentation from agricultural lands affect coastal waters and/or State's inland water bodies, landowners shall design and install or shall apply a combination of practices to reduce solids and associated pollutants in runoff during all but the larger storms. Alternatively, landowners may apply the erosion component of an RMS as defined in the NRCS FOTG. The NRCS FOTG contains standards and specifications for installing these practices.

**Facility Wastewater and Runoff from Confined Animal Facilities.** Pursuant to management measures 1B, facility wastewater and contaminated runoff from confined animal facilities must be contained at all times. Storage facilities should be of adequate capacity to allow for proper wastewater use and should be constructed so they prevent seepage to ground water, and stored runoff and accumulated solids from the facility shall be managed through a waste use system that is consistent with management measures 1C or shall be removed from the site.

**Nutrient Management.** Management measures 1C addresses the development and implementation of comprehensive nutrient management plans for areas where nutrient runoff is a problem affecting coastal waters and/or water bodies listed as impaired by nutrients. Such plans would include: (1) a plant tissue analysis to determine crop nutrient needs; (2) crop nutrient budget; (3) identification of the types, amounts, and timing of nutrients necessary to produce a crop based on realistic crop yield expectations; (4) identification of hazards to the site and adjacent environment; (5) soil sampling and tests to determine crop nutrient needs; and (6) proper calibration of nutrient equipment. When manure from confined animal facilities is to be used as a soil amendment and/or is disposed of on land, the plan shall discuss steps to assure that subsequent irrigation of that land does not leach excess nutrients to surface or ground water.

**Pesticide Management.** Implementation of management measures 1D is intended to reduce contamination of surface water and ground water from pesticides. Implementation of this measure will primarily occur through cooperation with the CDPR as provided in a MAA with the SWRCB. Elements of this measure include: (1) development and adoption of reduced risk pest management strategies (including reductions in pesticide use); (2) evaluation of pest, crop, and field factors; (3) use of Integrated Pest Management (IPM); (4) consideration of environmental impacts in choice of pesticides; (5) calibration of equipment; and (6) use of anti-backflow devices. IPM is a key component of pest control. IPM strategies include evaluating pest problems in relation to cropping history and previous pest control measures and applying pesticides only when an economic benefit will be achieved. When used, pesticides should be selected based on their effectiveness to control target pests and environmental impacts such as their persistence, toxicity, and leaching potential.

**Grazing Management.** Management measures 1E is intended to protect sensitive areas (including streambanks, lakes, wetlands, estuaries, and riparian zones) by reducing direct loadings of animal wastes and sediment. This may include restricting or rotationally grazing livestock in sensitive areas by providing fencing, livestock stream crossings, and locating salt, shade, and alternative drinking sources away from sensitive areas. Upland erosion can be reduced by, among other methods: (1) maintaining the land consistent with the California Rangeland WQMP or BLM and Forest Service activity plans or (2) applying the range and pasture components of an RMS (NRCS FOTG). This may include prescribed grazing, seeding, gully erosion control, such as grade stabilization structures and ponds, and other critical area treatment.

**Irrigation Water Management.** Management measures 1F promotes effective irrigation while reducing pollutant delivery to surface and ground waters. Pursuant to this measure, irrigation water would be applied uniformly based on an accurate measurement of crop water needs and the volume of irrigation water applied, considering limitations raised by such issues as water rights, pollutant concentrations, water delivery restrictions, salt control, wetland, water supply,

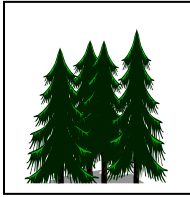


and frost/freeze temperature management. Additional precautions would apply when chemicals are applied through irrigation.

**Education/Outreach.** The goals of management measures 1G are to implement pollution prevention and education programs to reduce NPS pollutants generated from the following activities where applicable:

1. Activities that cause erosion and loss of sediment on agricultural land and land that is converted from other land uses to agricultural land;
2. Activities that cause discharge from confined animal facilities to surface waters;
3. Activities that cause excess delivery of nutrients and/or leaching of nutrients;
4. Activities that cause contamination of surface water and ground water from pesticides;
5. Grazing activities that cause physical disturbance to sensitive areas and the discharge of sediment, animal waste, nutrients, and chemicals to surface waters;
6. Irrigation activities that cause NPS pollution of surface and ground waters.

## Forestry



There are 12 management measures to address various phases of forestry operations relevant to controlling NPSs of pollution that affect State waters. The forestry management measures are for the most part a system of practices used and recommended by the BOF and CDF in rules or guidance.

Silviculture contributes pollution to 17 percent of the polluted rivers and 21 percent of the polluted lakes in California (SWRCB, 1996). Without adequate controls, forestry operations may degrade the characteristics of waters that receive drainage from forest lands. For example (1) sediment concentrations can increase due to accelerated erosion, (2) water temperatures can increase due to removal of over-story riparian shade, (3) dissolved oxygen can be depleted due to the accumulation of slash and other organic debris, and (4) concentrations of organic and inorganic chemicals can increase due to harvesting and fertilizers and pesticides.

California's MMs to address silvicultural sources of nonpoint pollution:

- 2A. Preharvest Planning
- 2B. Streamside Management Areas
- 2C. Road Construction/Reconstruction
- 2D. Road Management
- 2E. Timber Harvesting
- 2F. Site Preparation/Forest Regeneration
- 2G. Fire Management
- 2H. Revegetation of Disturbed Areas
- 2I. Forest Chemical Management
- 2J. Wetlands Forest
- 2K. Postharvest Evaluation
- 2L. Education/Outreach

### Management Measures:

**Preharvest Planning.** Silvicultural activities shall be planned to reduce potential delivery of pollutants to surface waters. Components of management measures 2A address aspects of forestry operations, including: the timing, location, and design of harvesting and road construction; site preparation; identification of sensitive or high-erosion risk areas; and the potential for cumulative water quality impacts.

**Streamside Management Areas (SMAs).** SMAs protect against soil disturbance and reduce sediment and nutrient delivery to waters from upland activities. management measures 2B is intended to safeguard vegetated buffer areas along surface waters to protect the water quality of adjacent streams.

**Road Construction/Reconstruction.** Management measures 2C requires that road construction/reconstruction shall be conducted so as to reduce sediment generation and delivery. This can be accomplished by following, among other means, preharvest plan layouts and designs for road systems, incorporating adequate drainage structures, properly installing stream crossings, avoiding road construction in SMAs, removing debris from streams, and stabilizing areas of disturbed soil such as road fills.

**Road Management.** Management measures 2D describes how to manage roads to prevent sedimentation, minimize erosion, maintain stability, and reduce the risk that drainage structures and stream crossings will fail or become less effective. Components of this measure include inspections and maintenance actions to prevent erosion of road surfaces and to ensure the effectiveness of stream-crossing structures. The measure also addresses appropriate methods for closing roads that are no longer in use.

**Timber Harvesting.** Management measures 2E addresses skid trail location and drainage, management of debris and petroleum, and proper harvesting in SMAs. Timber harvesting practices that protect water quality and soil productivity also have economic benefits by reducing the length of roads and skid trails, reducing equipment and road maintenance costs, and providing better road protection.

**Site Preparation and Forest Regeneration.** Impacts of mechanical site preparation and regeneration operations—particularly in areas that have steep slopes or highly erodible soils or where the site is located in close proximity to a water body—can be reduced by confining runoff on site. Management measures 2F addresses keeping slash material out of drainageways, operating machinery on contours, timing of activities, and protecting ground cover in ephemeral drainage areas and SMAs. Careful regeneration of harvested forest lands is important in protecting water quality from disturbed soils.

**Fire Management.** Management measures 2G requires that prescribed fire practices for site preparation and methods to suppress wildfires should be conducted as feasible in a manner that limits loss of soil organic matter and litter and that reduces the potential for runoff and erosion. Prescribed fires on steep slopes or adjacent to streams and that remove forest litter down to mineral soil are most likely to impact water quality.

**Revegetation of Disturbed Areas.** Management measures 2H addresses the rapid revegetation of areas disturbed during timber harvesting and road construction—particularly areas within harvest units or road systems where mineral soil is exposed or agitated (e.g., road cuts, fill slopes, landing surfaces, cable corridors, or skid trails) with special priority for SMAs and steep slopes near drainageways.

**Forest Chemical Management.** Application of pesticides, fertilizers, and other chemicals used in forest management should not lead to surface water contamination. Pesticides must be properly mixed, transported, loaded, and applied; and their containers must be disposed of properly. Fertilizers must also be properly handled and applied since they also may be toxic depending on concentration and exposure. Components of management measures 2I include applications by skilled workers according to label instructions, careful prescription of the type and amount of chemical to be applied, use of buffer areas for surface waters to prevent direct application or deposition, and spill contingency planning.

**Wetland Forest Management.** Forested wetlands provide many beneficial water quality functions and provide habitat for aquatic life. Under management measures 2J, activities in wetland forests shall be conducted to protect the aquatic functions of forested wetlands.

**Postharvest Evaluation.** The goals of management measures 2K are to incorporate postharvest monitoring, including: (a) implementation monitoring to determine if the operation was conducted according to specifications and (b) effectiveness monitoring after at least one winter period to determine if the specified operation prevented or minimized discharges.

**Education/Outreach.** The goals of management measures 2L are to implement pollution prevention and education programs to reduce NPS pollutants generated from applicable silvicultural activities.

## Urban Areas



The SWRCB, CCC, and other State agencies have identified 15 management measures to address urban NPSs of pollution that affect State

waters. With approximately 80 percent of the nation's population living in coastal areas, controlling polluted runoff in urban areas is a challenge. Negative impacts of urbanization on coastal and estuarine waters are well documented in a number of sources, including California's CWA section 305(b) and section 319 reports and the Nationwide Urban Runoff Program.

Major pollutants found in runoff from urban areas include sediment, nutrients, oxygen-demanding substances, road salts, heavy metals, petroleum hydrocarbons, pathogenic bacteria, and viruses. Suspended sediments constitute the largest mass of pollutant loadings to receiving waters from urban areas. Construction is a major source of sediment erosion. Petroleum hydrocarbons result mostly from automobile sources. Nutrient and bacterial sources include garden fertilizers, leaves, grass clippings, pet wastes, and faulty septic tanks. As population densities increase, a corresponding increase occurs in pollutant loadings generated from human activities. Many of these pollutants enter surface waters via runoff without undergoing treatment.

Urban runoff management requires that several objectives be pursued simultaneously. These objectives include the following (American Public Works Association, 1981):

- Protection and restoration of surface waters by the minimization of pollutant loadings and negative impacts resulting from urbanization;
- Protection of environmental quality and social well-being;

California's MMs to address urban sources of nonpoint pollution:

- 3.1 Runoff from Developing Areas
  - A. Watershed Protection
  - B. Site Development
  - C. New Development
- 3.2 Runoff from Construction Sites
  - A. Construction Site Erosion and Sediment Control
  - B. Construction Site Chemical Control
- 3.3 Runoff from Existing Development
  - A. Existing Development
- 3.4 On-site Disposal Systems (OSDSs)
  - A. New OSDSs
  - B. Operating OSDSs
- 3.5 Transportation Development (Roads, Highways, and Bridges)
  - A. Planning, Siting, and Developing Roads and Highways
  - B. Bridges
  - C. Construction Projects
  - D. Chemical Control
  - E. Operation and Maintenance
  - F. Road, Highway, and Bridge Runoff Systems
- 3.6 Education/Outreach
  - A. Pollution Prevention/Education: General Sources

- Protection of natural resources, e.g., wetlands and other important aquatic and terrestrial ecosystems;
- Minimization of soil erosion and sedimentation problems;
- Maintenance of the predevelopment hydrologic conditions;
- Protection of ground water resources;
- Control and management of runoff to reduce or prevent flooding; and
- Management of aquatic and riparian resources for active and passive.

### **Management Measures:**

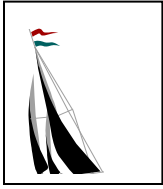
The control of urban NPS pollution requires the use of two primary strategies: (1) the prevention of pollutant loadings and (2) the treatment of unavoidable loadings. California's urban management measures are organized to parallel the land use development process in order to address the prevention and treatment of NPS pollution loadings during all phases of urbanization. This strategy relies primarily on the watershed approach, which focuses on pollution prevention and source reduction practices. Emphasizing pollution prevention and source reduction practices over treatment practices is favored because conducting education practices and incorporating pollution prevention practices into project planning and design activities are generally more effective, require less maintenance, and are more cost-effective in the long term than treatment strategies. Treatment strategies should only be used to address unavoidable loadings or where they are truly cost-effective.

The major opportunities to control NPS loadings occur during the following three stages of development: (1) the siting and design phase, (2) the construction phase, and (3) the post-development phase. Before development occurs, land in a watershed is available for a number of pollution prevention and treatment options, such as setbacks, buffers, or open space requirements, as well as wet ponds or constructed urban runoff wetlands that can provide treatment of the inevitable runoff and associated pollutants. In addition, siting requirements and restrictions and other land use ordinances, which can be highly effective, are more easily implemented during this period. After development occurs, these options may no longer be practicable or cost-effective. Management measures 3.1A through 3.1C address the strategies and practices that can be used during the initial phase of the urbanization process.

The control of construction-related sediment loadings is critical to maintaining water quality. The implementation of proper erosion and sediment control practices during the construction stage can significantly reduce sediment loadings to surface waters. Management measures 3.2A and 3.2B address construction-related practices.

After development has occurred, lack of available land severely limits the implementation of cost-effective treatment options. Management measures 3.6A focuses on improving controls for existing surface water runoff through pollution prevention to mitigate NPSs of pollution generated from on-going domestic and commercial activities.

## Marinas and Recreational Boating



Recreational boating and marinas are increasingly popular uses of coastal areas and inland surface water bodies (e.g., lakes and delta). And, they are an important means of public access, and California must balance the need for protecting the environment and the need to provide adequate public access (U.S. EPA, 1993). Because marinas and boats are located at the water's edge, pollutants generated from these sources are less likely to be buffered or filtered by natural processes. When boating and adjunct activities (e.g., marinas and boat maintenance areas) are poorly planned or managed, they may pose a threat to water quality and the health of aquatic systems and may pose other environmental hazards. Sources of pollution associated with marinas and boating include:

- Poorly flushed waterways;
- Pollutants discharged from boats (recreational boats, commercial boats, and “live-aboards”);
- Pollutants carried in storm water runoff;
- Physical alteration of wetlands and of shellfish/ other benthic communities during construction of marinas, ramps, and related facilities;
- Pollutants generated from boat maintenance activities on land and in the water.

There are 16 management measures to address marina and boating sources of nonpoint pollution. Effective implementation of these management measures can (1) avoid impacts associated with siting marinas and boat maintenance areas, (2) ensure the best available design and construction practices (for new and expanding facilities), (3) ensure appropriate operation and maintenance practices to prevent and/or reduce the delivery of NPS pollutants to State waters, and (4) encourage the development and use of effective pollution control and education efforts. The management measures cover the following operations and facilities:

- Any facility that contains ten or more slips, piers where ten or more boats may tie up, or any facility where a boat for hire is docked;
- Any residential or planned community marina with ten or more slips;
- Any mooring field where ten or more boats are moored;
- Public or commercial boat ramps;

California's marina and recreational boating MMs:

### 4.1 Assessment, Siting and Design

- A. Water Quality Assessment
- B. Marina Flushing
- C. Habitat Assessment
- D. Shoreline Stabilization
- E. Storm Water Runoff
- F. Fueling Station Design
- G. Sewage Facilities
- H. Waste Management Facilities

### 4.2 Operation and Maintenance

- A. Solid Waste Control
- B. Fish Waste Control
- C. Liquid Material Control
- D. Petroleum Control
- E. Boat Cleaning and Maintenance
- F. Maintenance of Sewage Facilities
- G. Boat Operation

### 4.3 Education/Outreach

- A. Public Education

- Boat maintenance or repair yards that are adjacent to the water and any federal, State, or local facility that involves recreational boat maintenance or repair on or adjacent to the water.

The Implementation Plan involves targeting implementation of six of the 16 marina and boating management measures, specifically those measures for water quality assessment, sewage facilities, boat cleaning and maintenance, hazardous waste management, and public education. These management measures and related actions were identified by representatives of the marina and boating community at four meetings held between December 1998 and April 1999 and by the SWRCB, RWQCBs, and CCC. The 1994 Marina TAC Report provided additional recommendations. The 16 management measures are summarized below.

#### **ASSESSMENT, SITING, AND DESIGN MANAGEMENT MEASURES:**

- 41.A **Water Quality Assessment.** Consider impacts to water quality in siting and designing new and expanding marinas.
- 41.B **Marina Flushing.** Site and design marinas to provide for maximum flushing and circulation of surface waters, which can reduce the potential for water stagnation, maintain biological productivity, and reduce the potential for toxic accumulation in bottom sediment.
- 41.C **Habitat Assessment.** Site and design marinas to protect against adverse impacts on fish and shellfish, aquatic vegetation, and important locally, State, or federally designated habitat areas.
- 41.D **Shoreline Stabilization.** Stabilize shorelines where shoreline erosion is a pollution problem.
- 41.E **Storm Water Runoff.** Implement runoff control strategies to remove at least 80 percent of suspended solids from storm water runoff coming from boat maintenance areas (some boatyards may conform to this provision through NPDES permits).
- 41.F **Fueling Station Design.** Locate and design fueling stations to contain accidental fuel spills in a limited area; and provide fuel containment equipment and spill contingency plans to ensure quick spill response.
- 41.G **Sewage Facilities.** Install pump out, pump station, and restroom facilities at new and expanding marinas where needed to prevent sewage discharges directly to State waters.
- 41.H **Waste Management Facilities.** Install facilities at new and expanding marinas where needed for the proper recycling or disposal of solid wastes (e.g., oil filters, lead acid batteries, used absorbent pads, spent zinc anodes, and fish waste as applicable) and liquid materials (e.g., fuel, oil, solvents, antifreeze, and paints).



## **OPERATION AND MAINTENANCE MANAGEMENT MEASURES:**

- 4.2A **Solid Waste Control.** Properly dispose of solid wastes produced by the operation, cleaning, maintenance, and repair of boats to limit entry of these wastes to surface waters.
- 4.2B **Fish Waste Control.** Promote sound fish waste management where fish waste is an NPS problem through a combination of fish cleaning restrictions, education, and proper disposal.
- 4.2C **Liquid Material Control.** Provide and maintain the appropriate storage, transfer, containment, and disposal facilities for liquid materials commonly used in boat maintenance; and encourage recycling of these materials.
- 4.2D **Petroleum Control.** Reduce the amount of fuel and oil that leaks from fuel tanks and tank air vents during the refueling and operation of boats.
- 4.2E **Boat Cleaning and Maintenance.** Minimize the use of potentially harmful hull cleaners and bottom paints and prohibit discharges of these substances to State waters.
- 4.2F **Maintenance of Sewage Facilities.** Maintain pumpout facilities in operational condition and encourage their use so as to prevent and control untreated sewage discharges to surface waters.
- 4.2G **Boat Operation.** Prevent turbidity and physical destruction of shallow-water habitat resulting from boat wakes and prop wash.

## **EDUCATION AND OUTREACH MANAGEMENT MEASURES:**

- 4.3A **Public Education.** Institute public education, outreach, and training programs to prevent and control improper disposal of pollutants into State waters.

## Hydromodification



The SWRCB, CCC, and other State agencies have identified seven management measures to address hydromodification sources of nonpoint pollution affecting State waters. Hydromodification includes modification of stream and river channels, dams and water impoundments, and streambank/shoreline erosion.

Channel modification activities are undertaken in rivers or streams to straighten, enlarge, deepen, or relocate the channel. These activities can affect water temperature, change the natural supply of fresh water to a water body, and alter rates and paths of sediment erosion, transport, and deposition. Hardening the banks of waterways with shoreline protection or armor also accelerates the movement of surface water and pollutants from the upper reaches of watersheds into coastal waters. Channelization can also reduce the suitability of instream and streamside habitat for fish and wildlife by depriving wetlands and estuarine shorelines of enriching sediments, affecting the ability of natural systems to filter pollutants, and interrupting the life stages of aquatic organisms (U.S. EPA, 1993).

Dams can adversely impact hydrology and the quality of surface waters and riparian habitat in the waterways where the dams are located. A variety of impacts can result from the siting, construction, and operation of these facilities. For example, improper siting of dams can inundate both upstream and downstream areas of a waterway. Dams reduce downstream flows, thus depriving wetlands and riparian areas of water. During dam construction, removal of vegetation and disturbance of underlying sediments can increase turbidity and cause excessive sedimentation in the waterway.

The erosion of shorelines and streambanks is a natural process that can have either beneficial or adverse impacts on riparian habitat. Excessively high sediment loads resulting from erosion can smother submerged aquatic vegetation, cover shellfish beds and tidal flats, fill in riffle pools, and contribute to increased levels of turbidity and nutrients.

### Management Measures:

California's MMs to address sources of nonpoint pollution related to hydromodification activities:

#### 5.1 Channelization/Channel Modification

- A. Physical and Chemical Characteristics of Surface Waters
- B. INSTREAM AND RIPARIAN HABITAT RESTORATION

#### 5.2 Dams

##### A. Erosion and Sediment Control

- B. Chemical and Pollutant Control
- C. Protection of Surface Water Quality & Instream and Riparian Habitat

#### 5.3 Streambank and Shoreline Erosion

##### A. Eroding Streambanks & Shorelines

#### 5.4 Education/Outreach

- A. Educational Programs

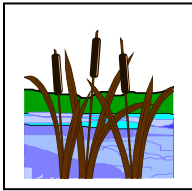
**Channelization/Channel Modification.** California's management measures for channelization and channel modification promote the evaluation of channelization and channel modification projects. Channels should be evaluated as a part of the watershed planning and design processes, including watershed changes from new development in urban areas, agricultural drainage, or forest clearing. The purpose of the evaluation is to determine whether resulting NPS changes to surface water quality or instream and riparian habitat can be expected and whether these changes will have a detrimental (or negative) impact. Existing channelization and channel modification projects can be evaluated to determine the NPS impacts and benefits associated with the projects. Modifications to existing projects, including operation and maintenance or management, can also be evaluated to determine the possibility of improving some or all of the impacts without changing the existing benefits or creating additional problems. In both new and existing channelization and channel modification projects, evaluation of benefits and/or problems will be site specific.

**Dams.** The second category of management measures addresses NPS pollution associated with dams. Dams are defined as constructed impoundments that are either: (1) 25 feet or more in height *and* greater than 15 acre-feet in capacity or (2) six feet or more in height *and* greater than 50 acre-feet in capacity. Management measures 5.2A and 5.2B address two problems associated with dam construction: (1) increases in sediment delivery downstream resulting from construction and operation activities and (2) spillage of chemicals and other pollutants to the waterway during construction and operation. Management measures 5.2C addresses the impacts of reservoir releases on the quality of surface waters and instream and riparian habitat downstream.

**Streambank and Shoreline Erosion.** The third category of hydromodification measures addresses the stabilization of eroding streambanks and shorelines in areas where streambank and shoreline erosion creates a polluted runoff problem. Bioengineering methods such as marsh creation and vegetative bank stabilization are preferred. Streambank and shoreline features that have the potential to reduce polluted runoff shall be protected from impacts, including erosion and sedimentation resulting from uses of uplands or adjacent surface waters. This management measures does not imply that all shoreline and streambank erosion must be controlled; the measure applies to eroding shorelines and streambanks that constitute an NPS problem in surface waters.

**Education/Outreach.** management measures 5.4A focuses on the development and implementation of pollution prevention and education programs for agency staffs and the public, as well as the promotion of assistance tools that emphasize restoration and low-impact development. Education, technical assistance, incentives, and other means can be used to promote projects that: (1) reduce NPS pollutants, (2) retain or reestablish natural hydrologic functions (e.g., channel restoration projects and low-impact development projects), and/or (3) prevent and restore adverse effects of hydromodification activities. Wetlands, Riparian Areas, and Vegetated Treatment Systems

## Wetlands/Riparian Areas and Vegetated Treatment System



The SWRCB, CCC, and other State agencies have identified four management measures to promote the protection and restoration of wetlands and riparian areas and the use of vegetated treatment systems as means to control NPSs of pollution.

Wetlands and riparian areas reduce polluted runoff by filtering out runoff-related contaminants, such as sediment, nitrogen, and phosphorus, thus maintaining the water quality benefits of these areas is important. These areas also help to attenuate flows from higher-than-average storm events.

This protects downstream areas from adverse impacts, such as channel scour, erosion, and temperature and chemical fluctuations. Changes in hydrology, substrate, geochemistry, or species composition can impair the ability of wetland or riparian areas to filter out excess sediment and nutrients and therefore can result in deteriorated water quality. The following activities can cause such impairment: drainage of wetlands for cropland, overgrazing, hydromodification, highway construction, deposition of dredged material, and excavation for ports and marinas.

California's MMs to protect and restore wetlands and riparian areas and use vegetated treatment systems as means to control pollution from NPSs:

- 6A. Protection of Wetlands & Riparian Areas
- 6B. Restoration of Wetlands & Riparian Areas
- 6C. Vegetated Treatment Systems
- 6D. Education/Outreach

### MANAGEMENT MEASURES:

**6A Protection of Wetlands/Riparian Areas.** Implementation of management measures 6A is intended to protect the existing water quality improvement functions of wetlands and riparian areas as a component of NPS Programs.

**6B Restoration of Wetlands/Riparian Areas.** Restoration of wetlands and riparian areas (management measures 6B) refers to the recovery of a range of functions that existed previously by reestablishing hydrology, vegetation, and structure characteristics. Damaged or destroyed wetland and riparian areas should be restored where restoration of such systems will significantly abate polluted runoff.

**6C Vegetated Treatment Systems.** management measures 6C promotes the installation of vegetated treatment systems (e.g., artificial or constructed wetlands) in areas where these systems will serve a polluted runoff-abatement function. Vegetated filter strips and engineered wetlands remove sediment and other pollutants from runoff and wastewater and prevent pollutants from entering adjacent water bodies. Removal typically occurs through filtration, deposition, infiltration, absorption, adsorption, decomposition, and volatilization.

**6D Education/Outreach.** management measures 6D promotes the establishment of programs to develop and disseminate scientific information on wetlands and riparian areas and to develop greater public and agency staff understanding of natural hydrologic systems—including their functions and values, how they are lost, and the choices associated with their protection and restoration.

## Appendix B: Meeting Federal Requirements

### Table A-1: Federal Requirements Under Section 319 of the CWA -Check List on Eight Key Components

Index for the Eight Key Components of an Effective NPS Program as described in the U.S. EPA NPS Program and Grants Guidance for Fiscal Year 2013 and Future Years (November 2012)

***1. The state program contains explicit short- and long-term goals, objectives and strategies to protect surface water and ground water, as appropriate.***

Sub-Component Requirements	Document Location
a. Provide a focused “long term” vision statement and related goals to achieve and maintain water quality standards and maximize water quality benefits.	Section II
b. Provide “short term” (e.g., three to five years) goals and objectives that consist of activities, with annual milestones, designed to demonstrate reasonable progress toward accomplishing the long-term goals as expeditiously as possible that are linked to the vision statement.	Tables 8-16, 18-26
c. Address both surface and ground water as appropriate (including sources of drinking water) consistent with the goals of the CWA.	Tables 2,5,8-16,18-26
d. Provide long-term goals and shorter-term (e.g., three- to five-year) objectives that are well integrated with other key environmental and natural resource programs.	Tables 18-26
e. Provide a process to periodically revise State program goals and objectives (as necessary) to reflect progress or problems encountered in applicable strategies to make progress towards achieving the goals, and indicators to measure progress.	Section III (C)

**2. *The state strengthens its working partnerships and linkages to appropriate state, interstate, tribal, regional, and local entities (including conservation districts), private sector groups, citizens groups, and federal agencies.***

Description of Sub-Component	Document Location
a. Use a variety of formal and informal mechanisms to form and sustain working partnerships and linkages.	Section IV (F)
b. Work collaboratively with other key state and local NPS entities in the coordinated implementation of NPS control measures in high priority watersheds.	Section IV( F)
c. Work to ensure that its local partners and grantees have the capacity to effectively carry out watershed implementation projects funded to support its NPS management program.	Section IV (I)
d. Seek public involvement from local, regional, state, interstate, tribal and federal agencies, and public interest groups, industries, academic institutions, private landowners and producers, concerned citizens and others as appropriate, to comment on significant proposed program changes.	Section IV (F)

**3. *The state uses a combination of statewide programs and on-the-ground projects to achieve water quality benefits; efforts are well-integrated with other relevant state and federal programs.***

Description of Sub-Component	Document Location
a. Emphasize a watershed management approach and include an explanation of the state’s approach to prioritizing waters and watersheds to achieve water quality restoration and protection.	Section IV (D)
b. Integrate with other relevant programs to protect and restore water quality, aligning priority setting processes and resources to increase efficiency and environmental results.	Sections IV (F), IV( I)
c. Coordinate and leverage funding with the U.S. Department of Agriculture, NRCS through the National Water Quality Initiative (NWQI) Program and other NRCS funding programs to address NPS related surface and ground water related problems.	Section IV( I)
d. Identify processes to incorporate some of the significant resources of the Clean Water State Revolving Fund (CWSRF) loan program for eligible NPS activities and how these NPS projects will be prioritized into the CWSRF selection process.	Section IV( I)

<p>e. Identify federal lands and activities that are not managed consistently with the state NPS program objectives and, as appropriate, seek assistance from U.S. EPA assistance to help resolve issues at the federal agency level. These federal programs can include, but are not limited to, land management programs of the U.S. Bureau of Land Management and the U.S. Forest Service, USDA's conservation programs, and the U.S. Army Corps of Engineers waterway programs, as well as development projects and financial assistance programs that are, or may be, inconsistent with the state's NPS management program.</p>	<p>Sections IV( F, G, H, and I)</p>
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**4. *The state program describes how resources will be allocated between (a) abating known water quality impairments from NPS pollution and (b) protecting threatened and high quality waters from significant threats caused by present and future NPS impacts.***

<p><b>Description of Sub-Component</b></p>	<p><b>Document Location</b></p>
<p>a. Describe the state’s approach to addressing waters identified as impaired by NPS pollution and preventing new water quality problems from present and reasonably foreseeable future NPS impacts, especially for waters which currently meet water quality standards.</p>	<p>Sections III (B), IV (B, C)</p>
<p>b. Describe how the state will establish priorities and align resources with respect to restoring waters impaired by NPS pollution and protect high quality waters currently meeting water quality standards.</p>	<p>Section IV (B,C)</p>

**5. *The state program identifies waters and watersheds impaired by NPS pollution as well as priority unimpaired waters for protection. The state establishes a process to assign priority and to progressively address identified watersheds by conducting more detailed watershed assessments, developing watershed-based plans and implementing the plans.***

<b>Description of Sub-Component</b>	<b>Document Location</b>
a. Identify waters impaired by NPS pollution based on currently available information (e.g., in reports under CWA sections 305(b), 319(a), 303(d), 314(a), and 320) and revise the list periodically as more up-to-date assessment information becomes available.	Section IV (B)
b. Identify important unimpaired waters that are threatened or otherwise at risk from NPS pollution.	Section IV (B)
c. Identify the primary categories and subcategories causing the water quality impairments, threats, and risks across the state due to NPS pollution.	Sections IV (B, C)
d. Update at regular intervals the identification of waters impaired or threatened by NPS pollution preferably as part of a single comprehensive state water quality assessment which integrates reports required by the CWA.	Sections IV (B, C)
e. Establish a process to assign priority and to progressively address identified waters and watersheds by conducting more detailed watershed assessments, developing watershed-based plans, and implementing the plans.	Sections III (B), IV (B, C, D)
f. Link the state's prioritization and implementation strategy to other programs and efforts such as those listed under Component No. 3.	Section IV(F)
g. Establish priorities for addressing NPS-related activities that impact ground water considering, but not limited to, the following: (1) wellhead protection areas; (2) ground water recharge areas; and (3) zones of significant ground water/surface water interaction, including drinking water sources.	Sections IV (F, G), VI (D3)



6. *The state implements all program components required by section 319(b) of the CWA, and establishes strategic approaches and adaptive management to achieve and maintain water quality standards as expeditiously as practicable. The state reviews and upgrades program components as appropriate. The state program includes a mix of regulatory, non-regulatory, financial and technical assistance, as needed.*

Description of Sub-Component	Document Location
a. Identify management measures (i.e., systems of practices) that will be used to control NPS pollution, focusing on those measures which the state believes will be most effective in achieving and maintaining water quality standards.	Appendix A
b. Identify key programs to achieve implementation of the measures, including, as appropriate, non-regulatory or regulatory programs for enforcement, technical assistance, financial assistance, education, training, technology transfer, and demonstration projects.	Sections IV (E-I), V (B-J); specifically Tables 18-26
c. Describe processes used to coordinate and, where appropriate, integrate the various programs used to implement NPS pollution controls in the state.	Section IV(F)
d. Provide the following: (1) a schedule with goals, objectives, and annual milestones for implementation at the earliest practicable date; (2) legal authorities to implement the program; (3) available resources; and (4) institutional relationships.	(1) Tables 8-16 (2) Section III(A); (3) Section IV (I); (4) Section IV (F), Tables 8-16 and 18-26
e. Identify other sources of funding from federal (other than CWA section 319), state, local, and private sources.	Section IV (I)
f. Identify federal land management programs, development projects and financial assistance programs.	Section IV (I)
g. Describe monitoring and other evaluation programs that will be conducted to help determine short- and long-term NPS management program effectiveness.	Section IV (J), and Tables 18-26
h. Incorporate existing baseline requirements established by other applicable federal (e.g., section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990) or state laws to the extent that they are relevant.	Section IV (C)

**7. *The state manages and implements its NPS management program efficiently and effectively, including necessary financial management.***

<b>Description of Sub-Component</b>	<b>Document Location</b>
a. Provide a process for identifying priority problems and/or watersheds, and deploys resources in a timely fashion to address these priorities, including any critical areas requiring treatment and protection within watersheds.	Sections IV (D, I)
b. Maintain appropriate programmatic and financial systems that ensure CWA section 319 funds are used efficiently and consistent with its legal obligations, and generally manages all section 319 funds to maximize water quality benefits.	Section IV (I)
c. Ensure that CWA section 319 funds complement and leverage funds available for technical and financial assistance from other federal sources and agencies.	Sections IV (G-I)

**8. *The state reviews and evaluates its NPS management program using environmental and functional measures of success, and revises its NPS management program at least every five years.***

<b>Description of Sub-Component</b>	<b>Document Location</b>
a. Establish appropriate measures of progress in meeting programmatic and water quality goals and objectives identified in Key Component #1.	Tables 8-16, 18-26
b. Describe a monitoring/evaluation strategy and a schedule to measure success in meeting those goals and objectives.	Section IV(J), Tables 18-26
c. Integrate monitoring and evaluation strategies with ongoing federal natural resource inventories and monitoring programs.	Section IV(J), Tables 18-26
d. State NPS management programs should be reviewed and revised every five years.	Section III (C)

## Appendix C: List of Acronyms and Simplified Terms

CA Coastal Act	California Coastal Zone Conservation Act of 1976
CA Pesticide Regulation	California Pesticide Regulation
CA NPS Program	California NPS Program
CCAs	Critical Coastal Areas
CEDEN	California Environmental Data Exchange Network
CEQA	California Environmental Quality Act
CIWQS	California Integrated Water Quality System
Coastal Commission	California Coastal Commission
Coastal Permits	Coastal Development Permits
Coastal Zone Act Amendments	Coastal Zone Act Reauthorization Amendments of 1990
CWA	Clean Water Act
GRTS	Grants, Reporting, and Tracking System
HUC-12	12-digit hydrologic unit code
LCPs	Local Coastal Programs
MMA	Marine Managed Area
MM	Management Measures
MP	Management Practices
MPA	Marine Protected Area
NPDES	national pollutant discharge elimination system
NPS	Nonpoint Source
NPS Policy	NPS Implementation and Enforcement Policy
NPS Program Implementation Plan	California Nonpoint Source Program Implementation Plan
NPS Implementation Unit	(State Water Board) Division of Water Quality - NPS
Implementation Unit	
NRCS	U. S. Department of Agriculture - Natural Resource Conservation
Service	
OIMA	(State Water Board) Office of Information Management and Analysis
Regional Water Boards	Regional Water Quality Control Boards
RFP	Request for Proposal
SNMP	Salt and Nitrate Management Plan
SP-12	Watershed Improvement Measure
SWAMP	Surface Water Ambient Monitoring Program
State Water Board	State Water Resources Control Board
TMDL	Total Maximum Daily Load
Training Academy	Water Boards' training academy
U.S. EPA	U. S. Environmental Protection Agency
Water Boards	Regional Board and State Water Board
WDR	Waste Discharge Requirement
WQ-10	Clean Water Act section 319 success stories