2020 – 2025 Nonpoint Source Program Implementation Plan

CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

CALIFORNIA
COASTAL
COMMISSION

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I. Introduction

A. Preparation and Purpose

This five-year Nonpoint Source Program Implementation Plan (five-year plan) was prepared by the State Water Resources Control Board (State Water Board), the Regional Water Quality Control Boards (Regional Water Boards) and the California Coastal Commission, collectively the co-lead agencies. The goal of this five-year plan is to present, in one place, the general goals and objectives of the co-lead agencies for addressing nonpoint source pollution over the timeframe of July 2020 to June 2025. This five-year plan was also prepared to meet the requirements of Clean Water Act section 319 (CWA 319).

B. Background

Clean Water Act (CWA) section 319 (CWA 319) requires all states to have an approved management program for controlling nonpoint source pollution to waters of the state and for improving the quality of such waters. In addition, the Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 require coastal states to have a Coastal Nonpoint Pollution Control Program (CNPCP). CZARA 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. Additionally, CZARA requires implementation of 56 management measures to achieve and maintain water quality standards, enforceable policies and mechanisms, and monitoring and tracking of management measure implementation.

C. Outreach on the Plan

State Water Board staff solicited input on this plan from other Water Board programs, California Resource Conservation Districts, and California tribes via the US EPA Region 9 Regional Tribal Operations Committee. In addition, the State Water Board is soliciting feedback from the public during a 30-day public comment period.

D. Co-Lead Agencies

The co-lead agencies for this plan are the State Water Board, the nine Regional Water Quality Control Boards (collectively, the Water Boards), and the California Coastal Commission.

California State Legislature (Legislature) created the State Water Board and the Regional Water Boards (collectively the Water Boards) in 1967 through the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The Water Boards' mission 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 adopts statewide policies and plans for water quality, while the Regional Water Boards adopt regional water quality control plans for their respective Regions.

California has nine Regional Water Boards with boundaries generally based on watersheds, with some exceptions (Appendix A). Appendix A describes environmental and geographic characteristics of each region and contains maps of each region's targeted waterbodies and pollutants for this plan. The figures also show watersheds in which water quality is being tracked by the Regional Water Board. The jurisdictional boundaries of coastal Regions extend three nautical miles into the Pacific Ocean. Each Regional Water Board makes water quality decisions for the region, including setting water quality standards, issuing permits (waste discharge requirements [WDRs]), determining compliance with those WDRs, and taking enforcement actions.

E. Organization of the Plan

This plan is organized by nonpoint source pollution topic. A general background statement is included for most of the topics, followed by specific goals. Some goals have background information, while others do not. Most goals contain objectives and milestones. Milestones are assigned target completion dates where possible.

II. Vision and Strategic Approach

A. Nonpoint Source Program Vision

The Nonpoint Source (NPS) Program supports the mission of the State Water Board by reducing discharges of nonpoint source pollution to waters of the state and mitigating impacts from nonpoint source pollution.

The mission of the State Water Resources Control Board is to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.

The general goals of the NPS Program are to:

1- Implement and enforce waste discharge requirements, waivers of waste discharge requirements, and waste discharge prohibitions to control and reduce nonpoint source pollution to waters of the state
2- Collaborate with state, local, and federal agencies on initiatives to control and reduce nonpoint source pollution to waters of the state
3- Administer a grant program that focuses on controlling and reducing nonpoint

source pollution to targeted waterbodies in this plan
4- Research and investigate traditional and nontraditional mechanisms for reducing, regulating, and/or otherwise decreasing nonpoint source pollution to waters of the state
5- Evaluate success of the NPS Program through tracking program activities, nonpoint source pollutant load reductions, and water quality improvements.

B. Strategic Approach

Cross-Program Coordination

California addresses nonpoint source pollution in many ways, including regulation, education, monitoring, and financial assistance. Many staff from different units and programs at the Water Boards and Coastal Commission work on reducing, mitigating, and protecting waters of the state from nonpoint source pollution; not one unit or program at the Water Boards or the Coastal Commission focuses solely on all nonpoint source pollution in California. Similarly, several funding sources support nonpoint source pollution management in California, including state funding from the Waste Discharge Permit Fund, and federal funding from CWA 319 and 106.

Given the widespread nature of nonpoint source pollution control in California, strategic plans and programs exist at various levels within the structures of the co-lead agencies. This five-year plan includes as many programs as feasible, summarizing separate strategic plans or programs where they exist. This five-year plan is not intended to be an exhaustive description of every effort, program, or initiative to address nonpoint source discharges of pollution to waters of the state.

The State Water Board and Regional Water Board's (collectively Water Board's) general approach to protecting water quality is to assess waters, develop total maximum daily loads, and regulate discharges of waste with permits or enforcement orders. Other approaches include awarding grants, participating on workgroups and technical advisory committees, collaborating with internal programs and external organizations and agencies, monitoring, and education.

By periodically revising the State Integrated Report of 303(d) and 305(b) waters, the state identifies waters threatened or impaired by nonpoint source pollution and high-quality waters, and identifies priority waters for assessment (e.g., TMDLs and TMDL-Vision projects). Porter Cologne authorizes the State to develop approaches to address nonpoint source pollution and requires TMDLs to have implementation plans identifying approaches to achieve water quality targets (e.g., TMDL load allocations). Regional Water Boards have developed and implement regulatory authorities (statewide, regional, watershed and/or activity specific permits, or waste discharge requirements [WDRs]) addressing many areas/issues. Together, these programs and on-the-ground projects, are used to improve water quality.

Targeted Waterbodies, TMDLs and pollutant categories

The strategic approach for this plan is to focus on targeted waterbody-pollutant combinations (Appendix B), priority Total Maximum Daily Loads (TMDLs) or Vision-waterbodies (Appendix C), and priority pollutants (Appendix D). The TMDLs and Vision watersheds have implementation plans that can employ programs such as grazing, confined animal facilities, or irrigated lands to improved water quality and/or establish specific requirements to be implemented. Table 1 shows the NPS Program topics addressed in this plan.

Table 1: Nonpoint Source Program Topics per Region/Organization (priority topics for co-lead agencies are demarcated with an X. Some co-lead agencies are conducting work on one of the topics but are not prioritizing the it for this plan; these are demarcated with an X)*

NPS Program Topics	1	2	3	4	5	6	7	8	9	Coast. Comm	State Board
Agriculture	X*	X	X*	X*	X*	X*	X*	X*	X*		X*
Bacteria	X	X	X*	X*	X*			X*	X*	X*	
Cannabis Cleanup											X*
Central Valley SALTS					X*						
Climate Change	X*	X	X*		X	X*			X*	X*	X*
Coastal	X	X	X	X*				X*	X*	X*	X*
Confined Animal Facilities	X*	X*		X*	X	X					
Contaminated Sediment			X	X*				X*	X*		
Forestry/ Wildfire	X*				X*	X*		X*			X*
Harmful Algal Blooms	X*	X		X*	X*	X*	X*	X*	X*		X*
High Quality, Healthy and/or Threatened waters	X*		X*						X*		X*
Natural Disasters and Emergency Recovery						X					X*
NPS Grant Program	X	X	X*	X	X	X	X	X	X	X	X*
Onsite Wastewater Treatment Systems	X*	X		X	X		X*	X*			X*
Rangelands/ Grazing	X*	X*		X*		X*					X*
Source Water Protection			X*			X*					X*

NPS Program Topics	1	2	3	4	5	6	7	8	9	Coast. Comm	State Board
Transboundary Impacts							X*		X*		
Watershed-Based Planning and Implementation	X*										X*

Inter and Intra-agency Coordination

Since nonpoint source pollution comes from a range of activities, it involves multiple programs. Staff from the co-lead agencies, and US EPA, meet for quarterly roundtables, which are typically one- or two-day events. These meetings sometimes include a field tour to observe recent projects implemented by the Nonpoint Source Grant Program. These meetings allow staff to discuss successes and challenges in managing nonpoint source pollution, as well as other issues such as questions about sub-grant management or permitting.

In addition to quarterly roundtables, NPS Program staff have monthly teleconference calls. This ongoing collaboration among the co-lead agencies is essential to advancing and sustaining nonpoint source pollution control as it increases staffs' knowledge and creates space for creative thinking to address one of the state's biggest problems for water quality. Many activities in this plan involve collaboration with agencies and other programs to accomplish the goals of this plan. A summary of these partnerships is provided below.

The co-lead agencies for this plan work with many different organizations on many of the topics in this plan. Partners include:

- Resource Conservation Districts
- Natural Resource Conservation Service
- California Department of Forestry and Fire Protection
- California Department of Fish and Wildlife
- California Department of Pesticide Regulation
- California Range Management Advisory Committee
- US Forest Service
- Bureau of Land Management

An example of one of the intra-agency agreements between the State Water Board and another state department is the Management Agency Agreement (MAA) between the State Water Resources Control Board and the California Department of Pesticide Regulation.[1] This MAA directs the two organizations to work cooperatively to address: (i) pesticide use that may cause potential adverse impacts to water, which is regulated

[1] https://www.cdpr.ca.gov/docs/emon/surfwtr/maa.htm

by DPR, and (ii) discharges of pesticides that cause water quality impacts, which are regulated by the Water Boards.

Adaptive Management

In implementing this plan, the co-lead agencies will focus on the targeted waterbodies, pollutants, and topics described herein. This plan does not describe the entirety of work performed by the co-lead agencies, and this plan is not intended to exclude other efforts to address nonpoint source pollution issues, but rather to describe the nonpoint source pollution topics that are of highest concern at this moment.

Priorities may change or become more focused as time progresses. The co-lead agencies will reassess their program priorities and initiatives and may elect to update them as necessary approximately halfway through the five-year period. If, throughout implementation of this plan, the co-lead agencies decide that other nonpoint source pollution issues raise to the level of importance to be prioritized in this plan, the plan will be revised to include such issues through an amendment of this plan.

III. Nonpoint Source Topics

A. Agriculture

Background

Agricultural operations include irrigated and non-irrigated activities such as farming of row and field crops, orchard and grove operations, wholesale plant nurseries, turf farms, and chicken and horse ranching and similar livestock operations not currently covered under National Pollutant Discharge Elimination System permits. Some Regions include non-irrigated land activities in their approaches for irrigated lands (e.g., Region 8). Other Regions separate non-irrigated land activities into separate orders, which are described in other sections of this plan (e.g., rangelands/grazing, confined animal facilities).

Irrigated lands generate nonpoint source pollution from irrigation return flow, flows from tile drains, and storm water runoff. These discharges transport pollutants including pesticides, sediment, nutrients, salts (including selenium and boron), pathogens, and heavy metals from cultivated fields into waters of the state. To address agricultural discharges, the Water Boards developed the Irrigated Lands Regulatory Program (ILRP). The ILRP regulates an estimated 30,000 producers, or growers, covering over seven million acres statewide. The ILRP supports state and federal water quality laws, the Human Right to Water, the Governor's Water Action Plan, the Healthy Soils Initiative, California Air Resources Board Short Lived Climate Pollutant Strategy, and the objectives of the State Water Board's Strategic Plan Update: 2008-2012 to “Improve and protect groundwater quality in high-use basins by 2030.”

The Regional Water Boards customize their regulatory approaches for agriculture due to varying water quality threats and requirements for protecting vulnerable or impaired

receiving waters. The State Water Board plays a coordinating role in the ILRP while the Regional Water Boards adopt and enforce region-specific agricultural discharge permits. The State Water Board also collaborates with outside agencies to reach common goals, and partners with agricultural-related liaison agencies, technical service providers, academia, and third-party certification groups to assist growers to comply with regulatory requirements.

All Regions

Goal 1: Develop and implement requirements from Eastern San Joaquin order

Background:

The State Water Board adopted Order No. 2018-0002 (Eastern San Joaquin Order) on February 7, 2018, establishing statewide requirements for managing and tracking nitrogen application on agricultural fields to minimize leaching to groundwater and runoff to surface water. Requirements include grower development and implementation of Irrigation and Nitrogen Management Plans, tracking and reporting of nitrogen data, and collecting samples from on-farm domestic wells.

Objectives and Milestones:

1. All Regional Water Quality Control Boards required to adopt statewide requirements of the Eastern San Joaquin Order into their agricultural discharge permits by 2023.
2. State Water Board staff is developing tools to implement the Eastern San Joaquin Order requirements

State Water Board

Goal 1: Develop and implement an information management system

Background:

The Regional Water Boards use a variety of methods to gather and maintain ILRP information; as a result, only a minimal amount of integration or information sharing has been possible between the Regional Water Boards. These systems include:

- California Integrated Water Quality System (CIWQS) which contains the permit fee billing and enforcement tracking data
- California Environmental Data Exchange Network (CEDEN) which contains surface water monitoring data
- GeoTracker Groundwater Ambient Monitoring and Assessment System (GeoTracker Monitoring System) which contains ground water quality data
- Staff desk top computers (usually using Microsoft Excel and Word)

The ILRP needs a centralized Information Management Solution (ILRP IMS) to provide appropriate electronic data management pertaining to agricultural lands throughout the state and to improve consistency and efficiency in the Program.

Objectives and Milestones:

1. Coordinate with GeoTracker staff to develop tools and tables so that all data collected related to the ILRP is in one location. At full roll-out, GeoTracker will be capable of incorporating results from samples collected from domestic wells as well as on-farm reporting information related to the amount of nitrogen applied to a field and the amount removed by the crop. The system will also be able to note management practices.

North Coast (Region 1)

Goal 1: Develop and implement a plan for discharge of waste associated with lily bulb cultivation

Objectives and Milestones:

1. Develop Smith River Plain Water Quality Management Plan (SRPWQMP) to address discharges from lily bulb operations in the Smith River Plain (Draft Spring 2020; Final Summer 2020).
2. Use elements of the plan to develop a regulatory permit.
   a. Draft administrative draft permit – December 2020
   b. Draft CEQA document – 2021
   c. Conduct stakeholder outreach and public process – 2021
   d. Develop permit public review draft and bring to Board for adoption - 2022
3. Establish monitoring locations and work with resource agencies, Tolowa Dee-ni' Nation with input from growers to conduct ongoing sampling to track program effectiveness (2020 – 2025)
4. Work with growers to adapt management practices to the Smith River Plain
   a. Work with NRCS and RCD to select practices - 2020
   b. Work to facilitate grant funding for pilot studies and restoration measures – 2020-2025
5. Management practice implementation tracking and reporting
   a. Conduct inspections to document practices on lily bulb farms – 2020-2025
   b. Develop management practice tracking system using GIS imaging – 2020
   c. Report periodically to the Regional Board and public on implementation – 2020-2025
6. Adaptively manage the regulatory program.
   a. Review monitoring results and management practice implementation – 2020-2025
   b. Solicit input from stakeholders and the Regional Board – 2020-2025
   c. Modify monitoring plan and management practices based on feedback – 2020-2025

Goal 2: Develop and implement an irrigated lands permit for vineyards to implement the requirements of the Basin Plan for vineyards that present a risk of pollutant discharge to waters of the state.

Objectives and Milestones:

1. Develop permit to effectively prevent and/or mitigate discharges of waste from vineyards. (July 2021 – June 2022)
   a. Conduct outreach to stakeholders and permit development advisory group members. Conduct two outreach meetings by Winter 2020.
      i. Outreach to Advisory Group Members (beginning Spring/Summer 2019)
      ii. Tribal Consultations (beginning Summer 2020)
   b. Administrative Draft of Permit (Winter 2019 – Winter 2020)
   c. CEQA Development (Winter 2019 - Winter 2020)
   d. Public Comment Period (Spring 2021)
   e. Public Workshops (Summer 2020 and Spring 2021)
   f. Adopt the Permit as a General Order of Waste Discharge Requirements (WDRs) or waiver of WDRs for vineyards (Winter 2021/22).
2. Implement vineyard permit
   a. Provide outreach and education to third-party coordinators, stakeholders, landowners, and land operators to ensure compliance with the General WDR and timely implementation of best management practices. (Winter 2021/22 – June 2025)

Central Coast (Region 3)

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

Objectives and Milestones:

1. Develop and approve a revised Irrigated Lands Order (Ag Order 4.0).
   a. Develop public draft of a revised irrigated agricultural order and hold public hearings: 2020 thru 2021
2. Receive and assess total nitrogen applied reports and other information submitted by ranches.
   a. Determine annual compliance with reporting requirement: August 2020, 2021, 2022, 2023, and 2024
   b. Identify high risk ranches for follow-up and identify follow-up actions: October 2020, 2021, 2022, 2023, and 2024
3. Receive groundwater monitoring data annually.
   a. Determine compliance with reporting requirement: Conduct ongoing compliance assessment
4. Receive and assess surface receiving water monitoring data and other information submitted by ranches annually.
   a. Identify high risk ranches for follow-up and identify follow-up actions annually: Conduct ongoing assessment and follow-up as needed.
5. Identify farming operations that have not enrolled based on GIS analysis and other information.
   a. Issue directive to enroll letters to growers: Annually and ongoing.

6. Conduct inspections and/or issue letters: Annually and ongoing, if necessary. Undertake enforcement actions, if necessary (inspections, California Water Code section 13267 letters, etc.).

Los Angeles (Region 4)

Goal 1: Reduce NPS discharges from irrigated agricultural lands through implementation of the Los Angeles Water Board's Irrigated Lands Program

Background: Discharges from agricultural activities have been regulated under a Conditional Waiver of Waste Discharge Requirements from Irrigated Lands (R4-Irrigated Lands Waiver) since 2005. The intent of the R4 – Irrigated Lands Waiver is to attain and maintain water quality benchmarks in receiving waters by regulating the discharges from irrigated agriculture lands. On April 14, 2016, Los Angeles Water Board renewed the R4-Irrigated Lands Waiver that continues to require 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. 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. Oversight of the R4 - Irrigated Lands Waiver includes documentation of enrolled acreage, education workshops, outreach activities and management practice implementation.

Objectives and Milestones:

1. Interact with discharger groups for the R4-Irrigated Lands Waiver to ensure that they are properly overseeing their members to reduce pollutant discharges.
    a. Meet at least once per year with each discharger group and maintain regular contact via e-mail, phone calls, and letters (2020 – 2025)
2. Increase discharger enrollment and acreage covered under the R4 – Irrigated Lands Waiver to reduce pollution from more agricultural dischargers.
    a. Identify and take progressive enforcement actions against non-enrolled growers as necessary – report number of actions, number of new members, etc (ongoing)
3. Increase implementation of management practices (MP) by dischargers subject to the R4- Irrigated Lands Waiver to reduce pollutant discharges (ongoing).
    a. Work with the dischargers groups to offer education classes that focus on targeted MP implementation.
    b. Track number of dischargers that completed education requirements. (Annually)
    c. Review and comment on two discharger groups' annual monitoring reports and updated annual WQMPs to ensure targeted MP implementation. (Annually)

4. Improve the effectiveness of the Irrigated Lands Program through enhanced tracking of MP implementation and water quality monitoring, and evaluation of water quality trends (annually).
    a. Review water quality and GIS data to track trends in water quality and correlations between grower participation, MP implementation, and water quality improvements.
    b. Use information to consider adaptive management, such as edge of field monitoring, during next waiver term, or switching to WDRs as a regulatory mechanism
5. Renew R4- Irrigated Lands Waiver or develop other regulatory mechanism to reduce the discharge of pollution from agriculture (2021)

Goal 2: Oversee development of Integrated Groundwater-Surface Water Hydrology and Nutrient Transport Models to simulate the impact of agricultural nutrient discharges to land on surface water quality in the Ventura River Watershed

Background: In 2012, the Los Angeles Water Board adopted a TMDL for algae, eutrophic conditions and nutrients in the Ventura River Watershed (Ventura River Watershed Algae TMDL). At the time of the TMDL development, a source assessment for agricultural discharge of nutrients to surface water via groundwater flow was not achievable. In 2014, Ventura River was identified as one of the five priority stream systems in the California Water Action Plan for development of new instream flow requirements. To support potential TMDL reconsideration and instream flow requirements, the Los Angeles Water Board has been working with the State Board to develop integrated groundwater-surface water hydrology and nutrient transport models for the Ventura River watershed to provide a scientifically defensible, cost-effective, time-sensitive and publicly transparent tool. The hydrology portion of the surface water-groundwater interaction model shall assist the State Board in establishing instream flows that support critical habitat for anadromous fish in the watershed. The nutrient transport portion of the model shall assist the Los Angeles Water Board by refining information related to the source assessment and load allocations for agriculture in the Ventura River Algae TMDL.

Objectives and Milestones:

1. Complete simulation scenario runs (October 2020)
2. Use the model to potentially revise the source assessment for agriculture in the Ventura River Watershed Algae TMDL (December 2021)

Central Valley (Region 5)

Goal 1: Prevent agricultural runoff from impairing surface waters and groundwater.

Background: The Irrigated Lands Regulatory Program (ILRP) was initiated in 2003 to prevent agricultural runoff from impairing surface waters, and in 2012, groundwater regulations were added to the program. Waste discharge requirements (also known as "WDRs" or "Orders"), which protect both surface water and groundwater, address irrigated agricultural discharges throughout the Central Valley.

Objectives and Milestones:

1. Implement State Board East San Joaquin Petition Order Requirements (embedded in ILRP WDRs)
    a. Continue to develop on-farm drinking water well monitoring program (to assess and inform users of drinking water risks posed by nitrates in groundwater)
        i. Tulare Lake Basin Coalitions – 2020;
        ii. Westside San Joaquin, San Joaquin Delta, Grasslands Drainage Area, and Individual General Order – 2021;
        iii. Sacramento Valley, West Tulare Lake Basin and Rice – 2022
    b. Approve Groundwater Protection Formula
        i. Review and approval formula and justification; Fall 2020
    c. Irrigation and Nutrient Management Plan (INMP) Summary Report from all coalition members and analysis by coalitions
        i. Review annual reporting and analysis, starting with reporting in Spring 2021 and analysis in Fall 2021
2. Implement East San Joaquin Petition Order Requirements
    a. Conduct an external expert review of East San Joaquin Coalition's surface water monitoring (2020-2021)
        i. Coordinate Expert Panel – 2020-2021
        ii. Review and consider final panel recommendations; Spring 2021
3. Implement existing ILRP WDRs and pesticide TMDLs
    a. Update list of surface waters with Surface Water Quality Management Plans (SQMP) and their status
        i. Provide updated list of surface waters with SQMPs to Regional Board management, annually (2020 – 2025)
    b. Review and respond to Annual Monitoring Reports from coalitions, which include SQMP progress reports, and send comment letters to coalitions, annually (2020 – 2025)

Lahontan (Region 6)

Goal 1: Evaluate options to regulate irrigated lands considering commodity, location, and/or identified impacts to water quality

Background: Region 6 does not currently have a formal Irrigated Lands Regulatory Program (ILRP) to regulate farming operations to ensure that beneficial uses of groundwater and surface waters are protected. The Region will evaluate options for developing an ILRP by considering regional, watershed- or commodity-based impacts to

water quality. This effort could include regulation of irrigated pasture operations (cross-reference Rangelands/Grazing topic including goal 1, objective 2 for Region 6).

Objectives and Milestones:

1. Conduct data analysis to evaluate the development of specific ILRP regulatory options and priority areas; prioritize agricultural operations based on risk to water quality, monitoring data, groundwater basin overdraft or other criteria. Document in staff report providing regulatory recommendations and priority areas to management. (September 2020).
2. Present staff report at Lahontan Water Board meeting to propose options and recommendations for developing an ILRP (November 2020).
3. Conduct outreach to stakeholders on ILRP program development at two (2) public meetings (2020-2022).
4. Develop program webpage with program goals, timeline, focus watersheds, regulatory options, and contact information. Set up Lyris list for stakeholders (December 2021).
5. Develop draft WDR or waiver and circulate for public review, including CEQA (2022-2024).
   Bring final WDR or waiver to Water Board for consideration (2025).

Colorado River (Region 7)

Goal 1: Improve water quality in the Region by regulating all irrigated agricultural lands in the Region through agricultural general orders.

Objectives and Milestones:

1. Continue to implement Irrigated Agricultural General Orders or Conditional Waivers of Waste Discharge Requirements (WDRs) (Agricultural Orders) for agricultural discharges within the Palo Verde Valley, Bard Valley, Coachella Valley, and Imperial Valley areas.
   a. Develop annual reports of number of agricultural dischargers participating in the agricultural general orders program, annually (March 2020 – 2025)
   b. Develop annual reporting of number of acres covered currently vs. total number of acres in future (January 2020 – 2025)
   c. Develop annual reporting of number of farm water quality plans submitted (March 2020 – 2025)
   d. Review monthly water quality monitoring data, monthly (2020 – 2025)
   e. Review annual water quality monitoring reports, annually (March – June 2020 – 2025)
   f. Develop annual reporting of number of Irrigation and Nitrogen Management Plans, water quality restoration plans, and number of drinking water wells on farmland and results, annually (March 2020 – 2025)
2. Replace Conditional Waivers as they expire with General WDRs and incorporating precedential requirements of State Water Board Order WQ 2018-0002.

a. Coachella Valley – June 2020
b. Imperial Valley - January 2021

Goal 2: Adopt Nonpoint Source Total Maximum Daily Loads (TMDLs) and implement through the irrigated agricultural lands General Orders of WDRs.

Objectives and Milestones:

1. Implement Palo Verde Valley and Mesa DDT and Toxaphene 4b/TMDL Alternative through the Palo Verde Valley and Mesa Irrigated Agricultural Lands General Order of WDRs. (March 2020 – 2025)
2. Adopt Imperial Valley PCBs and pesticides TMDL and implement through the Imperial Valley Irrigated Agricultural Lands General Order of WDRs. This TMDL is addressing chlordane, chlorpyrifos, DDT, diazinon, dieldrin, malathion, PCBs, and toxaphene. (March 2020 – 2025)
3. Adopt Coachella Valley organochlorine compounds 4b/TMDL Alternative and implement through the Coachella Valley Irrigated Agricultural Lands General Order of WDRs.

Santa Ana (Region 8)

Goal 1: Improve the quality of surface and ground waters that receive discharges from agricultural operations in the San Jacinto watershed through the continued implementation of the CWAD

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 algal blooms. The runoff discharges from agricultural activities contribute to these conditions. In response to this NPS pollution source, as well as other sources, the Santa Ana Water Board adopted separate nutrient TMDLs for Canyon Lake and Lake Elsinore in 2004. These TMDLs have since been revised and will be submitted to the Board for approval in FY 2020 – 2021.

A waiver of Waste Discharge Requirements (WDRs) was developed for use as a tool to leverage implementation of the nutrient TMDLs for Canyon Lake and Lake Elsinore. This waiver is known as the Conditional Waiver of Waste Discharge Requirements from Agricultural Operations in the Watersheds of the San Jacinto River and its Tributaries, and Canyon Lake and Lake Elsinore and their Tributaries, collectively, “San Jacinto River Watershed,” Riverside County (Order No. R8-2016-0003) and is commonly referred to as the CWAD. The design of the CWAD for the San Jacinto River watershed is intended to influence the behavior of agricultural operators to reduce NPS pollutant discharges from their operations. The CWAD program will be up for review July 2021, at which time the Santa Ana Water Board will update the requirements of the CWAD to meet the proposed revised TMDLs, when adopted, and incorporate the San Joaquin precedential order.

Objectives and Milestones:

1. Conduct outreach inspections to assist operators in utilizing the most effective management measures and practices
    a. On a yearly basis, conduct CWAD outreach or compliance inspections of 40 percent (15-20 per year) of the identified agricultural operations in the San Jacinto River watershed (annually)
2. Continue to identify non-filers of the CWAD program and conduct escalating enforcement of agricultural dischargers
    a. Work to identify non-filers through aerial mapping, public records, and field visits (monthly)
    b. Conduct ten field visits each year
    c. Enroll at least 90 percent of the agricultural dischargers in the watershed (June 2021)
3. Aid agricultural operators through educational and outreach workshops on NPS pollution control measures/BMPs and water quality management strategies and pertinent related topics, and work with NRCS to secure USDA Farm Bill funds (e.g., EQIP) for agricultural operations to support compliance
    a. Work with the San Jacinto Coalition to ensure operators meet the minimum three hours of continuing education on a yearly basis and to conduct additional outreach (annually)
4. Work with CWAD enrollees to develop additional coalitions (June 2021)
5. Determine the extent to which pollutant loads that are attributed to agriculture comply with the proposed revised TMDLs through management measure and practice tracking and water quality monitoring
    a. Use the revised TMDLs, after Board adoption, to update BMP requirements and loads for irrigated and non-irrigated agriculture in preparation for the CWAD renewal (June 2021)
    b. Work with Resource Conservation Districts and the National Resource Conservation District to provide non-irrigated farmers updated BMPs in accordance with the proposed revised TMDLs by July 2020
6. Reissue the CWAD order or develop another regulatory mechanism by July 2021.
    a. Examine the proposed revised TMDLs as they apply to agricultural operations, review and implement requirements of the San Joaquin precedential order, and review the current conservation practices reported in the annual BMP report to determine effectiveness in improving water quality and meeting the requirements of CWAD.
    b. Evaluate efficacy of the CWAD program as a regulatory tool and consider merits of alternative strategies, e.g., general WDRs, considering program approaches of the other Regional Water Boards
    c. Incorporate the San Joaquin precedential order requirements and the proposed revised TMDLs, as applicable, in updating the CWAD by June 2021

San Diego (Region 9)

Goal 1: Reduce effects to habitats and ecosystems from agricultural discharges of nutrients, pesticides, and fill material, and reduce effects to drinking water supplies from agricultural discharges to surface and ground waters

Background: The San Diego Region has approximately 5,000 commercial agricultural operations subject to general regional waste discharge requirements (WDRs) that were adopted in 2016. Efforts from 2016-2019 focused on enrollment and education of how agricultural practices affect beneficial uses. In 2020-2024, work is needed to increase the WDR enrollment rate, assess compliance, assess program effectiveness, and restore affected waters. Additionally, San Diego Water Board staff will revise the WDRs to include concepts from the Eastern San Joaquin precedential Order.

Objectives and Milestones:

1. Improve compliance with regionwide Agricultural WDRs
    a. Inspect 20% of enrollees in Santa Margarita and San Luis Rey watersheds (2025)
    b. Achieve 60% WDR enrollment of all irrigated acres in Santa Margarita and San Juan watersheds (2025)
    c. Issue enforcement actions for each Class A violation within 18 months of discovery
2. Assess conditions of priority habitats downstream of agricultural areas
    a. Conduct monitoring at four agricultural-dominated tributaries to Santa Margarita River (2022)
    b. Review annual monitoring data from Agricultural WDRs
    c. Review and modify, if necessary, monitoring requirements when renewing Agricultural WDRs (2022)
3. Revise the General WDRs to address the Eastern San Joaquin precedential Order
    a. Develop draft WDR that includes the requirements of the Eastern San Joaquin Order (2021)
    b. Outreach to stakeholders and public review period, including CEQA (2022)
    c. Revised General WDR to Board for consideration (2022)
4. Restore habitats and ecosystems impaired by discharges from agricultural activities
    a. Participate in stakeholder meetings with Santa Margarita River Nutrient Working Group (a.k.a. TMDL stakeholder group) (2020-2024)
    b. Develop water quality restoration strategy (TMDL or alternative) for nutrient impairments in Santa Margarita River 2022
    c. Re-assess and identify high priority areas for restoration following review of Integrated Report using biological objective data: 2024 – 2025.
5. Improve WDR compliance where groundwater pathways discharge agricultural waste to high use aquifers or drinking water reservoirs
    a. Targeted agricultural WDR compliance inspections, report reviews, and/or outreach for 20% of enrollees in San Dieguito watershed upstream of Lake Hodges reservoir by 2025;
    b. Targeted agricultural WDR compliance inspections, report reviews, and/or outreach for 20% of enrollees overlaying Temecula Valley and Santa Margarita Valley groundwater basins by 2025

B. Central Valley Salinity Alternatives for Long-Term Sustainability (Region 5)

Goal 1: Address both short- and long-term salt and nitrate accumulation and ensure a sustainable future in the Central Valley

Background: Over the last 150 years, significant changes to the landscape, land uses, and hydrologic conditions of the Central Valley have occurred. Increased anthropogenic activities such as agricultural, municipal and industrial activities, population growth, and re-engineered distribution of the valley's natural hydrologic conditions have resulted in dramatic increases in salt and nitrates in surface water, groundwater, and soils. In addition to the impacts caused by anthropogenic activities, the Central Valley has naturally occurring concentrations of salts at elevated concentrations.

Elevated salt and nitrate concentrations threaten drinking water supplies and agricultural and industrial productivity. In many communities, water supply wells do not meet nitrate drinking water standards. Salt accumulations have resulted in 250,000 acres taken out of production and ~ 1.5 million acres being salinity impaired. If salinity management does not change, direct economic costs to the Central Valley could exceed $1.5 billion per year while statewide income impacts could exceed $3 billion per year by 2030.

In 2006, the Central Valley Water Board initiated a collaborative stakeholder initiative, known as Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS), to develop a Central Valley-wide Salt and Nitrate Management Plan (SNMP). Stakeholder representatives included representatives from agriculture, municipalities, industry, water supply, environmental justice communities, state and federal regulatory agencies, and the public. In 2017, the CV-SALTS initiative submitted a final SNMP to the Board that recommended an overall framework to address both short- and long-term salt and nitrate accumulation and ensure a sustainable future in the Central Valley.

In 2018, the Central Valley Water Board adopted the proposed Basin Plan Amendments to establish a region-wide Salt and Nitrate Control Program, which includes strategies, policies, and guidance to implement recommendations, as appropriate, from the CV-SALTS-developed SNMP. The State Water Board adopted the Salt and Nitrate Control Program basin plan amendments on October 16, 2019 with a number of additional conditions such as requiring the Central Valley Regional Board to consider costs borne by dischargers and affected residents when determining whether achieving salt loading or implementing managed aquifer restoration for salt or nitrate is "reasonable, practicable, and feasible," and directing the Central Valley Regional Board to provide progress reports to the State Water Board on the implementation of the amendments to the Basin Plans (a) annually on short-term implementation and (b) every five years on long-term trends. State Water Board resolution number 2019-0057 contains the additional conditions for the Central Valley Regional Water Board.

Objectives and Milestones:

1. Complete the basin planning approval process for the basin plan amendments that establish a region-wide Salt and Nitrate Control Program. (EPA Approval estimated in 2020)
2. Implement Nitrate Control Program
    a. Stakeholder outreach to Priority 1 Basins: Within first year after OAL approval (estimated completion by Fall 2020) and to Priority 2 basins within 2-4 years after OAL approval (estimated Fall 2022-Fall 2024)
    b. Provide technical assistance to program participants including development of key program deliverables (ongoing as needed)
    c. Amend permits to reflect new requirements of the Nitrate Control Program (ongoing as needed)
    d. Conduct Regional Board workshops and hearings to adopt Management Zone Implementation Plans and permit revisions and/or update the Regional Board on the Nitrate Control Program implementation (ongoing as needed)
3. Implement Salt Control Program
    a. Public outreach and education on the Salt Control Program (ongoing)
        i. Send out Salt Control Program's Notices to Comply (within one year after the basin plan amendments are effective, anticipated Winter 2020)
        ii. Review Notices of Intent and Characterization Reports; 6 months after Notices to Comply are sent out (summer 2021).
    b. Develop and implement the Prioritization and Optimization (P&O) Study in coordination with stakeholders; meetings ongoing as needed, annual progress reports for first 5 years (2022-2027).
    c. Amend permits to reflect new requirements of the Salt Control Program; (ongoing as needed)
4. Review SAMP Workplan and Quality Assurance Project Plan and provide comments on QAPP (within 2 years after the effective date of the Salt and Nitrate Control Program)
5. Ensure achievement of salinity objectives by providing oversight of salinity management plans and Management agency agreements with U.S. Bureau of Reclamation through attendance and quarterly meetings, review of annual workplans and quarterly progress reports, and annual updates at a board meeting (ongoing)
6. Continue the development of basin plan amendments to establish a region-wide evaluation process for the Municipal and Domestic (MUN) beneficial use in Ag dominated surface water bodies.
    a. Release publicly available Basin Plan Amendments for comment (2020)
    b. Conduct stakeholder meetings (2020-2021)
    c. Prepare and present agenda item to Regional Board (2021)
    d. Prepare and present agenda item to State Board (2021)

C. Forestry, Fuels Management, and Wildfire

Background

Forest lands in California cover approximately one third (32 million acres) of the state. 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 relatively permeable soils, forests contribute to groundwater recharge and subsurface flows, which also helps to regulate flows during heavy precipitation events.

The Water Boards partner with several agencies to implement a coordinated system of regulations which maintain, preserve, and enhance water resources from the impacts of forest activities. These agencies include California Department of Forestry and Fire Protection (CAL FIRE), the California Natural Resources Agency, the California Department of Fish and wildlife, and California Geological Survey, in addition to federal agencies such as the Forest Service and the Bureau of Land Management. The Forest Service and CAL FIRE require nonpoint source pollution controls, otherwise referred to as best management practices, for forest management projects they permit.

In 2018, in response to devastating wildfires across the state, Governor Brown issued executive order B-52-18 detailing orders to improve forest management and restoration, provide regulatory relief, reduce barriers for prescribed fire and support wood products innovation. Also, in 2018, the California state legislature signed into law SB 901, a California Senate Bill that was developed in response to the increasing frequency and intensity of California's wildfires. In January 2019, Governor Newsom issued executive order N-05-19 requiring CAL FIRE to develop a 45-day report with recommendations of administrative, regulatory and policy changes to prevent and mitigate wildfire with an emphasis on environmental sustainability and protection of public health. In March 2019, Governor Gavin Newsom declared a state of emergency ordering CAL FIRE to immediately begin implementing priority projects identified in the 45-day report to reduce risks of catastrophic wildfire. Projects with activities such as vegetation management, road work, water course crossings and prescribed burns can result in discharges to waters of the state, resulting in increased applications for Waste Discharge Requirements and field inspections for regional staff.

The Water Boards work with California Department of Forestry and Fire Protection, California Department of Fish and Wildlife to review and inspect timber harvest plan. Further, the Water Boards meet regularly through the Forest Management Task Force on topics such as forest management and restoration, regulations, prescribed fire, landowner education and outreach, wood utilization, and tree mortality. The Water Boards engage with these agencies in order to promote practices that decrease discharge of nonpoint source pollution, and to share information on obstacles or challenges to implementing these practices.

While fire is an essential and natural process that serves California's natural landscapes, increasingly, fires across California are becoming uncharacteristically large,

and undoubtedly pose a risk to the beneficial uses of water resources throughout the watersheds they affect.

State Water Board

Goal 1: Develop a state-wide General Order or WDRs for utility corridor maintenance activities (State Water Board)

Background: SB 901 (2018) is a California Senate Bill that was developed in response to the increasing frequency and intensity of California's wildfires. The Governor signed the bill in September 2018. It addresses several wildfire-related issues relevant to utilities. Electric utilities are now required to prepare and submit Wildfire Mitigation Plans (WMPs) that describe the utilities' plans and activities to prevent, combat, and respond to wildfires affecting their service territories. Activities such as vegetation management, line hardening, pole replacement, and road/culvert improvements can result in discharges to waters of the state, resulting in increased submittal of Conversion Exemptions for clearing of trees from Timberland by a private or public utility under section 1104.1.c of the California Forest Practice Rules as well as applications for both individual 401 certifications and the State Water Board Certification of the 2017 Nationwide Permits.

Objectives and Milestones:

1. Develop a streamlined process for permitting SB901-related dredge or fill activities, while also protecting water quality.
   a. Begin drafting order (May 2020)
   b. Send draft of order to target stakeholders for review (October 2020)
   c. Review and incorporate comments (December 2020)
   d. Public review period (April 2021)
   e. Response to comments (May 2021)
   f. Board meeting consideration for approval (June 2021)

Goal 2: Develop a state-wide General Order for vegetation treatment activities covered under the CAL FIRE Vegetation Treatment Program Programmatic Environmental Impact Report.

Background: To address vegetation management and facilitate the increased pace and scale described in the executive orders from Governor Brown and Newsom, CAL FIRE developed and adopted the California Vegetation Treatment Program (CalVTP) Programmatic Environmental Impact Report (PEIR) in accordance with the California Environmental Quality Act (CEQA). The CalVTP defines the vegetation treatment activities and associated environmental protections that would occur in the State Responsibility Area (SRA) to reduce wildfire risks.

Objectives and Milestones:

1. Draft order (Summer 2020)

2. Prepare Board agenda documents (Late summer/Fall 2020)
3. Present to Board for adoption (Fall 2020)

Goal 3: Leverage Timber Regulation and Forest Restoration Funds to implement Water Board grants and contracts related to post-fire sediment source mitigation and reduction to achieve water quality protection and improvement.

Objectives and Milestones:

1. Submit Budget Change Proposals for Timber Regulation and Forest Restoration Funds (TRFRF) (annually)
2. Include post-fire recovery as a program preference in the NPS Grant Program Guidelines, to allow for use of TRFRF funds should they be available or CWA 319 grant funding (annually)
3. Manage annual NPS Grant Program solicitations, contracting and project oversight for work using TRFRF funds, if they are appropriated to the State Water Board by the state legislature (ongoing)

North Coast (Region 1)

Goal 1: Adopt watershed wide WDRs for Humboldt Redwood Company's timber harvesting activities to prevent or minimize sediment discharge from new and existing sediment sources on Humboldt Redwood Company timberlands in the Stitz Creek Watershed.

Background: Stitz Creek is the last of the Humboldt County watersheds largely owned by Humboldt Redwood Company in which significant cumulative effects related to timber harvesting activities have been documented. Because of these significant cumulative effects, Timber Harvest Plans (THPs) in those watersheds are not eligible for enrollment in the Order No. R1-2004-0030 (the General WDR). Except for Stitz Creek, watershed-wide WDRs that establish requirements to address existing cumulative effects and prevent new water quality impacts have been adopted for all the cumulatively impacted watersheds. The draft order (WDR For Discharges Related to Timber Harvesting and Related Land Management Activities Conducted by Humboldt Redwood Company, LLC In the Stitz Creek Watershed, Humboldt County) is expected to be considered for adoption in June 2020.

Objectives and Milestones:

1. Following adoption of the WDR, work closely with the timber companies and partner state agencies to ensure full implementation of the permits provisions during timber operations and associated restoration, monitoring, and other forest management activities.
2. Participate in the review and inspection of all new timber harvest plans in the Stitz Creek Watershed. Conduct a minimum of one additional inspection throughout the year depending on activity (annually, 2020 – 2025)

3. Evaluate annual summary reports to keep informed on Stitz Creek Watershed activities and conditions and evaluate and comment on annual work plans to keep informed and provide input on upcoming management activities planned for the coming year (annually, 2020 – 2025)

Goal 2: Work with the U.S. Forest Service, Bureau of Land Management and National Parks to reduce, minimize, and mitigate nonpoint source discharges associated with land use activities on federal lands; adopt a Permit Authorizing Nonpoint Source Discharges Related to Certain Federal Land Management Activities on Federal Lands before the existing permit expires in October 2020.

Objectives and Milestones:

1. Bring a short term renewal of the North Coast Water Board's Order No. R1-2015-0021, Waiver of Waste Discharge Requirements for Nonpoint Source Discharges Related to Certain Federal Land Management Activities on National Forest System Lands in the North Coast Region (2015 Waiver) to the Regional Water Board for adoption prior to the expiration of the 2015 Waiver in October 2020
2. Meet with federal lands representatives to discuss compliance with water quality permitting, monitoring and reporting requirements, and activities being conducted on federal lands (annually).
3. Hold a public workshop to discuss proposed revisions to North Coast Water Board permitting of activities on federal lands. Announce availability of public draft Permit, conduct workshop, consider input and comments and develop proposed Permit (2021 or 2022).
4. Conduct a new initial study and environmental analysis for conformance with the California Environmental Quality Act (CEQA) (2020 or 2021).
5. Consult with interested Tribal governments regarding tribal cultural resources that could be affected as a result of activities on federal lands per Assembly Bill 52.[2]
6. Present proposed federal lands permit to the North Coast Water Board for consideration of adoption (2021 or 2022).
7. Review all proposed projects on federal lands for conformance with North Coast Water Board permitting requirements.
8. Conduct inspections on at least 20% of projects on federal lands that are enrolled in North Coast Water Board permits each year (annually, 2020-2025)
9. Review monitoring reports submitted for federal lands projects each year.

Goal 3: Participate in activities to reduce or prevent impacts to water quality from catastrophic wildfires, some of which are covered by orders described above and some of which are not covered by orders described above.

[2] AB-52 Native Americans: California Environmental Quality Act , 2014. http://opr.ca.gov/ceqa/updates/ab-52/

Objectives and Milestones:

1. Support the Governor's Forest Health Task Force by actively participating in task force meetings.
2. Conduct inspections of post fire salvage timber harvesting projects on private and federal timberlands.
    a. Conduct inspections of up to 20% of post-fire salvage projects on private timberlands.
    b. Conduct inspection of up to 50% of post-fire salvage projects on federal timberlands.
3. Conduct inspections and provide recommendations regarding fuels reduction projects, and other exemptions and emergencies, submitted through the CAL FIRE's permitting process.
    a. Conduct inspections of up to 20% of exemption projects each year with a 5% enforcement rate.
    b. Authorize fuel reduction projects through North Coast Water Board permitting and conduct inspection of 20% of projects (proposed, active or completed).
4. Review and conduct inspections on 100% of Working Forest Management Plans.
5. Review, inspect and provide recommendations for utility corridor maintenance and fuel reduction projects. Inspect up to 20% of utility line corridors each year. Review the utility companies' annual workplan proposals to manage utility corridors.
6. Update the North Coast Water Board's Categorical Waiver, Order No. R1-2014-0011, to incorporate appropriate best management practices and protection measures to avoid impacts to water quality from fuels management, prescribed burns, and post-fire salvage operations (2022).

Central Valley (Region 5)

Background: The Central Valley Water Board has the responsibility and authority to ensure the protection of beneficial uses of waters within its region and has a variety of tools that can be used to reduce the impacts of wildfire on water quality. This includes regulatory authority, policies, investigation teams, water quality monitoring and assessment teams, and technical expertise. In the post-fire environment, Board staff may conduct assessments or participate in multi-agency assessments like the state's CAL FIRE led Watershed Emergency Response Team (WERT), or the federal Burned Area Emergency Response team (BAER).

The Central Valley Water Board has three offices: Redding, Rancho Cordova, and Fresno. Each office will respond to fire occurring within their general area: the Redding office includes areas north of Sutter and Yuba Counties; the Rancho Cordova office includes Sutter and Yuba Counties in the north, Stanislaus and Tuolumne Counties to the south, and the area in between; and the Fresno office includes the area from Merced and Mariposa Counties, south. Fire response requires deliberate application of a variety of approaches, always tailored to the specific fire event due to differences in

geology, precipitation, burn severity and extent, beneficial uses of local water resources, staff expertise and availability, and the availability of other resources.

Central Valley Water Board staff may make recommendations on the installation of best management practices (BMPs) to mitigate sediment and any pollutants running into the waterways, where such measures have the greatest chance of being effective. If possible, Central Valley Water Board staff will support, participate in, and/or lead water quality monitoring efforts to assess post-fire impacts on surface waters within the region. These efforts will generally focus on high-value waterways, such as those supporting anadromous fish, threatened and endangered species, and drinking water sources.

Goal 1: Address waterbodies 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.

Objectives and Milestones:

1. Continue to develop program to improve legacy roads by working with counties, public land managers and industrial timber, and evaluate effectiveness.
    a. Implement Water Board grants and contracts related to post-fire sediment source mitigation (Ongoing)
2. Develop post-fire assessment methodology to more efficiently and effectively identify areas within the burn area that pose the highest threat to water quality.
    a. Methodology report (Fall 2020)

Goal 2: Reduce sediment and pesticide delivery from utility corridors post-fire

Objectives and Milestones:

1. In preparation of the statewide General Order or WDRs for utility corridor maintenance, work with utility companies post-fire to assure power line corridors are properly designed and constructed to minimize sediment and pesticide delivery to surface waters.
    a. Conduct pre- and post-bmp site inspections (Fall 2020)
    b. Monitor for effectiveness (Winter 2021)
2. Work with the State Water Board to develop a state-wide General Order or WDRs for utility corridor maintenance activities
    a. Coordinate on draft statewide General Order or WDRs and provide comments to State Board (Summer 2020)
    b. Coordinate on finalization of statewide General Order or WDRs (Fall 2020/Winter 2021)
3. Implement statewide General Order or WDRs for utility corridor maintenance activities

a. Conduct site inspections to verify permit compliance (Ongoing through 2025 once permit approved)

Goal 3: Develop quantitative techniques to assess post-fire salvage logging impacts on surface waters

Objectives and Milestones:

1. Use monitoring data and field observations to better understand the effectiveness of the Board's post-fire salvage BMPs as described in the Timber General Order
   a. Effectiveness report (Fall 2023)
2. Consider revising Timber General Order to incorporate appropriate changes based on effectiveness report.
   a. Draft Revised General Order (Spring 2025 if needed)

Lahontan (Region 6)

Goal 1: Protect and maintain water quality on forested lands from impacts from non-point source pollution.

Background: Public and private forested lands in the Lahontan Region are subject to commercial timber harvest, fuels reduction, fire suppression, prescribed burns, pesticide/herbicide use, reforestation and other activities. To protect water quality during such activities, the Lahontan Water Board adopted its first conditional waiver of WDRs for timber harvest and vegetation management (Timber Waiver) in 2003 with subsequent renewals in 2007, 2009, 2014 and 2019. The 2019 Timber Waiver renewal applies to vegetation management projects that range from homeowner defensible space operations; to local Fire Protection Districts' community protection plans; to large Wildland Urban Interface projects proposed by the California Department of Parks and Recreation, the BLM, and the USFS. Commercial timber harvest conducted by small landowners, industrial timber companies, and the USFS are also covered under 2019 Timber Waiver renewal categories. For other commercial logging projects, the State has developed a Review Team process that involves the Water Boards, the CA Department of Fish and Wildlife, the CA Geological Survey, and CAL FIRE. The Review Team process satisfies the California Environmental Quality Act (CEQA) requirements with CAL FIRE as the lead agency.

The Lahontan Water Board and the Central Valley Water Board, in collaboration with the United States Forest Service (USFS) and the Bureau of Land Management (BLM), are pursuing the development of NPS permits to ensure regulatory compliance and water quality protection on USFS and BLM managed lands. Land management activities proposed to be regulated under the permit include vegetation management, transportation management, recreational facilities management, wildfire management and recovery, and restoration activities.

Objectives and Milestones:

1. Develop a performance-based general order to regulated nonpoint source discharges of waste from certain activities conducted on lands managed by the U.S. Forest Service and Bureau of Land Management. Coordinate with Water Board Region 5 to leverage expertise and gain workload efficiencies.
   a. Release CEQA scoping notice (November 2020)
   b. Draft general order and CEQA document for public review (May 2022)
   c. Hold public information meetings on draft general order (June 2022)
   d. Water Board consideration of adoption (November 2022)
2. Review CEQA/NEPA documents for federal forested lands activities
   a. Review quarterly Schedule of Proposed Actions (SOPA) notices from federal land management agencies; request notifications of NEPA actions for projects for which water quality may be impacted by NPS pollution (quarterly)
   b. Review and comment on CEQA/NEPA documents for which water quality may be impacted by NPS pollution (ongoing).
3. Implement the 2019 Timber Waiver. Review applications for new enrollment, conduct inspections and follow-up actions, review and track monitoring reports using CIWQS.
   a. 100% of new applications reviewed and enrolled (or notified of non-eligibility) within 30 days of application receipt (annually)
   b. Conduct pre-harvest/active/post-harvest inspections of timber waiver-enrolled projects, based on threat to water quality, complaints, site accessibility or other criteria (annually).
   c. Review 100% of monitoring reports received (annually).
4. Participate in CAL FIRE's THP review team process and report on activities as required by Assembly Bill 1492.
   a. Conduct initial timber harvest plan review of 100% of plans processed through CALFire (annually).
   b. Conduct pre-harvest/active/post-harvest inspections of timber waiver-enrolled projects, based on threat to water quality, complaints, site accessibility or other criteria (annually).
   c. Review 100% of monitoring reports received. Coordinate with Review Team agencies for annual report to the CA legislature (annually).

Goal 2: Facilitate fuels reduction projects to limit threat from wildfire and improve emergency response actions.

Objectives and Milestones:

1. Develop a new Timber Harvest and Fuel Reduction regulatory document i.e., (general WDR or waiver) if needed to respond to changing legislation and requirements as a result of catastrophic wildfires in California.
   a. Hold CEQA scoping meetings or other public outreach (no later than June 2022).
   b. Draft WDR or waiver and CEQA document for public review (no later than September 2023).

c. Bring final general WDR or waiver to Water Board for consideration (no later than March 2024).
d. Implement the new Timber Waiver. Review applications for new enrollment, conduct inspections and follow-up actions, review and track monitoring reports using CIWQS (ongoing following adoption).

2. Participate in State and Regional Water Board's Statewide Emergency Response Technical Working Group.
   a. July 2020: Finalize the State and Regional Water Board's Statewide Emergency Response Plan to outline roles, responsibilities, and response actions for emergencies.
   b. Annually, hold one (1) internal training session to update and refresh staff on Lahontan Water Board's role in emergency response activities.
   c. As scheduled, attend Emergency Response Technical Working Group meetings to share lessons learned, update plan, and improve response actions (Cross-reference Statewide NPS Topic I – Natural Disasters and Emergency Recovery).

Santa Ana (Region 8)

Goal 1: Address nonpoint source 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

Background: Forested areas of the Santa Ana Region are a source of NPS pollutants that contribute to documented sediment and nutrient impairments in the Big Bear Lake watershed. 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 several 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 Santa Ana Water Board has adopted a nutrient TMDL for dry hydrologic conditions for Big Bear Lake, and this TMDL requires the U.S. Forest Service to meet the following requirements: (1) meet specified load allocations for nitrogen and phosphorus; (2) implement monitoring; (3) update water quality models; and (4) develop and implement 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 wildfires have been a high priority for implementing sediment control management measures.

Objectives and Milestones:

1. Develop a regulatory tool to ensure the U.S. Forest Service complies with the nutrient TMDLs developed for the Big Bear Lake watershed (June 2025).
   a. Prepare fact sheet, Order, Monitoring and Reporting Plan, and other associated documents and complete the required procedural actions necessary to regulate U.S. Forest Service operations under WDRs. (June 2024)
   b. Incorporate any new TMDL requirements into the U.S. Forest Service WDRs, as appropriate. (June 2025)
2. 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 (June 2025).

D. Rangelands/Grazing

Background

California's rangelands are composed of grasslands, shrublands, woodlands, wetlands, and deserts and cover approximately 38% of the state. Much of California's surface drinking water and irrigation supply comes from runoff or is stored in reservoirs on the state's 40 million acres of rangeland. The streams that run through these rangelands provide critical habitat for many aquatic and terrestrial animal species, several of which are listed as threatened or endangered by state and federal wildlife agencies. About half of California's rangeland is privately owned, and the other half is public land.

The Water Boards protect water quality on grazed lands throughout the state through a coordinated effort with state and federal agencies, non-governmental organizations, academic institutions, and the livestock industry. The Regional Boards work closely with the US Forest Service and Bureau of Land Management, along with individual ranchers and ranching organizations on annual operating instructions for grazing allotments and water quality management plans for private owners and operators. The State Board is partnering with the University of California, Davis and the University of California Cooperative Extension to develop a non-regulatory guidance document on grazing best management practices. Stakeholders engaged on this document range from environmental groups like Central Sierra Environmental Resource Center and the California Rangeland Conservation Coalition, to industry groups like the California Cattlemen's Association, California Farm Bureau Federation, and California Woolgrowers Association. The Board of Forestry's Range Management Advisory Committee provides guidance to the Water Boards' on many grazing related issues as they arise and is also a partner on the development of the guidance

Well-managed grazing operations can benefit the economy, California consumers, and the environment. Conversely, poorly managed grazing operations can result in degradation of water quality as well as streambank and riparian vegetation. Nonpoint source pollutants from grazing include nutrients, pathogens, temperature and sediment. Impacts vary considerably depending on site-specific conditions such as vegetation cover, grazing density, proximity to the stream, and period of use.

Due to the diversity of California's rangelands and ranching operations across the nine regions regulatory actions are addressed on a region by region basis as opposed to development of a statewide regulatory program. The nine Regional Water Boards are better able to tailor their regulatory requirements to minimize water quality impacts from grazing based on the unique hydrology, topography, climate, and land use in each region. Most of the Regional Water Boards use Waivers of Waste Discharge Requirements (WDRs) to regulate grazing, while a few regions use Waste Discharge Prohibitions.

State Water Board

Goal 1: Develop a non-regulatory guidance document on livestock grazing management in California.

Background: On September 16, 2015, the State Water Board adopted Resolution No. 2015-0062. In the motion to pass this resolution, the State Board instructed staff to engage with the University of California to update range management best management practices and the tools and documents available. The purpose is to compile information for ranchers, the public, governmental organizations, and non-governmental organizations on best management practices and the regulatory framework for grazing in California, particularly as it relates to water quality.

Objectives and Milestones:

1. Produce a statewide guidance on grazing best management practices and regulatory framework
   a. Complete outreach (August 2020)
   b. Draft guidance document (September 2020)
   c. Present to State Water Board for consideration (March 2021)

North Coast (Region 1)

Goal 1: Revise the 2015 Federal Waiver to improve evaluation of water quality conditions on grazing allotments. Propose a new permitting mechanism for federal land grazing allotments that does not rely on NEPA renewal.

Background: In October 2015, the Regional Water Board adopted the latest Waiver, Order No. R1-2015-0021, Waiver of Waste Discharge Requirements for Nonpoint Source Discharges Related to Certain Federal Land Management Activities on National Forest System Lands in the North Coast Region, and the associated Monitoring and Reporting Program. North Coast Water Board staff and the U.S Forest Service have

experienced challenges implementing monitoring and reporting program (MRP) requirements for the 2015 Waiver with respect to grazing allotments. Regional Water Board staff intend to propose revisions to the 2015 Waiver and MRP to address shortcomings with the current grazing allotment monitoring requirements.

Objectives and Milestones:

1. Conduct outreach to the U.S Forest Service, Bureau of Land Management, National Parks, and other regional water board staff, to develop a new enrollment mechanism for grazing allotments and revise 2015 Waiver.
2. Bring short-term renewal to the Regional Water Board for evaluation and adoption prior to the expiration of the 2015 Waiver in August 2020.

Goal 2: Revise monitoring methods to improve detection of water quality problems associated with grazing allotments on federal lands.

Objectives and Milestones:

1. Evaluate potential alternative monitoring methods including California Rapid Assessment Method and Klamath National Forest's modified allotment evaluation method (2020 – 2025)
2. Revise the 2015 MRP language to clarify monitoring questions (2020 - 2025)

Goal 3: Improve surveillance methods through monitoring and reporting program requirements to better evaluate how current grazing permits are being implemented.

Objectives and Milestones:

1. Participate in grazing allotment inspections with U.S Forest Service staff on at least one allotment per National Forest in the North Coast Region per year during the life of the revised 2015 Waiver (2020 – 2025)
2. Revise the USFS MRP to require
    a. Each National Forest to submit Annual Operating Instructions (AOIs) for all allotments in RB1 annually
    b. Each National Forest will submit annual reports that include a summary of modifications to Annual Operating Instructions (AOIs) as a result of USFS staff observations, correspondence with permittee, and/or results of annual pre/post grazing range monitoring (annually)
3. Evaluate AOIs over the course of the revised 2015 Waiver and follow up with USFS range management staff (2020 – 2025)

Goal 4: Participate in local and statewide initiatives, and develop new programs, to improve water quality associated with grazing activities on private lands

Objectives and Milestones

1. Regulate grazing through existing permitting programs such as: Dairy Program, Scott and Shasta WDR waivers, and new grazing initiatives for private lands (2020-2025)
2. Revise existing permitting programs related to grazing activities as necessary to improve water quality protections, including improvements in manure management, stormwater control, control of discharges of waste to land, riparian management, road maintenance and identifying opportunities for composting/biogas digestion, water conservation, and increasing soil health (2020 – 2025).
3. Develop new permitting or TMDL implementation programs to address grazing impacts on lands not yet protected. The Russian River Watershed includes pathogen impairments, which can in part be addressed by seeking control of non-dairy livestock grazing impacts. Other pathogen and nutrient impaired waters could also benefit from such controls (2020-2025).
4. Collaborate with stakeholders to improve the regulatory process, monitoring efforts, and water quality protections associated with grazing activities. Participate in statewide efforts to improve grazing management on private lands, including but not limited to: Rangeland Water Quality Meetings with UC Davis and State Water Board, Board of Forestry's Range Management Advisory Committee (2020-2025).

Goal 5: Address agricultural waste discharges in the Scott and Shasta River watersheds by implementing waivers of Waste Discharge Requirements for Scott and Shasta River TMDLs.

Objectives and Milestones

1. Assess 2-3 ranches per watershed per year, according to the Board-accepted prioritization, provide water quality concerns to landowners and request planning and monitoring documents to address those concerns as appropriate (annually)
2. Develop and strengthen agency and non-agency partnerships in both watersheds to align waivers with outside agency efforts and maximize regulatory efficiency (i.e., NOAA Safe Harbor Agreements)
3. Collect and analyze data indicating BMP effectiveness to facilitate adaptive management decisions
4. Work with local agencies and non-profits, including local RCDs, to develop proposals for 319h grants that support Waiver implementation and TMDL compliance (annually)
5. Re-adopt, revise, or replace the Waivers in 2023
    a. Begin development of the next iteration of Waivers or General WDRs (2021)
    b. Complete planning document (GANT chart or equivalent) for drafting next Waivers (2022)
    c. Present next iteration of Waivers to Public and Regional Water Board for adoption (2023)

San Francisco Bay (Region 2)

Goal 1: Continue to regulate grazing activities on both private and federal land through conditional waivers of Waste Discharge Requirements.

Background: Water quality data have shown that Tomales Bay, Napa River, Sonoma Creek, and their tributaries are impaired by pathogens, sediment, and nutrients. TMDLs completed in these watersheds identify livestock grazing as a source for pathogens and sediment. In November 2017 and October 2018, the Regional Water Board adopted two conditional waivers of WDR for grazing operations to regulate this source of NPS pollution. The 2017 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). Similarly, the 2018 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).

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 resulting from uncontrolled discharge of animal wastes. The Ranch Plans include an implementation schedule for MPs and annual reporting on the progress made towards MP implementation. Region 2's Conditional Waivers of Waste Discharge Requirements for Grazing Operations implement the following adopted water quality improvement plans:

1. Bacteria TMDLs for Tomales Bay, Sonoma Creek, San Pedro Creek and Pacifica State Beach, Petaluma River (to be considered for adoption in 2019), and San Vicente Creek bacteria Water Quality Improvement Plan
2. Mercury TMDLs for Tomales Bay and Walker Creek; and
3. Sediment TMDLs for Napa River, Sonoma Creek, and Lagunitas Creek.

Objectives and Milestones:

1. Increase enrollment of Napa River and Sonoma Creek watershed grazing operations in Grazing Waiver Program (2020 – 2021)
   a. Develop a list of potential Grazing Waiver Program non-filers (November 2020)
   b. Contact unenrolled grazing operations via certified mail to request enrollment (November 2020)
   c. Evaluate compliance rate and determine if further enforcement action is appropriate (January 2021)

2. Expand Grazing Waiver Program to include the Petaluma River watershed (2020 - 2021)
    a. Conduct a minimum of two outreach meetings to stakeholders following adoption of the Petaluma River Bacteria TMDL (2021)
    b. Draft a conditional waiver of WDRs for internal review (June 2021)
    c. Water Board adoption of a conditional waiver of WDRs for grazing operations in the Petaluma River watershed (December 2021)
    d. Identify grazing operations likely to fall under the Waiver, send initial letter requesting grazing operation to enroll, evaluate responses, send 2nd letter or contract as appropriate (2022)
3. Inspect enrolled grazing operations for implementation of appropriate Management Practices
    a. Complete 10 grazing enrollment inspections annually (2021 – 2025)
    b. Provide feedback to 10 inspected ranches on their implementation of Management Practices annually (2021 – 2025)
4. Evaluate progress toward achieving water quality objectives
    a. Compile available data from internal and external sources and review that data for a minimum of two watersheds (September 2024)
5. Establish area(s) of focus for next NPS 5-year plan (June 2025)

Los Angeles (Region 4)

Goal 1: Reduce NPS discharges from grazing activities through WDRs, waiver of WDRs or other regulatory mechanisms

Background: Grazing activities were identified as a nonpoint source of nutrients and assigned load allocations (LAs) in the Ventura River Watershed Algae TMDL. The compliance date for the LAs is June 28, 2023, 10 years after the effective date of the TMDL. The LAs require a 10% reduction from the baseline loading of nutrients from grazing activities. On May 16, 2018, the Los Angeles Water Board approved the final Study Plan from the Ventura County Cattlemen's Association. The study will determine the baseline nutrient load and to propose MPs to reduce the load by 10% as required by the Ventura River Watershed Algae TMDL. Once the Los Angeles Water Board obtains the results from the baseline nutrient loading study, it will begin developing the appropriate regulatory mechanism to ensure that the LAs are attained by June 2023.

Objectives and Milestones:

1. Develop a database for ranches and grazing activities to help establish the conditions for the regulatory program (June 2021)
2. Review baseline monitoring results and provide comments to ensure proposed MPs will reduce nutrient loading by 10%. Complete review and comment (December 2021)
3. Develop WDRs, conditional waiver of WDRs or other enforceable mechanism to regulate NPS discharges of nutrients from grazing activities and gain Board approval (June 2022)

4. Pursue opportunities for financial assistance to help offset the costs of regulatory compliance and manage grants related to the implementation of grazing MPs to reduce NPS pollution (ongoing)

Lahontan (Region 6)

Goal 1: Protect and restore water quality from impacts due to grazing in a manner that embraces stakeholder involvement and recognizes the benefits of ranching and agriculture in the Lahontan Region.

Background: 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 (focusing on Bridgeport Valley and tributaries) (Bridgeport Grazing Waiver) in 2007 with subsequent renewals in 2012 and 2017. For the 5-year planning period, Water Board staff will focus on updating or replacing the Bridgeport Grazing Waiver to achieve and maintain indicator bacteria water quality objectives. Staff will explore regulatory or other actions in other watersheds where sampling data indicates bacteria or nutrient levels exceed water quality objectives, such as the Eagle Lake watershed in Lassen County. Development of WDRs for grazing allotments owned by Los Angeles Department of Water and Power (LADWP) in the Owens Valley is planned for completion by mid-2022, so focus will be on implementing those WDRs to improve water quality in that area. If irrigated pasture is included in the Lahontan Water Board's potential ILRP, then grazing activity within the Owens Valley may be regulated by that program rather than individual WDRs. The completion date would then extend to 2025 consistent with Region 6's ILRP goal 1 and associated objectives and milestones.

Objectives and Milestones:

1. Implement Bridgeport Grazing Waiver or other regulatory tools to achieve, by 2028, compliance with the statewide or Basin Plan indicator bacteria objectives in effect at that time.
    a. Implement 2017 Bridgeport Grazing Waiver. Review ranch water quality management plans (RWQMPs) annual certification of compliance with RWQMPs and monitoring data (June 2020 and annually thereafter).
    b. Reduce fecal coliform concentrations in surface waters downstream of grazing operations to an interim goal of 200 colony forming units per 100 milliliters (30-day log mean) by working with stakeholders such as Bridgeport Ranchers Organization (BRO), NRCS, UC Davis Cooperative Extension to develop plans to implement bottom-of-valley water quality improvements (June 2021)
    c. Renew updated Bridgeport Grazing Waiver or develop updated WDRs, or another regulatory tool as necessary (July 2022)
2. Develop and implement WDRs or other regulatory tools to reduce water quality impacts to surface waterbodies on Los Angeles Department of Water and Power (LADWP) lands in the Owens River watershed (ongoing to 2022).

a. Ensure required allotments are enrolled in WDRs. Review ranch water quality management plans (or similar reporting documents) to determine progress toward meeting water quality objectives for bacteria. Track implementation of grazing management practices installed (June through August 2022, and annually thereafter).

3. Develop Water Quality Control Plan for Eagle Lake
   a. Review results of water quality sampling in Eagle Lake planned for FYs 2019 - 2021, including indicator bacteria. Evaluate data against 303(d) list policy data requirements and determine need for refined listing (September 2021).
   b. If appropriate, revise listing determination (September 2022). Note, this date assumes an "off-cycle" listing determination.
   c. Develop TMDL and/or regulatory mechanism as appropriate to address constituents of concern (January 2025).

E. Watershed Planning and Implementation

State Water Board

Goal 1: Collaborate on watershed planning with other Water Board programs to a) leverage existing watershed plans for nonpoint pollution control and b) promote nonpoint source pollution control as an important element of watershed planning for other programs.

Background: A watershed-based plan is a strategy and workplan for achieving water resource goals for a geographically defined watershed. A watershed-based plan establishes a baseline of existing conditions, identifies specific problems, presents solutions to those problems, identifies protentional implementers and costs, and provides a framework for evaluation. Various forms of watershed plans are used in California including Coordinated Resource Management plans, TMDL implementation plans, watershed plans provided to address requirements of the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, Watershed Management Plans for municipal stormwater permits, Integrated Water Resource Management Plans, and Regional Water Board's Water Quality Control Plans (i.e., Basin Plans).

Objectives and Milestones:

1. Create a workgroup of 401 certification, TMDL, and stormwater staff, develop an analysis to understand the elements/needs of different plans, and identify goals and objectives for leveraging watershed plans across programs (2021)

Goal 2: Improve public access to watershed planning information to support development and updating of watershed plans**.**

Background: A challenge for addressing nonpoint source pollution in California is integrating the various plans that are required by different agencies. In 2019, NPS Program staff developed a Watershed Planning Map, which links HUC-12s in California

with watershed-based planning documents submitted as part of NPS Grant Program proposals. This GIS web map is posted to the NPS Program webpage and provides links to planning documents within associated HUC-12s. The NPS Program hosts and makes these documents available so that individuals and/or organizations can use the information when developing watershed-based plans such as those required for the NPS Grant Program. The Watershed Planning Map increases access to regional planning documents so that all potential grant applicants can develop competitive and effective proposals.

Objectives and Milestones:

1. Annually update the Watershed Planning Map with documents submitted through NPS Grant Program applications (2020 – 2025)
2. Through the workgroup in Goal 1, determine the usefulness of adding planning documents from dredge and fill permitting, stormwater permitting, and TMDL implementation plans to the Watershed Planning Map (2020 – 2025)

Goal 3: Leverage plans required by other agencies for controlling and reducing nonpoint source pollution in targeted waterbody-pollutant combinations of this plan.

Background: Integrated Regional Water Management (IRWM) is a collaborative effort to identify and implement water management solutions on a regional scale to increase regional self-reliance, reduce conflict, and manage water to concurrently achieve social, environmental, and economic objectives.[3] The Department of Water Resources administers grant funds to help entities develop, adopt, and update IRWM plans. In 2019, Department of Water Resources allocated $4.2 million through a competitive process to support the development of new IRWM Plans or to update existing IRWM Plans.

Department of Water Resources assists stakeholders by hosting a GIS Water Management Planning Tool that provides regional information to potential grant program applicants. Department of Water Resources also hosts a Disadvantaged Communities (DAC) Mapping Tool and an Economically Distressed Area (EDA) Mapping Tool to assist local agencies and other parties in evaluating DACs and EDA status throughout the state.

Similarly, USDA NRCS requires various plans for landowners and producers to quality for Farm Bill funding for implementing conservation practices (aka BMPs) (e.g., Coordinated Resource Management Plans, Conservation Activity Plans, Watershed Assessments). Water Boards and NRCS CA have met to discuss how ILRP Farm Plans and Nutrient Plans can be better coordinated with NRCS Conservation Plan elements and Nonpoint Source Watershed planning elements to maximize funding opportunities and incentivize improved water quality..

[3] https://water.ca.gov/Programs/Integrated-Regional-Water-Management

Objectives and Milestones:

1. Integrated Regional Water Management (IRWM) Plans
    a. Investigate the IRWM GIS Water Management Planning Tool to determine if it could support elements of watershed-based plans and could be promoted in the annual NPS Grant Program Guidelines. If not determined to be useful, identify potential improvements and discuss with Department of Water Resources (2022 - 2023)
    b. Review 2 – 3 IRWM plans to determine the extent to which they do or could include nonpoint source pollution control (2021).
    c. Contact Department of Water Resources Integrated Regional Water Management Program staff to discuss opportunities to build in nonpoint source pollution control into IRWM plans, such as incorporating guidance about nonpoint source pollution control into educational materials, grant guidelines, and other public documents (2020 - 2023)
2. NRCS Plans
    a. Continue meetings between NRCS and Water Boards to build understanding of the crossover between various plans and leverage how these plans could support funding for implementation to address Water quality priorities. (2020 - 2023)

North Coast (Region 1)

Goal 1: Continue to implement the Five Counties Salmonid Conservation Program (5C Waiver) to minimize sediment discharge from roads under the control of Counties and other dischargers

Background: On May 17, 2018, the North Coast Water Board adopted Order No. R1-2018-0011, which renewed and revised the existing Waiver of Waste Discharge Requirements and General Water Quality Certification for Road Management and Activities Conducted Under the Five Counties Salmonid Conservation Program in the North Coast Region (5 C Waiver). The Five Counties Salmonid Conservation Program (5C Program) provides an efficient and organized structure for preventing and mitigating water quality impacts from county and rural road maintenance activities, and also implements important fish passage and restoration projects in much of the North Coast Region, presently covering the counties of Humboldt, Del Norte, Trinity, and portions of Siskiyou and Mendocino; they are collectively referred to as the 5 Counties. The 5C Program is designed to protect salmonid species and water quality during county road maintenance and related project activities.

Objectives and Milestones:

1. Conduct outreach and training to increase the number of roads throughout the region that are being managed in accordance with the 5C Roads Manual or comparable program.
2. Participate in meetings associated with the 5C Program each year.
3. Conduct a minimum of 10 regular inspections throughout the year.

4. Evaluate all road management activity annual summary reports to keep informed on road management activities and evaluate and comment on annual road management activity work plans to keep informed and provide input on upcoming road management activities planned for the coming year.
5. Prior to expiration of the current 5C Wavier, update the program by either renewing the waiver or adopting a WDR (May 2023)

Goal 2: Continue to support the Wood for Salmon Working Group (WFSWG)

Background: Formed in 2010, the Wood for Salmon Working Group (WFSWG) 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 implementation of more projects; and systematically confront the obstacles that prevent these projects from occurring.

Objectives and Milestones:

1. Guide restoration practitioners through the permitting process for large wood augmentation projects and to promote habitat improvement for native salmon.
   a. Hold at least two Wood for Salmon Working Group meetings per year.
2. Conduct outreach to other state and federal agencies, environmental non-profits, and stakeholders to coordinate the restoration permitting process for large, in-stream wood projects. Promote and support the use of the WFSWG Permitting Guidance for Conducting Accelerated Wood Recruitment Projects through the CAL FIRE's Timber Harvest Planning Process (2020-2025)
3. Support implementation of large wood augmentation projects in the North Coast Region.
   a. Engage in the implementation of at least five 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 five acres and 500 linear feet. (2020-2025)
4. Provide ongoing technical and planning support to the State Water Board during restoration permit development.
   a. Support the effort by the State Water Board's Division of Water Quality and Sustainable Conservation to develop mid- to large-scale restoration general order for the state.

Goal 3: Implement the Upper Elk River Sediment TMDL Action Plan.

Background: The TMDL Action Plan requires 1) development of WDRs/waivers to reduce sediment discharges from the upper watershed, 2) completion of a sediment and hydrodynamic model as the scientific basis for a sediment remediation and channel/habitat restoration plan, and 3) implementation of a watershed stewardship program to established a stakeholder-driven, collaborative approach to watershed

recovery. The Elk River Steward's specific responsibilities include but are not limited to developing and implementing:

- the Elk River Watershed Stewardship program including the development of a shared vision of watershed recovery with partner agencies;
- the Elk River Recovery Assessment (e.g., recommendations of actions per reach as supported by the technical analysis);
- the Elk River Sediment Remediation Pilot projects (e.g., assessment of individual remediation/restoration techniques); and
- the Stewardship Action Plan projects (e.g., a collaborative plan that translates the shared vision of watershed recovery into practical/possible actions supported by stakeholders), including CEQA analysis.

Other activities include but are not limited to expanded coordination with local, state, and federal permitting and funding agencies, internal coordination with the Timber Program on WDR development/implementation and the development mechanisms to ensure discharger participation in Stewardship and fair contributions to remediation/restoration funding; and expanded activities associated with Humboldt Bay planning and conservation initiatives.

Timber Program staff are revising waste discharge requirements (WDRs) for the two industrial timber operators in the Elk River watershed, which are scheduled for revision in 2019 in order to incorporate specific provisions that implement all the hillslope indicators and numeric targets from the Action Plan for the Upper Elk River Sediment TMDL. Following adoption of the revised WDRs, staff will be working closely with the timber companies, Stewardship staff, and our partner state and federal agencies to ensure full implementation the permits provisions during timber operations and associated restoration, monitoring, and other forest management activities.

<u>Objectives and Milestones:</u>

1. Complete Elk River Stewardship Action Plan, including identification of at least five priority sediment remediation and channel/habitat restoration projects, a Remediation/Restoration Framework with partner agencies, and a funding strategy (June 2021). Develop collaborative agreements to implement priority projects (December 2024)
2. Secure funding for and Implement the Elk River Science and Monitoring program (October 2022)
3. Achieve 65% design plans for one to two Action Plan projects (January 2025)
    a. Minimize sediment loads from new and existing sediment sources on lands in the Upper Elk River Watershed by conducting, in coordination with Stewardship staff at least five regular inspections of timber harvest plan areas throughout the year.

Goal 4: Continue to pursue two initiatives contributing to the Klamath River TMDL Action Plan within the upper Klamath Basin above Link River Dam in Oregon.

Background: More than 70% of the pollutant load that impairs the Klamath River within California comes from Upper Klamath Lake. Regional Water Board activities include participation in two primary work groups: 1) Upper Klamath Watershed Action Team (UKWAT), and 2) Klamath Hydroelectric Settlement Agreement Interim Measure 11 Water Quality Improvement Projects Adaptive Management Steering Committee (IM-11). Both work groups will have completed water quality improvement planning documents that identify priority projects for implementation. The purpose is to leverage funding among participating organizations and the $5,400,000 IM-11 fund to implement projects including but not limited to: riparian restoration, diffuse source treatment wetlands, agriculture water conservation projects, and natural wetland restoration. The adaptive management program will engage the Klamath Basin Monitoring Program (KBMP) to track project implementation and to coordinate status and trends water quality monitoring activities.

Objectives and Milestones:

1. Begin Implementation of priority water quality improvement projects. (beginning July 2020)
   a. Integrate IM-11 and UKWAT meetings and operations; joint meetings of IM-11 Steering Committee and UKWAT (beginning July 2020);
   b. Issue RFPs soliciting proposals for water quality improvement projects in the Upper Klamath Basin (beginning July 2020).
   c. Complete contract arrangements for up to four water quality improvement projects (beginning July 2020).
   d. Begin implementation of four water quality improvement projects within the upper Klamath Basin (beginning July 2020)

Goal 5: Continue to pursue two initiatives contributing to the Klamath / Lost Rivers TMDL Action Plan within the Reclamation Klamath Project area that includes both the Lost River Watershed but also includes a small portion of the upper Klamath watershed adjacent to Keno Reservoir.

Objectives and Milestones:

1. Develop a Watershed Stewardship Work Group charter for the Tule Lake/Lower Klamath Lake area (June 2021)
   a. Identify Watershed Stewardship Work Group participants (August 2019)
   b. Draft Watershed Stewardship Charter (March 2021)
   c. Describe water conservation and water quality goals for work group participants.
   d. Identify priority projects for improving water quality and increasing flows to Lower Klamath Lake National Wildlife Refuge and to the Klamath River. (September 2021)

e. Conduct quarterly meetings of watershed stewardship work group (June 2020 – June 2025)
f. Develop funding proposals for two of the priority projects identified in the work group charter (February 2021)
g. Conduct two stewardship projects to address project priorities identified (January 2025)

2. Initiate IM-11 Adaptive Management Steering Committee (June 2021)
   a. Objective 1: Complete strategic planning with two irrigation districts to improve water quality and water conservation.
   b. Develop catalog of agriculture BMPs for stewardship work group members.

Goal 6: Provide recommendations to the Board to improve the effectiveness of regional permits and programs and to better align them with TMDL Action Plans and Regional Work Plans.

Objectives and Milestones:

1. Determine what actions provided by TMDL action plans and regional work plans are covered by the existing permits and programs administered by the Regional Water Board and which actions are not.
   a. Catalogue standard conditions of existing and expired permits and programs in a centralized database. Catalogue TMDL action plan and regional work plan actions in a centralized database. Crosswalk standard conditions with action plan and work plan actions to determine coverage between the two and identify gaps (2019).
   b. Analyze watershed-specific programs to identify any coverage of the gaps. (2019)
2. Determine to what extent and with what ease current data provided by permits and programs administered by the Regional Water Board can support adaptive management of those permits and programs.
   a. Catalogue data format and type provided by permitting mechanisms and the extent and ease to which that data can support effective adaptive management of permits and programs administered by the Regional Water Board. (2020)
3. Determine what recommendations can be made to support more thorough implementation of the TMDL Action Plans through existing permits and programs, what data gaps need to be filled, and what data systems can be developed to support adaptive management of these permits and programs. Develop recommendations and present them to the Regional Water Board. (2020-2021)

Goal 7: Implement the North Coast Water Board's Restoration Program

Background: The North Coast Water Board's Restoration Program implements its Policy in Support of Restoration in the North Coast Region – Resolution No. R1-2015-0001. The Policy was developed to support the implementation of projects that restore, protect, and enhance waters of the state. This initiative includes continued support and

implementation of permit coordination programs, prioritization of recovery restoration actions, projects that address nonpoint source pollution, support for statewide restoration permitting initiatives, and development of incentives and public funding assistance for projects that improve water quality.

Objectives and Milestones:

1. Support implementation and renewal of the Mendocino County Permit Coordination Program. Review annual workplans, conduct project inspections, and authorization of up to 25 projects annually (2020-2025).
2. Support implementation and renewal of the Trinity River Restoration Program (TRRP). Review and issue CEQA initial study, review and authorize projects under the General or Individual Orders for TRRP (2020 – 2025).
3. Support development and implementation of statewide restoration general order for mid-scale to large-scale restoration projects (2020 – 2025)
4. Support development and implementation of new coordinated permitting for Redwood National and State Parks under the partnership known as Redwoods Rising (2020 – 2025)
5. Support other federal agencies that are developing restoration plans for the lands they oversee, including the Six Rivers National Forest, Bureau of Land Management, and others. Conduct review and authorization of restoration projects as necessary on federal lands (2020 – 2025)
6. Support restoration practitioners seeking public funding assistance. Review and select grants to support priority restoration projects. Coordinate implementation of select grants. Evaluate and develop emerging incentives for restoration (2020 – 2025)

Goal 8: Implement the Laguna de Santa Rosa Vision Project

Background: In 2015, U.S. EPA announced a new vision for the TMDL program designed to promote TMDL implementation, nationwide. One of the concepts developed in support of this “vision” was an alternative TMDL, or Alternative Restoration Plan. The concept is to establish a program of implementation that is designed to correct water quality impairments and return to calculate a TMDL later, if needed. The Laguna de Santa Rosa Watershed has been identified as a “Vision” project, to address sediment, temperature, nutrient, and dissolved oxygen impairments through waste load, load allocations, and implementation measures.

Objectives and Milestones:

1. Complete the technical elements of the Laguna de Santa Rosa TMDLs. Develop linkage analysis (2020), loading capacity, numeric targets, proposed wasteload and load allocations (2021)
2. Identify source control, restoration, and adaptive management activities within the Laguna de Santa Rosa necessary to restore the watershed to supporting conditions. Annually conduct at least 3 joint inspections with program staff to understand the

dynamics of land use and restoration practices occurring in the watershed that influence hydrology, nutrient and sediment loading, riparian habitat and protections. (2020-2025)

3. Develop a status and trends monitoring approach for the Laguna de Santa Rosa, which will support implementation of Action Plan adaptive management.
   a. Develop a memorandum recommending an appropriate methodology and associated requirements for using TMDL alternative measures that may inform non-point source permits in the Laguna de Santa Rosa. (2022)
   b. Create an internal memorandum identifying monitoring recommendations (2023)

Central Coast (Region 3)

Goal 1: Restore degraded ecosystems

1. Identify and fund implementation practice projects on Irrigated lands in high priority polluted watersheds (Lower Salinas, Santa Maria and Pajaro watersheds areas) and or in irrigated agriculture areas
   a. Solicit and fund projects in high priority watersheds in annual grant solicitation notices (2020 – 2025)

Goal 2: Track TMDL implementation efforts and identify effective regulatory and non-regulatory actions that improve water quality.

Objectives and Milestones:

1. Develop TMDL implementation tracking system using existing or modifying existing tools.
   a. Compile a comprehensive status evaluation for all approved TMDLs and the individual impairments addressed within (2021)
2. Identify effective regulatory and non-regulatory actions that improve water quality.
   a. Identify at least two success stories summarizing NPS actions that address TMDLs and provide those to USEPA for consideration (2025)

Goal 3: Demonstrate grant funded practice effectiveness in improving water quality

Objectives and Milestones:

1. Evaluate effectiveness of grant funded implementation by evaluating onsite monitoring data, and where available, evaluate receiving water quality monitoring data downstream of practice location.
   a. Assess in-stream water quality data in reaches with implementation activities to track improvements to waterbodies (2025)
   b. Develop at least one fact sheet describing the receiving water quality conditions post practice implementation (2025)

F. Confined Animal Facilities

Background

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. Confined animal facilities differ from concentrated animal feeding operations (CAFOs), in that they are not covered by the Clean Water Act and are not issued NPDES permits.[4]

Confined animal facilities represent a significant source of waste discharges. Confined animal facilities generate waste that include 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. Waste from confined animal facilities can contain significant amounts of pathogens, oxygen-depleting organic matter, sediment, nitrogen compounds, excreted pharmaceuticals and metabolites, 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. The primary types of these facilities in California are dairies, horse facilities, and egg, chicken, and/or turkey production facilities. California has approximately 1,330 dairies with an average size of about 1,300 milk cows.

Some Regions address confined animal facilities in their Agricultural programs, and so those Region activities are not addressed in this section. This section describes goals of Regions that have separate goals for confined animal facilities.

North Coast (Region 1)

Goal 1: Ensure dairy operations in the region adequately implement BMPs to control waste discharges and protect water quality per the General Waste Discharge Requirements for Dairies in the North Coast Region, Order No. R1-2019-0001 (GWDR).

Objective and Milestones:

1. Implement the permit, including overseeing water quality protection measures on existing permitted facilities and overseeing enrollment of new dairy facilities as warranted (2020 and 2025).
   a. Conduct approximately 25 dairy inspections per year

[4] NPDES regulations define animal feeding operations (AFOs) as operations where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and where vegetation is not sustained in the confinement area during the normal growing season [40 C.F.R. § 122.12(b)(1)]. NPDES regulations define a concentrated animal feeding operation (CAFO) as any AFO that either meets a certain animal population threshold, or, regardless of population, is determined to be a significant contributor of pollutants to waters of the United States by the appropriate authority [40 C.F.R. § 122.23(b)(2)]. The Clean Water Act (CWA) states that all CAFOs are point sources, and thus discharges from CAFOs are subject to NPDES permitting requirements.

b. Review all submitted Riparian Management Plans for enrolled dairies, annually
c. Review all Water Quality Plans for existing, enrolled dairies
d. Review all surface water and groundwater sample data and take appropriate actions if violations of the Dairy WDR or Basin Plan are documented

Goal 2: Ensure manure management implements Russian River Pathogen TMDL load allocations.

Objective and Milestones:

1. Continue to implement the Dairy GWDR in a manner that is consistent with pertinent TMDLs (existing and future). Regulate dairies to ensure activities conform with the upcoming Russian River Pathogen TMDL and the future Laguna de Santa Rosa TMDL/Vision Project.

San Francisco (Region 2)

Goal 1: Continue to regulate confined animal facilities (CAFs) and dairies to reduce discharge of nutrients, bacteria, and sediment.

Background: Within the San Francisco Bay Region, confined animal facilities consist of dairies, horse facilities, and a few egg, chicken, and turkey production facilities. Most of the animal waste produced is from cow dairies within the counties of Marin and Sonoma. There are approximately 39 cow dairies currently operating within the Region, with total herd sizes averaging 200-300 head.

In June 2016 the Regional Water Board adopted General Waste Discharge Requirements (GWDRs) which contain regulatory requirements for all types of confined animal facilities, including dairies, non-dairy operations (e.g., chicken, goats, turkeys), and equestrian facilities. Dairies that are currently enrolled under an earlier conditional waiver of WDR will be covered under the GWDR.

Several TMDLs identify confined animal facilities (CAFs) as pollutant sources and call for CAFs to implement site-specific management measures to reduce animal waste and sediment runoff, including the following bacteria water quality improvement plans:

- Tomales Bay TMDL
- Sonoma Creek TMDL
- San Pedro Creek and Pacifica State Beach TMDL
- Petaluma River TMDL (to be considered for adoption in 2019)
- San Vicente Creek Water Quality Improvement Plan.

In addition to bacteria, the CAF program addresses nutrient impairments and the potential for sediment impairments in these watersheds.

Objectives and Milestones:

1. Move CAFs from Waiver to GWDRs

   a. Contact unenrolled CAF operations to request enrollment mail letter and NOI, send Notice of Violation (or most appropriate communication means) to CAFs that have not enrolled (December 2020)
2. Increase enrollment of confined horse facilities located in the Napa River and Tomales Bay watersheds by compiling verification information for potential non-filers, sending non-filer letters, and evaluating compliance rate and determine if further enforcement action is appropriate (2021)
3. Expand CAF Program to include the Petaluma River watershed by conducting outreach to stakeholders following adoption of the Petaluma Bacteria TMDL, develop a strategy and timeline for managing CAF operations, identify, contact, and attempt to enroll CAF operations (2021)
4. Oversee development and implementation of facilities' nutrient management plans
5. Inspect enrolled CAF operations for implementation of appropriate Management Practices
   a. Schedule and conduct a minimum of 5 CAF inspections annually (2021 – 2025)
   b. Provide feedback to inspected CAFs on their implementation of Management Practices (2021 – 2025)
6. Evaluate progress toward achieving water quality objectives
   a. Compile and review available water quality monitoring data from a minimum of two watersheds from internal and external sources (2024)
   b. Review 50 Annual Reports annually (2020 – 2025)
7. Establish area(s) of focus for next NPS 5-year plan (June 2025)

Los Angeles (Region 4)

Goal 1: Reduce NPS discharges from horse and intensive livestock facilities in the Ventura River watershed through WDRs, waiver of WDRs or other regulatory mechanisms

Background: Horse/Intensive livestock activities were identified as a nonpoint source of nutrients in the Ventura River Watershed Algae TMDL. There are approximately 650 horse and intensive livestock facilities in the Ventura River Watershed. Horse and intensive livestock facilities generate manure and other wastes, containing nutrients, such as nitrogen and phosphorus, and other constituents that, upon discharge to waters of the state, can degrade water quality and impair beneficial uses if not properly managed. The compliance date for the load allocations assigned to horse and intensive livestock activities is also June 28, 2023, 10 years after the effective date of the TMDL. Los Angeles Water Board staff have been working with the Horse and Livestock Watershed Alliance (HLWA), a third-party group to help facilities comply with the load allocation, for the past several years on a conditional waiver of WDRs to implement the load allocations.

Objectives and Milestones:

1. Require horse and intensive livestock facility owners to submit information about their facilities in order to categorize those facilities by risk to water quality

   a. Issue Investigative Order pursuant to Water Code section 13267 to horse and intensive livestock facility owners (June 2020)
   b. Review responses to 13267 Order, categorize facilities by risk and develop waiver conditions.
   c. Complete horse/intensive livestock facilities database by December 2020
2. Develop a waiver for horse and intensive livestock facility owners based on input from the facility owners' responses to 13267 Order and gain Board approval (June 2021)
3. Pursue opportunities for financial assistance to help offset the costs of regulatory compliance and manage grants related to the implementation of horse/intensive livestock MPs to reduce NPS pollution (2020 – 2025)

Goal 2: Reduce NPS discharges from livestock sources in the Malibu Creek watershed through WDRs, waiver of WDRs or other regulatory mechanisms

Background: The Malibu Creek Watershed Nutrients TMDL (2003 TMDL) became effective on March 21, 2003 to address impairments due to ammonia, nutrients, dissolved oxygen, algae, scum and odor in Malibu Lagoon, Malibu Creek and its tributaries and four lakes in the watershed. The Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments (2013 TMDL) became effective on July 2, 2013 to address impairments of Malibu Creek and Las Virgenes Creek related to impacted benthic macroinvertebrates and sediment/siltation and impairments of Malibu Lagoon related to adverse benthic community effects. The Implementation Plan for the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments became effective on May 16, 2017, which laid out the implementation plan and schedule for the 2003 and 2013 TMDLs. Livestock sources were identified as one of the nonpoint sources in both 2003 and 2013 TMDLs, which can be regulated by WDRs, conditional waivers of WDRs, or other regulatory mechanisms in accordance with the Nonpoint Source Implementation and Enforcement Policy.

Objectives and Milestones:

1. Obtain information via a 13267 Order or by other means and develop a database for livestock sources to help establish the conditions for the regulatory program (June 2021)
2. Develop Waste Discharge Requirements (WDRs), conditional waiver of WDRs or other enforceable mechanisms to regulate NPS discharges of nutrient from livestock sources (2025)

G. Coastal

Background

The primary causes of nonpoint source pollution along the California coast are hydromodification, agriculture, legacy mining impacts, forestry, marinas and recreational boating, and urban runoff. Coastal pollutants include metals, nutrients, sediment, bacteria, and trash. NPS discharges and legacy pollutants cause and contribute to impairments of habitats and ecosystems, and fish and shellfish consumption in bays, harbors, lagoons.

Metals in coastal environments come from anti-fouling paints (copper), zinc anodes and historical mining activity (mercury) and urban runoff. Copper antifouling paints are designed to leach copper to prevent marine organisms from attaching to boat hulls; however, copper can have negative impacts on aquatic organisms. Negative impacts include gill and nervous system damage in fish, effects on reproduction, and mortality in invertebrates that make up the base of the food chain.

Ocean standards protect the beneficial uses of California's marine waters through water quality objectives and implementation provisions in statewide water quality control plans and polices including: the Water Quality Control Plan for Ocean Waters of California (Ocean Plan); the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (California Thermal Plan); and the Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling Policy).

The State Water Board helps coordinate and Marina Interagency Coordinating Committee meetings. The Marina Interagency Coordinating Committee provides an informative forum for agencies (state, federal, and local), marinas, and other organizations to address nonpoint source (NPS) pollution related to marinas and recreational boating statewide. This workgroup was established by the Interagency Coordinating Committee (IACC) for the state's NPS Program and is coordinated by the California Coastal Commission and the State Water Resources Control Board. This workgroup has been meeting at least twice annually since 2003. The Antifouling Strategy Sub-Workgroup addresses water quality issues related to copper-based pesticide antifouling paints for boat hulls, and other antifouling issues. This is a sub-workgroup of the Marinas Interagency Coordinating Committee, and typically meets jointly with the Marina Interagency Coordinating Committee. Participants in this workgroup consist of state agency staff (SWRCB and Regional Boards, Department of Toxic Substances Control, Department of Pesticide Regulation, California Coastal Commission, and State Lands Commission), local agency staff (cities and counties), and marina stakeholder groups (marinas and harbors, paint companies, boat owner and operator groups).

The Nonpoint Source Program has committed to participate and facilitate this workgroup as part of the 2020 – 2025 California Nonpoint Source Program

Implementation Plan. Participation in this workgroup also meets the commitment made in the memorandum of understanding between the State Water Resources Control Board and the California Coastal Commission to be joint partners in developing, implementing, and participating in interagency coordinating committees.

California Coastal Commission

Goal 1: Ensure that coastal development projects for which the Coastal Commission is the permitting authority, and local governments' coastal planning documents (e.g., new or updated Local Coastal Programs (LCPs), Long Range Development Plans (LRDPs), and Port Master Plans (PMPs)), implement appropriate management measures and BMPs to protect and restore coastal waters (2020 – 2025)

Objectives and Milestones:

1. Promote the implementation of design, construction, and operational procedures to minimize water quality impacts to coastal waters from ports, harbors, marinas, and piers. Host a minimum of 2 Marina Interagency Coordinating Committee meetings, annually (2020 – 2025)

Goal 2: Provide long-term water quality protection by ensuring that predicted sea level rise impacts are considered in the design of water quality protection measures in coastal development projects 2020 – 2025)

Background: Coastal Water Quality Unit (WQU) staff provide technical support to Coastal Commission staff to minimize potential water quality impacts from proposed coastal development projects,

Objectives and Milestones:

1. Ensure predicted sea level rise is considered in the design of coastal development projects. WQU staff will consider the potential impacts of predicted sea level rise in the design of project water quality protection measures. A summary of the recommendations provided by WQU staff to minimize the potential impacts of sea level rise on development projects' water quality protection measures will be included in the Annual Coastal Development Permit Record of water quality technical support provided by WQU staff.

Goal 3: Coordinate the Marina Interagency Coordinating Committee.

Background: The Marina Interagency Coordinating Committee (MIACC) provides an forum for agencies (state, federal, and local), marinas, and other organizations to address nonpoint source (NPS) pollution related to marinas and recreational boating statewide. This workgroup has been meeting at least twice annually since 2003. Participants in this committee consist of state agency staff (State Water Board and Regional Water Boards, Department of Toxic Substances Control, Department of Pesticide Regulation, California Coastal Commission, and State Lands Commission),

local agency staff (cities and counties), and marina stakeholder groups (marinas and harbors, paint companies, boat owner and operator groups).

Objectives and Milestones:

1. Conduct two MIACC meetings per year that focuses on topics related to water quality and marinas and recreational boating.

State Water Board

Goal 1: Implement high or very high priority projects from the 2019 Ocean Plan Review

Background: The State Water Board reviews the Ocean Plan periodically as required by Clean Water Act section 303(c)(1)3 and Water Code (Wat. Code) section 13170.2, subdivision (b). The 2019 Review of the Ocean Plan (2019 Ocean Plan Review) is a non-regulatory planning exercise to identify issues that may be addressed in coming years. The review provides an opportunity for the public, stakeholders, and other interested parties to provide input on the Ocean Plan and identify planning priorities. The review results in a staff report and work plan, which includes a prioritized list of issues that guide planning efforts to ensure the continued adequacy of the Ocean Plan. In December 2019, the State Water Board adopted the 2019 Ocean Plan Review (https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf), which prioritized nearly two dozen topics for future projects and rule-making actions, from assessing health risks from harmful bacteria to understanding the impacts of ocean acidification.

The plan includes a number of issues and recommended actions that are relevant to control of nonpoint source pollution, including reviewing and revising the *General Exception to the California Ocean Plan Waste Discharge Prohibition for Selected Discharges into Areas of Special Biological Significance*, developing Tribal beneficial uses, and revising beneficial uses and water quality objectives related to shellfish harvesting, The Ocean Plan Review is incorporated into this plan by reference and can be found on the board's website at: https://www.waterboards.ca.gov/water_issues/programs/ocean/

Central Coast (Region 3)

Goal 1: Improve aquatic habitat in watersheds supporting anadromous fisheries in Critical Coastal Areas.

Objectives and Milestones:

1. Solicit and fund NPS grants to improve aquatic habitat in watersheds supporting anadromous fisheries and Critical Coastal Areas (2020-2025)

Los Angeles (Region 4)

Goal 1: Achieve McGrath Lake Sediment load allocation by 2025

Background: The McGrath Lake PCBs, Pesticides and Sediment Toxicity TMDL became effective on June 30, 2011. Lake sediment was identified as one of the main nonpoint sources of legacy pollutants to the lake. The TMDL assigned load allocations to the lake sediments and allowed for implementation through a voluntary memorandum of agreement (MOA). The Los Angeles Water Board and the cooperative parties executed a MOA in May 2015, which included provisions for the development of the McGrath Lake Work Plan (MLWP) to remediate the lake sediment.

Objectives and Milestones:

1. Develop McGrath Lake Work Plan by the cooperative parties.
    a. Continue to work with cooperative parties to obtain financial assistance to fund development and implementation of McGrath Lake Work Plan
2. Complete sediment remediation or begin development of cleanup and abatement order if timely progress is not made towards remediating sediments by June 30, 2025.

Goal 2: Implement the load allocations for Marina del Rey Harbor sediments

Background: The Revision of Marina del Rey Harbor Toxic Pollutants TMDL became effective on October 16, 2015.

In-harbor sediment was identified as one of the main nonpoint sources of toxic pollutants for the Marina. The Los Angeles Water Board and the County of Los Angeles executed a MOA in 2017 for the Marina del Rey Toxics TMDL. The MOA requires the County to submit a contaminated sediment management plan by December 31, 2019, which shall contain a timeline and interim milestones to ensure that sediment load allocations are achieved by the TMDL deadline of March 22, 2029.

Objectives and Milestones:

1. Review and comment on the Contaminated Sediment Management Plan submitted by the Los Angeles County to ensure it will attain load allocations (2020)
2. Continue to work with the Los Angeles County for the revision of the Contaminated Sediment Management Plan and approve the final Contaminated Sediment Management Plan so that the County can begin implementation
3. Continue to work with Los Angeles County for the implementation of the Contaminated Sediment Management Plan to ensure that the sediment load allocations are achieved by the deadline of March 22, 2029.

Goal 3: Implement the load allocations for Santa Clara River Lakes sediments

Background: The Santa Clara River Lakes (Elizabeth Lake, Lake Hughes and Munz Lake) Nutrient TMDL became effective on June 27, 2017. Internal loading from lake sediment was identified as the main nonpoint source of nutrients (nitrogen and phosphorus) in the lakes. Cooperative parties for the lake sediment load allocations were identified as landowners of the lakes. Load allocations for internal loading will be

implemented through the following two means: (1) Memorandum of Agreement (MOA) or (2) Clean Up and Abatement Order or other regulatory order approved by the Executive Officer of the Los Angeles Water Board. The internal loading load allocations for total nitrogen and total phosphorus shall be attained by June 27, 2032.

Objectives and Milestones:

1. Cooperative parties develop and enter an MOA with the Los Angeles Water Board to implement the load allocations (June 2020)
2. Cooperative parties submit Lake Work Plans for each lake (June 2022)

Goal 4: Reduce NPS discharges from biocides from boats in the Marina del Rey Harbor

Background: The Revision of Marina del Rey Harbor Toxic Pollutants TMDL became effective on October 16, 2015. Dissolved copper in the water column (through discharge of dissolved copper from boats) was identified as one of the main nonpoint sources of copper. The load allocations for discharges of dissolved copper from boats is an 85% reduction. Compliance with the load allocations may be demonstrated by three means: 1) meeting numeric targets of copper in the water column; 2) demonstrating that 85% of boats in the harbor are using copper free hull paints, or 3) another acceptable means as approved by the Executive Officer of the Los Angeles Water Board that would result in attainment of copper numeric targets in the water column, such as demonstrating that 100% of boats in the harbor are using hull paint that discharges 85% less copper than the baseline load. The compliance date of load allocations for the discharge of dissolved copper from boats is March 22, 2024.

Objectives and Milestones:

1. Adopt a conditional waiver of WDRs for the discharge of biocides from boats in the Marina del Rey Harbor (2020)
2. Review and comment on annual reports (annually 2020 - 2025)
3. Achieve load allocation compliance for the discharge of biocides from boats in the Marina del Rey Harbor (March 2024)

Goal 5: Reduce NPS discharges of biocides from boats residing in saltwater marinas in Los Angeles and Ventura Counties

Background: Biocides are used in the hull paint for the boats residing in other marinas as well in Los Angeles and Ventura Counties, including Alamitos Bay, Channel Island Harbor, King Harbor, Los Angeles and Long Beach Harbors, and Ventura Harbor-Ventura Keys. Although these marines are not subject to TMDLs, the Los Angeles Water Board intends to regulate these marinas in the same manner as the Marina del Rey Harbor to maintain the consistency in the compliance requirements. In accordance with the NPS Implementation Policy, discharges of biocides from the boats residing in Los Angeles and Ventura Counties shall be regulated by WDRs, waivers of WDRs, or other regulatory mechanisms.

Objectives and Milestones:

1. Obtain information on the marina owners, operators, boaters, and biocides being used
   a. Develop and issue a 13267 order (June 2023)
2. Develop a conditional waiver of WDRs for the discharge of biocides from boats residing in marinas in Los Angeles and Ventura Counties (June 2024)

Goal 6: Reduce NPS discharges from golf courses through WDRs, waiver of WDRs or other regulatory mechanisms

Background: The Malibu Creek Watershed Nutrients TMDL (2003 TMDL) became effective on March 21, 2003 to address impairments due to ammonia, nutrients, dissolved oxygen, algae, scum and odor in Malibu Lagoon, Malibu Creek and its tributaries and four lakes in the watershed. The Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments (2013 TMDL) became effective on July 2, 2013 to address impairments of Malibu Creek and Las Virgenes Creek related to impacted benthic macroinvertebrates and sediment/siltation and impairments of Malibu Lagoon related to adverse benthic community effects. Both TMDLs were established by the USEPA. The Implementation Plan for the Malibu Creek Nutrients TMDL and the Malibu Creek and Lagoon Sedimentation and Nutrients TMDL to Address Benthic Community Impairments became effective on May 16, 2017, which laid out the implementation plan and schedule for the 2003 and 2013 TMDLs. Golf courses were identified as one of the nonpoint sources in both 2003 and 2013 TMDLs, which can be regulated by WDRs, conditional waivers of WDRs, or other regulatory mechanisms in accordance with the Nonpoint Source Implementation and Enforcement Policy.

Objectives and Milestones:

1. Obtain information and develop a database for the golf courses to help establish the conditions for the regulatory program (2023)
2. Develop a WDRs, conditional waiver of WDRs or other enforceable mechanisms to regulate NPS discharges of nutrient from golf courses (2024)

Santa Ana (Region 8)

Goal 1: Improve water quality and reduce nonpoint source pollution discharges to Newport Bay.

Background: The Newport Bay/San Diego Creek watershed is in Orange County in the southwest area of the Santa Ana River Basin. Newport Bay is a combination of two distinct water bodies - Lower and Upper Newport Bay, divided by the Pacific Coast Highway Bridge. Lower Newport Bay is one of the most popular recreational boating harbors in California with approximately 5,000 recreational and commercial vessels. Upper Newport Bay is an ecological reserve at the upper end and contains a few marinas at the lower end; it is also an estuary. Beneficial uses of the Upper Newport

Bay and Lower Newport Bay include water contact and non-contact water recreation, commercial and sportfishing, spawning, reproduction, and development, marine habitat, wildlife habitat, rare, threatened, or endangered species, and shellfish harvesting. Lower Newport Bay also includes the beneficial uses of navigation while Upper Newport Bay includes the biological habitat preservation beneficial use. Storm water runoff from the two major tributaries, San Diego Creek and Santa Ana Delhi Channel, carries pollutants and sediments from the Newport Bay watershed. Sediments from San Diego Creek are deposited in the Bay and must be dredged periodically to maintain the beneficial uses of the Bay.

Santa Ana Water Board staff conducted a metals impairment assessment for Upper and Lower Newport Bay and found that: (1) dissolved copper exceeded the saltwater California Toxics Rule criterion in both Upper and Lower Newport Bay; (2) no other dissolved metals exceeded the California Toxics Rule water quality criteria for the Bay; (3) copper, zinc and mercury in sediment exceeded sediment guidelines, and zinc exceeded fish tissue guidelines in parts of Lower Newport Bay; and (4) arsenic and chromium exceeded fish tissue guidelines in the Upper and Lower Bay. Dissolved copper from copper antifouling paints on boats is the largest source of copper to the Bay (estimated 18,000 lbs/yr). This finding agrees with USEPA's copper TMDLs, which were established in 2002. The second highest source of copper to the Bay is tributary runoff (estimated 3,000 lbs/yr in a wet year).

Copper TMDLs have been developed for Upper and Lower Newport Bay and require reduction of copper discharges from copper antifouling paints and continued monitoring and evaluation. Sediments are no longer considered to be impaired since the sediment guidelines that were used to evaluate impairment (ERMs and ERLs) are older guidelines, and sediment assessments are now based on Sediment Quality Provisions amendment (2019) to the State's Enclosed Bays and Estuaries Plan. Action Plans, rather than TMDLs, have been developed for Zn and Hg, and As and Cr; continued monitoring and evaluation of sediments and fish tissue are required. Action Plans include numeric targets and goals but do not include allocations since sources need to be better characterized.

<u>Objectives and Milestones:</u>

1. Reduce copper released from copper antifouling paints in Newport Bay to meet the California Toxics Rule criterion for dissolved copper (3.1 ug/L).
    a. Develop Copper TMDLs for Board consideration of copper TMDLs (2020-2021).
    b. Assist dischargers in developing plans to comply with TMDL requirements, including monitoring and evaluation (within three months of USEPA's approval of the copper TMDLs)
    c. Review and approve dischargers' implementation and monitoring plan(s). Review will be conducted upon receipt of dischargers' plan(s)
    d. Have the dischargers conduct monitoring and evaluation based on the approved implementation plan and submit annual reports on results (annually)

   e. Review dischargers' annual reports that monitor and evaluate results of the implementation plan(s) (ongoing annually).
2. Continue monitoring and evaluation of Zinc, mercury, arsenic, and chromium in Newport Bay. Conduct source analyses for these metals if they exceed the California Toxics Rule criteria.
   a. Develop for board consideration Action Plans for zinc, mercury, arsenic, and chromium (FY 2020-2021).
   b. Assist dischargers in developing implementation plan(s) for the Action Plans, including monitoring and evaluation, and possibly source analysis studies – due within three months of USEPA's approval of the Action Plans for Other Metals.
   c. Review and approve dischargers' implementation and monitoring plans. Review will be conducted upon receipt of dischargers' plan(s).
   d. Review dischargers' annual reports that monitor and evaluate results of the implementation plans (ongoing and annually).
   e. Review dischargers' reports of source analysis results, if such analysis are determined to be necessary based on monitoring and evaluation.

San Diego (Region 9)

Goal 1: Protect and restore fish and shellfish consumption in bays and harbors where legacy pollutants or vessels are sources of bioaccumulative contaminants in sediments or water column, and reduce effects to habitats and ecosystems in bays and harbors where legacy pollutants or vessels are sources of toxicity or habitat degradation to aquatic organisms

Background: NPS discharges and legacy pollutants cause and contribute to impairments to fish and shellfish consumption and habitats and ecosystems in bays, harbors, lagoons. For example, San Diego Bay, Mission Bay, and Dana Point Harbor each have waterbody-specific advisories from Office of Environmental Health Hazard Assessment (OEHHA). Metals, PCBs, PAHs, other organics and pesticides in sediments and water column are primary drivers of pollution. Benthic communities are impaired in San Diego Bay due to toxicity in sediments from pesticides and pollutants historically discharged by shoreline industry.

Objectives and Milestones:

1. Reduce threat to Fish and Shellfish Consumption of legacy bioaccumulative pollutants in San Diego Bay and parts of Ocean shoreline with OEHHA advisories; with emphasis on areas heavily used by disadvantaged communities
   a. Add tribal beneficial uses to Basin Plan (2020)
   b. Develop internal GIS tools for monitoring data in San Diego Bay (2021)
   c. Develop unified monitoring stakeholder program, hold initial meeting (2020); Board endorsement of program (2022) to align with Bight (2023)
   d. Review annual and final reports from Investigative Orders and Cleanup and Abatement Orders issued in Bay from 2015-2020

e. Issue new Cleanup and Abatement for north San Diego Bay for legacy pollutants: 2020-2025
f. Develop cleanup plans for legacy pollutants with US Navy for Naval Base San Diego (2020) and Coronado (2025).

2. Protect and restore habitats and ecosystems where legacy pollutants or vessels are sources of toxicity or habitat degradation to aquatic organisms.
   a. Publish habitat conditions assessments based on existing data: 2022
   b. Develop metrics for eelgrass habitat assessments: 2024
   c. Assess compliance toward Shelter Island TMDL and adjust implementation plan, if necessary, by 2023

H. Climate Change

Background

Current and future impacts of climate change include increased frequency of extreme weather events, prolonged fire seasons with larger and more intense fires, increased tree mortality, heat waves, sea-level rise and storm surges. Climate change is also affecting hydrology by decreasing snowpack and creating more frequent and longer droughts, more frequent and more severe flooding, and changes in the timing and volume of peak runoff. Vulnerabilities of water resources to climate change include changes to water supplies, land subsidence, erosion, flooding and related risks to water and wastewater infrastructure and operations, degradation of watersheds, alteration of aquatic ecosystems and loss of habitat, multiple impacts in coastal areas, and ocean acidification. Climate change is expected to worsen the effects of algal blooms as climate warms and to reduce areas available for intertidal habitat.

The State Water Board and Regional Water Boards have taken a variety of actions to respond to climate change. Examples include funding recycled water use to increase drought resilience and adopting regulations to increase the collection of urban storm water. The State Water Board adopted Resolution No. 2017-0012, Comprehensive Response to Climate Change, on March 7, 2017, requiring a proactive approach to climate change in all Water Board actions, including drinking water regulation, water quality protection, and financial assistance. This proactive approach to climate change improves ecosystem resilience, reduces greenhouse gas emissions, responds to climate change impacts, promotes sound modeling and analyses, and provides funding and outreach.

The Water Boards focus on climate as it relates to nonpoint source pollution as follows.

1. Investing in infrastructure (e.g., culvert replacements, dirt road stormproofing, sediment basins, irrigation tailwater conveyances, vegetated treatment wetlands, biofiltration treatment systems, and cattle fencing) that needs to be resilient to climate change.

2. Investing in projects that help communities adapt to climate change impacts that affect water quality, such as water efficiency projects, floodwater retention, and nonpoint source pollution reduction.

In general, the co-lead agencies will aim to incorporate sound evaluation of future climate conditions in all regulatory, financial, and informational activities. Specific goals related to climate change for the co-lead agencies are listed below. The main goals over the 2020 – 2025 timeframe will be to evaluate and prepare for the effects of climate change and to support projects that are resilient to climate change and help water resources adapt to climate change. Climate change is also addressed in other sections of the plan, such as the wildfire recovery and prevention objectives described in the Forestry, Fuels Management, and Wildfire section and the Natural Disasters and Emergency Recovery section.

A principle of the state's adaptation strategy document, Safeguarding California, is to prioritize actions that not only mitigate greenhouse gas emissions, but also help the state prepare for climate change impacts. Improved coordination, implementation, and integration of adaptation planning efforts and funding of the state's climate policies can directly protect the state's natural and built infrastructure, communities, environmental quality, public health, safety and security, natural resources, and economy from the unavoidable impacts of climate change.

Central Coast (Region 3)

Goal 1: Mitigate and adapt to the effects of climate change.

Objectives and Milestones:

1. Solicit projects in high priority watersheds to mitigate and/or adapt to the effects of climate change (e.g. wetland carbon sequestration; post fire rehabilitation). (annually)

Lahontan (Region 6)

Goal 1: Protect wetlands, floodplains, and headwaters; infrastructure; groundwater quality and supply; and headwater forests; and promote fire resilient landscapes.

Background: In 2014, after directly observing and experiencing climate induced impacts occurring throughout the Lahontan Region (i.e., extended drought, less snowpack, wildfires), the Lahontan Water Board initiated steps to adapt to a changing climate. Through a public participation process, Lahontan Water Board staff developed four overarching program goals (enumerated below) to shape an effective strategy to respond to climate change. The Climate Change Adaptation and Mitigation Strategy (Strategy), comprised of two separate but related guidance and planning documents (Policy Statements and Action Plan), is anticipated for Lahontan Water Board consideration in late 2019 or early 2020 and should be in place just prior to this plan. The Strategy will present a suite of actions to achieve the Water Board's goals and will

be updated at least every five years as knowledge of climate change impacts on water quality, and actions to address these impacts evolve. The Policy Statements set high-level direction to provide guidance and consistency in the agency's efforts and commitments to climate change adaptation and mitigation. The Action Plan defines the specific work priorities, efforts, and actions that will be integrated into our regulatory and planning efforts to facilitate tangible climate mitigation and adaptation outcomes.

Water Board staff will take a lead role on actions that fit under regulatory programs (e.g., develop prohibitions and permit conditions). There is broad overlap of regulatory actions from other program areas which will support the Climate Change Strategy (e.g., Forestry and Timber; CWA section 401 Water Quality Certification, Stormwater regulation, Basin Planning). Climate change response efforts in the Lahontan Region will target protecting and improving conditions in the following four critical environmental areas, which according to regional climate science, are susceptible to degradation under future climate conditions: (1) protection of wetlands, floodplains, and headwaters, (2) infrastructure protection, (3) protection of groundwater quality and supply, and (4) protection of headwater forests and promoting fire resiliency. Developing productive partnerships and collaboration is interwoven throughout, and key to the success of making progress toward these primary goals.

Objectives and Milestones

1. On at least a five-year cycle, update and bring updated climate change mitigation and adaptation strategy Action Plan, including annual priorities and targets, to Lahontan Water Board for consideration. The Action Plan will define the specific work priorities, efforts, and actions that will be integrated into regulatory and planning efforts to facilitate tangible climate mitigation and adaptation outcomes (2020 and 2025)

Santa Ana (Region 8)

Goal 1: Develop a regional climate change policy that establishes climate change principles and support for implementing associated decisions

Objectives and Milestones:

1. Continue to participate in quarterly meetings with the State and Regional Water Boards
2. Collaborate with Regions 4 and 9 to develop a climate science workshop to educate supervisors and managers in Regions 4, 8, and 9 and explore approaches to planning, remediation, and permitting activities,
    a. Work with Southern California Coastal Water Research Project and CA Department of Water Resources on finalizing a date and agenda
    b. Conduct the workshop (October 2020)
3. Engage Region 8 staff in providing input on the policy,
    a. Initiate a workgroup to develop an outline (January 2021)

4. Develop a draft policy for internal review (June 2021)
5. Conduct a public workshop with the Board for input (September 2021)
6. Finalize the policy and resolution and present to the Board (March 2021)

San Diego (Region 9)

Goal 1: Protect waters with beneficial use of REC-1 against effects of climate change

Background: San Diego Water Board adopted Resolution No. R9-2018-0051 "Addressing Threats to Beneficial Uses from Climate Change" on June 20, 2018. The Board's 2018 Climate Change Resolution identifies the climate change priority goals based on "Key Beneficial Uses and Key Areas: Focusing on What is Most Important" San Diego Water Board Resolution R9-2017-0030. (https://www.waterboards.ca.gov/sandiego/water_issues/programs/climatechange/index.html)

Objectives and Milestones:

1. Implement Resolution No. R9-2018-0051 with focus on protecting REC-1 Waters (2020-2025)
   a. Take regulatory actions to address climate vulnerabilities
   b. Identify and eliminate human sources and causes of contamination
   c. Engage agencies and stakeholders on collaborative efforts in to address climate change
   d. Identify sewage infrastructure and sandy beaches vulnerable to climate change
   e. Assign staff liaison for climate change effects to REC-1 from sea level rise and flashier hydrographs;
   f. Review local AB 691 vulnerability assessments submitted to State Lands Commission
2. Evaluate progress toward internal climate change readiness plan
3. Triennial review of REC-1 conditions

I. Natural Disasters and Emergency Recovery

Background

Natural disasters and emergencies, such as fires, storms, floods, landslides, earthquakes, mass animal mortality, and spills can cause or contribute to nonpoint source pollution to waters of the state. For example, wildfires can result in burned hillslopes and therefore increased erosion and sedimentation to waters of the state. Section III.C of this plan provides more detail on goals related to post-fire recovery. This section of the plan describes how the NPS Program intends to leverage existing resources to address nonpoint source pollution from natural disasters and emergencies.

Emergency response requires coordination, collaboration, communication, and cooperation over a wide range of disciplines to provide the rapid response necessary for

long-term environmental and social recovery to take place. Two actions the State Water Board has taken in response to more frequent and intense wildfires are creation of the Emergency Response Technical Working Group (ERTWG) and in January 2020, adoption of a Statewide General Order for Waste Discharge Requirements for Disaster Related Wastes. Both actions prepare the Water Boards to respond to, and support recovery from, wildfires and other emergency events.

The ERTWG serves as a centralized resource and supports the Water Boards' coordinated emergency response actions. The ERTWG is a collaborative team composed of State and Regional Water Boards staff. It compiles and documents existing resources and develops new response approaches based on lessons learned while preparing for, responding to and recovering from disasters that impact water resources in California.

The Federal Emergency Management Agency (FEMA) provides emergency response and recovery assistance. Over the past few years, FEMA developed the National Disaster Recovery Framework (NDRF) and pre-disaster recovery guidance for state and local governments. In addition to guidance, FEMA authorizes the use of millions of dollars in disaster relief and grant funds to assist states in cleanup and recovery from catastrophic wildfires. There are three categories of FEMA disaster assistance:

- Public Assistance Programs
- Individual Assistance Programs
- Hazard Mitigation Grant Programs

The Public Assistance (PA) Program supports state and local governments and certain non-profit entities through grants to assist them with the response to and recovery from disasters. The PA Program is FEMA's largest grant program providing funds to assist communities. Emergency work can include debris removal and emergency protective measures, and permanent work can include roads and bridges, water control facilities, building and equipment, utilities and parks and recreation facilities. FEMA's State-Led Public Assistance Guide (PAG) provides clear and streamlined guidance on the processes, resources, and capabilities required for Recipients to lead Public Assistance operations.

The California Office of Emergency Services (CalOES) also administers grant programs. According to California's Office of Emergency Service Grant Management website[5], California's Office of Emergency Services is responsible for administering approximately $807 million in funding for homeland security, emergency management, public safety and victim services. California also has a California Disaster Recovery Framework (CDRF) that is intended to support local government in recovery efforts.

[5] https://www.caloes.ca.gov/Cal-OES-Divisions/Grants-Management

State Water Board

Goal 1: Coordinate with other agencies, such as FEMA, CalOES, and the Water Boards ERTWG, to encourage consideration of nonpoint source pollution in emergency response and recovery actions, and to learn about areas affected by emergencies or natural disasters that are at high-risk for discharge of nonpoint source pollution to waters of the state.

Objectives and Milestones:

1. Attend State Water Board Emergency Response Technical Working Group meetings to promote awareness of water quality impacts from disasters and emergencies (ongoing).
2. Review reports from other agencies (e.g., Governor's Office of Emergency Services (Cal OES) lead watershed and debris task force) to identify high-risk areas for mudslides and debris flows, and target emergency response grant funds to these areas (as needed).
3. Review the California Disaster Recovery Framework to understand the recovery structures and resources of State and federal governments, and identify opportunities to leverage funding for nonpoint source pollution control (June 2021)
4. Review FEMA State-Led Public Assistance Guide (PAG) to determine how to direct FEMA grant funds to water quality impacts from emergencies.

Goal 2: Integrate State guidance into funding processes.

Objective and Milestones:

1. Integrate into the CWA 319 subaward process program appropriate guidance from the "Planning and Investing for a Resilient California: A Guidebook for State Agencies" (2021).

J. Harmful Algal Blooms

Background

Increased inputs of nutrients like nitrogen and phosphorus (from fertilizers and human or animal wastes) can lead to eutrophication, promote cyanobacterial growth and increased occurrences of harmful algal blooms (HABs). Sources of nutrients include agriculture and urban runoff, wastewater, fossil fuels, sediment discharges, and septic tanks. Low flows, stagnant water, increased intensity and duration of sunlight, and sustained high temperatures create the ideal conditions for HABs. Current research suggests that the rising temperatures and changing precipitation patterns caused by climate change are a catalyst for their growth.

The freshwater and estuarine HAB events are caused primarily by cyanobacteria. In the past 40 years freshwater HABs have grown in number, intensity, and length, impacting the safety of our drinking water, tribal subsistence fishing, tribal tradition and cultural practices, fish and mussel consumption, recreational uses, aquatic life and ecosystem

health throughout the state and tribal lands. The growth and die off of HABs causes reduction in dissolved oxygen concentrations and changes the pH of the water, as well as causing poor aesthetics of surface water and taste and odor issues. HABs caused by cyanobacteria can produce potent toxins (cyanotoxins) that cause health risks to humans, domestic animals (dogs in particular), and wildlife.

State Water Board

The State Water Board supports the California Cyanobacteria and Harmful Algal Bloom (CCHAB) Network, a workgroup under the California Water Quality Monitoring Council. The CCHAB Network was established in 2006, under a different name, in response to the incidents of freshwater HABs in the Klamath Basin. Since this time, the incidents of HABs has rapidly increased and the CCHAB Network provided a forum for discussion and collaboration on response to blooms. The CCHAB Network includes federal, state, and local agencies, tribes, academia, and non-governmental organizations. The CCHAB Network has developed standardized Guidelines to respond to cyanobacteria blooms in recreational waters since 2008 in lieu of federal and state regulations.

A comprehensive coordinated program to address HABs in the state was needed. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) began in 2014 to divert resources from other existing SWAMP programmatic areas to fund the development of the roadmap to address HABs and published a strategic document titled "Freshwater Harmful Algal Bloom Assessment and Support Strategy." This strategic document outlined the systems and infrastructure needed to effectively respond, assess, and communicate regarding HABs in the state. SWAMP began implementing the strategic document in 2016 and provided the foundation for the Freshwater HAB (FHAB) Program. A centralized website in the form of a Portal provides all materials to support reporting, response, assessment and communication of HABs statewide in collaboration with the CCHAB Network. The FHAB program is considered an informal program because it is not formally staffed or funded, this may change with the allocation of resources requested by the State Board to support implementation of the recently approved AB 834, described below.

Additionally, SWAMP has funded the development of a comprehensive Freshwater HABs Monitoring and Research Strategy that will identify projects to fill data and knowledge gaps and contribute to improved management, response, and monitoring of HABs statewide. This strategy will help the Water Boards to better address the complexity of both planktonic and benthic HABs that are found in the state's lake and river systems. Several countries are observing benthic HABs and are collaborating in the recently launched International Benthic HABs Workgroup, hosted by the US EPA. The Water Boards Division of Water Quality is developing a Biostimulatory policy that shares objectives with the FHAB Program. These objectives are closely coordinated, and staff are evaluating how to incorporate HABs and cyanotoxins into the Biostimulatory rulemaking process. Marine HAB monitoring is led by the California Department of Public Health, California Department of Fish and Wildlife and Office of

Environmental Health Hazards Assessment. Water Boards work is funded by state funds as well as federal 106 and 319 funds.

A general goal of the State Water Board, and several of the Regional Water Boards is to participate in CCHAB Network, support the FHAB program and mandate from California Assembly Bill 834, and the International Benthic HABs Workgroup.

Goal 1: Implement Assembly Bill (AB) 834.

Background: AB 834 was approved by the Governor on September 27, 2019 and requires the State Board to establish a Freshwater and Estuarine Harmful Algal Bloom Program (FEHAB Program) to protect water quality and public health from harmful algal blooms. The bill also requires the State Board, in consultation with specified entities, among other things, to coordinate immediate and long-term algal bloom event incident response and conduct and support algal bloom field assessment and ambient monitoring at the state, regional, watershed, and site-specific waterbody scales. The bill authorizes the State Water Board, if it determines that the occurrence of harmful algal blooms is an emergency, to enter into contracts to procure goods and services to aid in incident response without meeting the conditions prescribed for personal services contracts under the State Civil Service Act, including the requirement for a competitive bidding process, or any other competitive bidding requirements under existing law. Water Boards are currently operating under the 2016 Strategic document which focuses monitoring efforts for incident response.

Objectives and Milestones:

1. State Board will post on their internet website information including the incidence of, and response to, freshwater and estuarine harmful algal blooms in the state during the previous 3 years and actions taken by the state board related to harmful algal blooms. (July 2021)
2. The State Board's Surface Water Ambient Monitoring Program (SWAMP) incorporating AB 834 mandates into their short and long-term plans while awaiting funding decisions.
    a. Develop a new strategic plan to address the mandates
    b. Develop FEHAB Program – Late Summer/early Fall of 2020
    c. Conduct field assessments and monitoring (annually)
    d. Collect data for risk assessment and public health (ongoing)
    e. Coordinate on the development of regulatory standards needed to address FEHABs (Statewide WQO and Program of Implementation – Amendment to Inland Surface Water and Enclosed Bays and Estuaries Plan) (2020 – 2025)
    f. Coordinate with Division of Water Quality Integrated Report unit in their assessments of available cyanotoxin data from Regional Boards 3, 5 and 9 during the data solicitation period.
        i. 2020/2022 Integrated Report to U.S. EPA (2022).

ii. Clarify cyanotoxin 303(d) listings to promote CWA 319h grants, BMP implementation, and Technical assistance work (ongoing)
iii. Work to develop Watershed Based Plans if no TMDL available

g. Participate in the revamping of database(s) for tracking blooms, better archival information, status and trends, and improve HAB reporting (2020-2025)

North Coast (Region 1)

Goal 1: Implement the regional cyanoHAB Monitoring and Response Program

Background: The North Coast Water Board has been instrumental in identifying the spatial and temporal extent of Cyanobacteria Harmful Algal Blooms (cyanoHABs) within the Region and is a leader in state-wide efforts to better understand the health risks of benthic cyanoHABs. The North Coast Region established a regional cyanoHAB Monitoring and Response Program in 2016.

Objectives and Milestones:

1. Establish waterbody specific workgroups with County Health Departments and lake managers to track, monitor, and respond to cyanoHAB events
   a. Conduct monitoring and research to better understand the drivers, presence, and toxicity of benthic cyanoHABs in the North Coast Region (2020 – 2025)
2. Conduct outreach and education to educate counties, cities, waterbody managers, and the public about the risk of cyanoHABs within the Region.
   a. Update public health alert posting status as needed to California HABs web portal (2020 – 2025)
3. Review data and advise counties and waterbody managers about public health alert postings
4. Participate in CCHAB, the FHAB program, and the International Benthic HABs Workgroup (2020 – 2025)

Central Valley (Region 5)

Goal 1: Reduce nutrient inputs to Region's waterbodies.

Objectives and Milestones:

1. Participate in the development of the Freshwater HAB Monitoring and Research Strategy (2020)
   a. Participate as an active participant on the Technical Advisory Committee and Stakeholder Committee (TAC Draft Strategy Report; 2020)
   b. Review deliverables from the three TACs and provide feedback – In-Situ Survey Across Waterbodies, In-Situ Waterbody Focused Monitoring, Volunteer Monitoring Design, and Remote Approaches (2020)
2. Implement the finalized FHAB Strategic document

   a. Secure funding to implement FHAB strategy, including assessment and ambient monitoring; and work with State Water Board to execute contracts and/or grants (Summer 2021)
   b. Continue to implement the Delta Nutrient Research Plan and associated special studies, including the Pilot Study Final Report: Mitigation and Control of cyanoHABs in Discovery Bay; Summer 2022
   c. Develop a Central Valley Region HAB assessment report using all available HAB data and tools; identify data gaps and broad scale assessment; Publicly available report posted to the Regional Board website (Summer 2023)
   d. Secure funding and resources to implement monitoring at high risk water bodies and work with State Water Board to execute contracts and/or grants (Spring 2025)
3. Continue to implement Bloom Response in the Central Valley
   a. Conduct response and follow up on blooms as they are reported (ongoing)
   b. Enter data into centralized database reporting system (2020 – 2025)
   c. Develop a data visualization approach and public portal for the Central Valley HAB data on the Regional Board website (Summer 2022)
   d. Identify relevant HAB mitigation and management strategies for Central Valley waterbodies, post report to the Regional Board website (Summer 2023)
   e. Conduct HAB outreach and education events with water body managers, local health agencies, tribal groups, citizen science groups and the general public; develop and provide HAB outreach and educational materials, post event information to the Board website (2020 – 2025)

Lahontan (Region 6)

Goal 1: Protect water users from impacts of HABs.

Objectives and Milestones:

1. Conduct field investigations, interpret results, and conduct follow-up with waterbody owner/operators on posting recreational health advisory recommendations (ongoing)
2. Update bloom status as needed to California HAB portal through the FHAB Program reporting and database system. (ongoing)
3. Conduct outreach to waterbody operators/owner to assist with effective cyanotoxin communications; work with waterbody operators and Environmental Health Departments on recommended public health advisories and noticing (ongoing)
4. Continue efforts to identify HAB mitigation approaches and control measures to reduce impacts to beneficial uses.
   a. Participate in monthly calls of the HAB Mitigation Sub-Committee (ongoing).
   b. Participate in reviewing and refining a Preliminary Lake Evaluation Tool with members of the HAB Mitigation Sub-committee (ongoing review and refinement).

c. Oversee regional special study to investigate non-chemical control measures for nuisance blooms of algae and cyanobacteria (ongoing until 2024).

Colorado River (Region 7)

Goal 1: Monitor HABs at Salton Sea

Background: Region 7 has been monitoring Harmful Algal Blooms (HABs) at the Salton Sea since February 2017. A total of six monitoring sites have been established, which include: Salton Sea State Recreation Area; Bombay Beach; Obsidian Butte; West Shores; Desert Shores, and; Desert Shores Harbor. The frequency of monitoring is dictated by the availability of funding, although the Regional Board strives to conduct monthly monitoring events. During the time that Region 7 has been monitoring for HABs, three cyanotoxins have been detected at Salton Sea, including anatoxin-a, saxitoxin and microcystin. The detection of anatoxin-a, a neurotoxin, prompted the posting of cautionary signs at these locations, informing the public of the associated dangers with coming into contact with the water. The Regional Board will continue to monitor for HABs at Salton Sea for as long as funding permits.

Objectives and Milestones:

1. Monitor for HABs at six Salton Sea monitoring sites as funding permits (monthly)
2. Inform results to the Imperial and Riverside Counties Department of Environmental Health and other stakeholders (year-round)

Santa Ana (Region 8)

Goal 1: Protect water users from impacts of HABs. Provide education and outreach to public and partner agencies.

Objectives and milestones:

1. Conduct field investigations, interpret results, and conduct follow-up with waterbody owner/operators on posting advisory recommendations (ongoing)
2. Update bloom status as needed to California HAB portal through the FHAB Program reporting and database system. (ongoing)
3. Conduct outreach to waterbody operators/owner to assist with effective cyanotoxin communications; work with waterbody operators and Environmental Health Departments on recommended public health advisories and noticing
4. Participate in calls of the FHAB and CCHAB committees (ongoing)

K. Source Water Protection

As many of the surface and groundwater sources can be impacted by nonpoint sources of pollution, it is imperative to pursue solutions to ensure that California's sources of drinking water are affordable, safe, and reliable prior to treatment. Pollution threats such as agricultural practices can impact the quality of California's drinking water sources. Some surface water sources are affected by algae and algal toxins, which affect the

quality of drinking water supplies and can also pose health threats. Constituents of Emerging Concern (CECs) are present in surface water or groundwater supplies of drinking water. CECs are the next group of contaminants that may require action because of their low concentrations in drinking water sources. Fortunately, strong regulatory efforts along with greater emphasis on drinking water source protection activities have lessened the impact from these threats. However, with California's population increasing and as climate change affects water resource reliability, protection of source water will continue to gain importance.

The Regional Water Boards contribute to source water protection through salt and nutrient management planning, research and monitoring of harmful algal blooms, regulation and enforcement of nitrate discharges from agriculture and dairies as described in corresponding sections of this plan. 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.

State Water Board

Goal 1: Develop and implement the Source Water Protection Data Hub (groundwater branch, Division of Water Quality) by 2021

Background: The groundwater branch of the Division of Water Quality is working on a Source Water Protection Data Hub that will provide centralized data relevant to source water protection, including surface water and ground water quality data. The hub will be built on an ESRI ArcGIS online API framework, allowing the data to be viewable in layers. Key data types will include:

- Informational Data: such as Public Water Sources (wells, surface water intakes), protected areas (Federal, State, Tribal, etc.), surface and ground water quality information, soil properties, land cover
- Program Designations: Existing source water assessments, IRWMs, TMDLs, 319 (h) grant projects, aquifer exemptions
- Potential or known contaminants: Railroads, Roads, hazardous materials routes, clean-up wells, impaired waters (303(d)), landfills, livestock, facilities permitted to discharge water (NPDES)

The Data Hub will provide:

- Digitization, compilation, and geo-spatial attribution of datasets necessary for conducting source water assessments, and updating local protection plans
- Spatial buffer tools to locate data, designations, or contaminants within a radius of an address, point or source: for information including drinking water providers, permitted dischargers, TMDLs, impairments, projects/groups.
- Current and previously completed Source Water Assessments shown on a map facilitating easy comparison across regions and through time.

- Proactive data tracking: The ESRI ArcGIS software online platform makes data updates easy, so emerging threats to source water can be tracked by regulators and the public.
- A platform for program coordination: By centralizing program data, the Hub will be a platform for programs to coordinate their regulatory authorities that protect source waters.
- A modernized platform to display source water assessment and protection efforts online, in keeping with SDWA and CHSC provisions for public updates and accessibility

Goal 2: Coordinate with USDA and the Source Water Collaborative on source water protection.

1. Background: The United States Department of Agriculture's 2018 Farm Bill (2018 Farm Bill) includes funding for Source Water Protection. The 2018 Farm Bill requires that 10 percent of the funds be authorized for conservation programs to protect sources of drinking water and increase incentives for agricultural producers to implement practices that benefit source water protection. The Source Water Collaborative (SWC),[6] a collaboration of twenty-nine national organizations, works to protect America's drinking water at its source. The United States Environmental Protection Agency (US EPA), the SWC, utilities that provide community water, and state drinking water partners coordinate with the United States Department of Agriculture/Natural Resources Service (USDA/NRCS) to set source water protection activities and goals which include containing or preventing contamination and promoting development patterns limiting threats to drink. In 2019, the Division of Water Quality provided a map of California groundwater nitrate concentration maps to USDA/NRCS to help NRCS prioritize locations that would benefit from 2018 Farm Bill funded source water protection projects.

Objectives and milestones

1. Provide information and advice to the USDA/NRCS to aid in prioritizing areas and activities for 2018 Farm Bill source water protection funding. This information includes boundaries of delineated source water assessment areas, potential and exiting sources of contamination, and water quality monitoring data. (ongoing)
2. Help coordinate communication between community water systems and USDA/NRCS.
3. Incorporate USDA/NRCS source water protection areas into NPS Grant Program Guidelines – Program Preference List (2021)

Goal 3: Build coordination between the Division of Water Quality NPS Program and Division of Drinking Water on source water protection.

[6] https://sourcewatercollaborative.org/

Background: The 1996 reauthorization of the federal Safe and Affordable Drinking Water (SADW) program 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. Where 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.

According to the State Water Board Drinking Water Source Assessment and Protection (DWSAP) Program website,[7] California has more than 15,000 active drinking water sources. The federal Drinking Water State Revolving Fund provided approximately $7.5 million to conduct source water assessments, or roughly a few hundred dollars per source. The California Department of Health Services (succeeded by California Department of Public Health, which is now the State Water Board Division of Drinking Water) was responsible for performing the assessments, although some public water systems performed their own assessments. Division of Drinking Water has a list of water systems with completed assessments. As of December 31, 2004, California completed assessments for 16,152 drinking water sources (from 7,543 public water systems).

Objectives and Milestones:

1. Review completed source water assessments for potential to contribute to watershed-based plans (2022)
2. Identify overlap with targeted waterbody-pollutant combinations and targeted TMDLs of this plan (2022)
3. Brainstorm with Division of Drinking Water goals and objectives for improving source water quality(2022-2023)

Goal 4: Leverage NPS Grant Program to protect source water.

Objectives and milestones:

1. Once a year, prior to the development of the annual solicitation and workplans, connect with the Division of Drinking Water staff and/or download source water data from the Source Water Data Hub to identify watershed which are exceeding the MCLs for NPS pollutants (nutrient, pesticides, sediment, etc.). Incorporate this information into annual program preference lists for guidelines and subsequent workplans (typically February or March of each year).

Central Coast (Region 3)

Goal 1: Identify and inform residents at-risk of exposure to groundwater pollutants (e.g. nitrate, pesticides, 1,2,3-TCP, hexavalent chromium, and arsenic) and ensure they have access to safe drinking water.

[7] https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/DWSAP.html

Objectives and Milestones:

1. Identify high risk exposure areas via basin and parcel scale analyses of available land use practices, groundwater quality and well locational data (2023)
2. Capture and integrate county level domestic well and small water system data
   a. In coordination with local partners, determine target areas for outreach to identify potential well testing program participants (2023)
   b. Compile existing data for high risk exposure areas. Make summary of results available on the Regions Groundwater Assessment and Protection (GAP) website under “Small Water System Mapping and Nitrate Data.” (2024)
3. Coordinate with local agencies, partners, and the State Water Board to implement drinking water nitrate exposure-related outreach and education in high risk areas.
   a. Implement outreach and education efforts via direct mail and broad-based outreach in coordination with local partners to maximize participation of qualified interested parties in well testing efforts. Project to be implemented as a component of the region-wide domestic well sampling program (objective 4) (2021/2022 and 2023/2024)
4. Implement free and voluntary sampling programs for domestic wells and small water systems 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.
   a. Compile and assess domestic well data. Provide data to Water Board programs and make available to other agencies, local partners, and the public as appropriate (2022/2023 and 2024/2025)
5. Help identify and coordinate drinking water replacement at no cost to users of domestic wells and small water systems impacted by nitrate. Where appropriate, help identify and coordinate replacement drinking water funding sources with local and state agencies and NGOs, with an emphasis on disadvantaged communities.
   a. Coordinate with State Water Board and local partners to identify and aid disadvantaged communities in need of replacement water, based on results of objective 4 (2022/2023 and 2024/2025)

Goal 2: Improve groundwater data management and assessment tools to inform Water Board actions and increase public availability of groundwater quality data.

Objectives and Milestones:

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 do not exist
   a. Partner with local agencies and determine opportunities and challenges for local agencies to implement ongoing domestic well testing programs independently to support long-term data availability and management in GeoTracker GAMA (2024/2025)

2. Coordinate with Central Coast Water Board staff's Irrigated Lands Regulatory Program's (ILRP's) regional groundwater quality monitoring program
   a. Confer regularly with ILRP staff to minimize duplication of data acquisition and evaluation (2021 – 2025)
3. Capture, compile and assess groundwater quality data for the purposes of evaluating baselines and trends.
   a. Stay informed on groundwater quality trends that may be evident in ILRP monitoring reports.
   b. Compile domestic well sampling results from Goal 1, objectives 2 and 4, and develop a domestic well and small water systems water quality assessment report. Make report available to other agencies and the public as appropriate. (2024/2025)

Goal 3: Identify NPS grant projects that protect the human right to water.

Objectives and Milestones:

1. Solicit projects to restore or protect groundwater used for drinking water (2020-2025).

Lahontan (Region 6)

Goal 1: Ensure safe drinking water for communities which may be affected by waste discharges from confined animal facilities.

Background: The Regional Water Board currently regulates three active milking dairies and one closed dairy with individual WDRs and has issued enforcement orders to six dairy facilities (some of which are not covered under WDRs). Facilities regulated by WDRs have onsite monitoring wells that must be periodically sampled. The enforcement orders require dischargers to sample residential wells within a defined area adjacent to the facility. Replacement drinking water must be provided to any resident having nitrate and total dissolved solids concentrations close to and/or over the primary and secondary drinking water standards. Lahontan Water Board staff review submitted monitoring reports and evaluate monitoring data to evaluate compliance with WDRs and/or enforcement orders and ensure replacement drinking water is provided as required.

Objectives and Milestones:

1. Review monitoring data and develop or enforce replacement water requirements as needed (2020, ongoing).
2. Require replacement water as stipulated by program requirements or develop additional enforcement orders (2020-2025).
3. Conduct inspections and any needed follow-up actions (annually).

L. High Quality, Healthy, and/or Threatened Watersheds

Background

Historically, the Nonpoint Source Program has focused on restoring impaired waters. However, in line with US EPA's Healthy Watershed's Program, the Water Boards acknowledge the need to increase protection of the state's healthy functioning watersheds. Although this plan remains focused primarily on impaired watersheds, overall board efforts include protect high-quality, healthy, and/or threatened watersheds.

High quality waters are defined as waters in Category 1 of the most current iteration of the California Integrated Report. Category 1 waters support all assessed beneficial uses and no beneficial uses are known to be impaired.

The State Water Board Healthy Watersheds Partnership has defined "healthy watershed" and "watershed health" as follows:

> **Healthy Watershed:** A watershed with the ability to provide ecosystem services while maintaining functional and structural components, such as: intact and functioning headwaters, wetlands, floodplains, riparian corridors, biotic refugia, instream and lake habitat, and biotic communities; natural vegetation in the landscape; natural hydrology; sediment transport and fluvial geomorphology; and natural disturbance regimes expected for its location.
>
> **Watershed Health:** The degree to which a watershed is able to provide ecosystem services while maintaining functional and structural components, relative to the maximum possible level of function and structure, as described in the "Healthy Watershed" definition.

State Water Board

Goal 1: Develop the Landscape Assessment Tool (collaboration between State Water Board Office of Information Management and Assessment (OIMA) and North Coast Regional Board).

Background: One challenge facing efforts to protect healthy watersheds is insufficient information about the condition and vulnerability of healthy watersheds. Healthy watershed assessments provide a crucial link between identifying healthy watersheds and protecting their valued attributes against the most serious risks they face. The State Water Board is engaged in a multi-disciplinary, multi-agency effort called the Healthy Watersheds Partnership to monitor and assess the conditions of stream and river ecosystems to better inform the public, resource managers and decision makers. One goal of this partnership is to create a landscape assessment tool in the form of a web-based platform, or dashboard, that will allow a user to leverage relevant datasets to better understand the condition of their local waterbodies and subject these data to analysis tailored to a specific outcome. This tool is being developed methodically and thoughtfully so that once it is complete, it will be useful in identification and prioritization

of healthy waters for funding protection projects, designation of Outstanding National Resource Water, and further identification of Category 1 waterbodies.

Objectives and Milestones (see North Coast Goal 1 for more details):

1. Develop a strategic action plan (August 2020)
2. Complete phase 1 of the Landscape Assessment Tool Workplan (development of goals, objectives, expected outcomes, conceptual model, data collection and management plan) (2020)
3. Complete phase 2 of the Landscape Assessment Tool Workplan (dashboard development, evaluation, and revision; integration into projects and programs) (2021)

Goal 2: Use the NPS Grant Program to protect high quality and/or healthy watersheds.

Objectives and Milestones

1. Allocate a certain percentage of CWA 319 funds to protection of high-quality waters that are listed in Category 1 of the Integrated Report (percentage to be negotiated as part of annual 319 Workplan).
2. Once the Landscape Assessment Tool is available for use, use it to identify high-quality, healthy, and/or threatened waters to be included as program preferences in the NPS Grant Program (timing dependent on State Water Board Goal 1, likely 2022).

Central Coast (Region 3)

Goal 1: Prevent and/or correct threats to high quality waters

Objectives and Milestones:

1. Utilize NPS Grant Program funds for projects that protect high quality waters; solicit NPS grant projects to prevent and/or correct threats to high quality waters (2020 – 2025)

San Diego (Region 9)

Goal 1: Protect and restore natural flow regimes; net gain in wetland and riparian areas and quality; RARE beneficial use is not impaired; streams support ecologically balanced and sustainable communities of native organisms.

Objectives and Milestones:

1. Improve stream and wetlands conditions by protecting and restoring natural flow regimes and controlling NPS pollution to support ecologically-balanced communities of native organisms

a. Support development of biological objectives for ephemeral streams; deliver Basin Plan amendment to USEPA and OAL for Biological Water Quality Objectives for streams: 2022
b. Develop metrics for episodic streams: 2022
c. Implement biological objectives in Waste Discharge Requirements, and CWA 401 and NPDES programs following implementation plan schedule in (potential) Basin Plan amendment (1.a. above) by 2025
d. Identify NPS stressors in high priority waters following next Integrated Report: 2023-2025
e. Participate in collaborative effort to address invasive species in high quality streams, like San Mateo watershed.
    i. Collaborate with stakeholder groups to reduce invasive species threats to areas with BIOL or RARE beneficial uses, such as San Mateo watershed: 2024
f. Identify resources for staff to use to assess climate change impacts specific to their program priorities: 2021
g. Update WDRs to consider hydrologic effects of climate change on streamflows, erosion, etc.
    i. Review and update WDRs as necessary to include climate change vulnerability plans as WDRs come up for renewal: 2020-2024
h. Use California Stream Condition Index (CSCI) (a Statewide Biological Scoring Tool for Assessing the Health of Freshwater Streams) scores to identify priority NPS and point source pollution prevention efforts
    i. Develop GIS map of CSCI scores that identifies high quality streams and permitted facilities
i. Use latest science to determine high quality streams, stressors, and strategies for protection and restoration
j. Education
    i. Train staff on environmental flows (functional flows) work from CA Monitoring Council so they can integrate into activities to protect streams
    ii. Train staff and public on CSCI use for biological objectives

2. Improve ability to assess actual and potential impacts to REC-1 from hydromodification and hydrologic alteration
    a. Identify and use better direct indicators of human waste than current fecal coliform indicators: 2025
    b. Update sanitary sewer collection WDRs and review onsite wastewater treatment systems (OWTS) oversight to identify and address nonpoint sources contributions of human waste to surface waters: 2023
    c. Review annual and final findings of Investigative Order No. R9-2019-0014 for human sources of bacteria in San Diego River: 2021-2024

M. Bacteria

Background

In 2012, U.S. EPA established new recreational water quality criteria recommendations (U.S. EPA 2012 Recreational Criteria) based on updated national epidemiological studies and a broader definition of illness designed to protect the public from exposure to harmful levels of pathogens while participating in water contact recreational activities.

The U.S. EPA 2012 Recreational Criteria recommends the use of either enterococci or Escherichia coli (E. coli) as indicators of fecal or pathogen contamination in fresh waters and recommends the use of only enterococci as an indicator in marine waters. Additionally, the recommendations include two estimated illness rates (36 illnesses per 1,000 recreators or 32 illnesses per 1,000 recreators), stating that either rate is protective of the primary contact recreation (REC-1) beneficial use. The U.S. EPA 2012 Recreational Criteria is intended as guidance to states and tribes in developing criteria to protect swimmers from exposure to water that contains organisms indicating the presence of fecal contamination and includes beach action values that can be used by local health officials, regional water boards, and authorized tribes as a tool for beach management actions in freshwaters, estuarine waters, and ocean waters.

In August 2018, the State Water Board adopted new statewide bacteria water quality objectives and implementation options to protect recreational users from the effects of pathogens in California water bodies. The objectives and implementation options are a new part 3 of the Water Quality Control Plan for the Inland Surface Waters, Enclosed Bays, and Estuaries of California, and an amendment to the Water Quality Control Plan for Oceans Waters of California

Water quality problems associated with homelessness are interwoven with challenging and complex societal issues like poverty, the high cost of living in California, addiction, and unemployment. As such, cleaning up and/or preventing discharges from homeless encampments will likely require interagency collaboration at the local, county, state and federal, levels. Nonpoint sources of pollution related to homelessness include trash, bacteria/pathogens, and nutrients.

Central Coast (Region 3)

Goal 1: Identify, implement, and report out on applicable Central Coast Water Board Program actions that could prevent, reduce, and/or correct impacts from trash and fecal bacteria discharges to surface waters from homeless encampments.

Objectives and Milestones:

1. Produce Quarterly Board Member report, at public Board Meetings, on homelessness related challenges and solution (2020 - 2025)
2. Create annual summary of any permitting program actions that include consideration homeless encampments (2020 – 2025)

3. Record and track encampments observed during Water Board inspections and ambient monitoring sampling (2020 – 2025)

Central Valley (Region 5)

Goal 1: Develop and implement a Regional Model to address water quality impacts of homeless encampments

Objectives and Milestones:

1. Convene a collaborative stakeholder working group to develop a Regional Model to address water quality impacts of homelessness
    a. Identify work group members; Winter 2020
    b. Hold work group meetings; Ongoing
    c. Draft model and toolkit released to full work group to be vetted; Spring 2022
    d. Update Regional Model and toolkit based on work group input and make model and toolkit publicly available (Summer 2022)
    e. Present agenda item on model and toolkit to Regional Water Board (Fall 2022)
2. Implement Regional Model to Address Water Quality Impacts of Homeless Encampments
    a. Initiate Regional Model recommendations for addressing water quality issues associated with homeless encampments
    b. Follow up on complaints related to water quality impacts of homeless encampments utilizing finalized model and toolkit (Fall 2020)
    c. Implement Pilot study(ies) (Winter 2023)
3. Evaluate Regional Model progress following initial pilot study
    a. solicit work group input, implement adaptive management based on work group input (Fall 2024)
4. Present agenda item on Regional Model progress; Spring 2025

Santa Ana (Region 8)

Goal 1: Continue implementation and enforcement of existing TMDLs for fecal coliform bacteria in the Middle Santa Ana River watershed

Background: The Middle Santa Ana River watershed covers approximately 488 square miles and lies largely in the southwestern portion of San Bernardino County and the northwestern area of Riverside County. A small part of Los Angeles County (Pomona/Claremont area) is also included. This watershed is comprised of three sub–watersheds. The first sub-watershed is the Chino Basin Watershed, which includes portions of San Bernardino County, Los Angeles County, and Riverside County. Surface drainage in this area is directed to Chino Creek and Cucamonga/Mill Creek and is generally southward, from the San Gabriel Mountains toward the Santa Ana River and the Prado Flood Control Basin. The second sub–watershed, the Riverside Watershed, is in Riverside County. Surface drainage in this area is generally westward from the City

of Riverside to the Santa Ana River, Reach 3. The third sub–watershed, the Temescal Canyon Watershed, is also located in Riverside County. Surface drainage in this area is generally northward to Temescal Creek.

Land uses in the Middle Santa Ana River watershed include urban, agriculture, and open space. Although originally developed as an agricultural area, the watershed is being steadily urbanized. Waterbodies of this watershed are impaired by fecal coliform bacteria, whose numbers exceed water quality objectives for water contact recreation (REC-1). These waterbodies are listed on the Clean Water Act section 303(d) list of impaired waters and include: Santa Ana River Reach 3; Chino Creek Reach 1 and Reach 2; Mill Creek (Prado Area); Cucamonga Creek Reach 1; and Prado Park Lake.

To address these ongoing exceedances of water quality standards, the Santa Ana Regional Water Quality Control Board (Santa Ana Water Board) in 2005 adopted in TMDLs for fecal coliform bacteria in these impaired waterbodies. To comply with the TMDLs, dischargers have been working together towards controlling anthropogenic sources of fecal coliform bacteria. While many non-point sources of fecal coliform have been eliminated or controlled, violations of water quality standards continue. The TMDLs specify alternative numeric targets for Escherichia coliform (E. coli) criteria. These targets roughly correspond to the health risk level associated with the existing Basin Plan fecal coliform objectives. The TMDLs specify an implementation plan for bacteria reduction. The implementation plan includes compliance schedules for achieving the numeric targets, wasteload and load allocations, as well as a monitoring program to track progress toward compliance.

Additionally, the Santa Ana Water Board will be revising the Basin Plan and TMDLs to comply with new statewide water quality objectives for *E. coli* bacteria and replace fecal coliform load allocations for fecal coliform with new ones for *E. coli* bacteria.

Objectives and Milestones:

1. Continue implementation and enforcement of existing TMDLs for fecal coliform bacteria
    a. Review the TMDL annual reports (annually)
    b. Work with the TMDL Task Force to guide implementation activities (continuous)
2. Participate in TMDL Task Force meetings (every other month)
3. Identify and implement measures that will mitigate impacts from homeless encampments in the stream channels and riverbeds
    a. Review the Synoptic Study and TMDL Triennial Report (summer of 2020)
    b. Work with the Stakeholders to determine what strategies can be used to address hotspots identified in the Synopotic Study (December 2020)
4. Implement the Regions Human Right to Water Policy, adopted in December 2019, as it pertains to homelessness.

San Diego (Region 9)

Goal 1: Identify and eliminate human sources and causes of contamination; reduce Illness rates from pathogens during REC-1 activities to below 32/1000

Objectives and Milestones:

1. Support development of better indicators for human sources of waste in surface water samples
   a. Identify and use better direct indicators of human waste than current fecal coliform indicators (2025)
2. Improve ability to assess actual and potential impacts to REC-1; continue implementation and enforcement of existing TMDLs for indicator bacteria in several beaches and creeks
3. Review data and monitoring results submitted as required by Investigative Order No. R9-2019-0014 (An Order [to several municipalities] to Submit Technical and Monitoring Reports to Identify and Quantify the Sources and Transport Pathways of Human Fecal Material to the Lower San Diego River Watershed), which was issued to municipal dischargers in the San Diego River watershed. The intent of the Investigative Order is to identify and quantify the sources and transport pathways of human fecal material to the San Diego River Watershed, its tributaries, and downstream beaches (Annual Reports each January: 2021-2024).
   a. Identify implementation measures needed to prevent discharges of human fecal material into the San Diego River, some of which are suspected as originating from homeless encampments: Upon Final Report, 2024.

Coastal Commission

1. Partner with local and state agencies and private organizations to gather and remove hundreds of tons of trash at beaches, shorelines, and inland waterways
   a. Oversee the cleanup and recruit volunteers to participate in Coastal Cleanup Day (2020 – 2025)
2. Ensure that projects applying for Coastal Development Permits (CDPs) are planned, designed, and managed to minimize potential adverse impacts to coastal resources from water quality impacts from homeless encampments in the Coastal Zone

N. Onsite Wastewater Treatment Systems

Background

California has more than 1.2 million onsite wastewater treatment systems (OWTS), also known as septic tanks. OWTS are typically domestic systems in areas without centralized sanitary sewers; most do not pose a significant threat to human health and water quality. However, poorly sited, designed, and maintained OWTS can impact shallow groundwater, and surface water, primarily with nitrates and pathogens.

The State Water Board adopted the OWTS Policy in 2012 to correct and prevent OWTS failures due to poor siting and design, and excessive OWTS densities. The OWTS Policy establishes a statewide, risk-based, tiered approach for the regulation and management of OWTS installation and replacement and sets the level of performance and protection expected from these systems. Four risk tiers require increasing Regional Water Board oversight of local regulatory agencies. Tier 2 covers new and replacement OWTS up to 10,000 gallons per day where a local agency implements a Local Agency Management Program that has been approved by the Regional Water Board. A Local Agency Management Program allows a local agency to implement a regulatory program for OWTS that accommodates local geologic and climatic conditions while still protecting water quality and public health. In 2013, the Regional Water Boards began adopting the OWTS Policy into their Basin Plans.

State Water Board

Goal 1: Implement California Senate Bill-1215

Background: On September 30, 2018, the State Legislature adopted SB-1215, authorizing the Regional Water Boards to order disadvantaged communities with inadequate onsite sewage treatment systems to connect to an adjacent and existing sewer service. As funding is available, the State Water Board will continue to provide small community grants and low interest loans to communities to comply with Regional Water Board orders. Additionally, the SB 1215 allows property owners of an affected community to opt out of the provision of sewer service for a maximum of five years if their onsite sewage treatment system was installed within 10 years of the issuance of the Regional Water Board order. After the five years, the opted-out residences are required to connect to the newly consolidated system.

Objectives and Milestones

1. List, categorize, and prioritize disadvantaged communities that have septic tanks that can be consolidated with a neighboring existing collection system.
2. Identify/develop a list/map of disadvantaged communities with inadequate or failing septic systems.
3. Develop and adopt a Statewide Policy Handbook (2020)
4. Provide Policy Handbook implementation training (2021)

North Coast (Region 1)

Goal 1: Approve Local Agency Management Program for Siskiyou County

Objectives and Milestones:

1. Provide technical review and provide comments to the local agency on the draft Local Agency Management Program in coordination with the Central Valley RWQCB and the SWRCB's Division of Drinking Water (July 2021)
2. Coordinate with Local Agency and the Central Valley RWQCB to agree on minimum requirements of the Local Agency Management Program (July 2021)

3. Develop/prepare for public hearing a Resolution approving the Siskiyou County Local Agency Management Program (July 2021)

Goal 2: Approve Local Agency Management Program for Del Norte County

Objectives and Milestones:

1. Provide technical review and provide comments to the local agency on the draft Local Agency Management Program in coordination with the State Water Board's Division of Drinking Water (July 2021)
2. Coordinate with local agency on necessary revisions to the draft Local Agency Management Program to address deficiencies (July 2021)
3. Develop/prepare for public hearing a Resolution approving the Del Norte County Local Agency Management Program (July 2021)

Goal 3: Reduce pathogen discharges to Russian River Watershed

Background: The Regional Water Board is preparing a Pathogen TMDL for the Russian River Watershed. Failing and substandard onsite wastewater treatment systems (OWTS) have been identified as sources of pathogens contributing to the impairment. Many communities in the lower Russian River Watershed rely on OWTS for disposal of wastewater and many of these OWTS were constructed prior to the establishment of modern building codes and on parcels that are now generally considered unsuitable for onsite wastewater treatment and disposal. It is anticipated that many of these OWTS will not meet TMDL requirements and will require replacement or connection to municipal sanitary sewer systems. Two disadvantaged communities in the lower Russian River Watershed, Monte Rio and villa Grande, are participating in a pilot project to investigate possible compliance options for OWTS located in these communities, including individual OWTS upgrades, small community or cluster OWTS, or connection to existing municipal sewer systems. Regional Water Board staff and the County of Sonoma have formed an Interagency Team and Citizens Advisory Group to aid in project development and funding to the communities.

Objectives and Milestones:

1. To address failing and substandard OWTS in the lower Russian River Watershed, assist Sonoma County in preparing a Plan of Study and CWSRF/ Small Community Grant planning grant application project
    a. Participate in regular meetings of the Interagency Team and Citizens Advisory Group
    b. Complete final scope of work by August 2019
    c. Award planning grant by January 2020
2. Assist Sonoma County in preparing a Scope of Work in fulfillment of the CWSRF/SCG planning grant application
    a. Complete final scope of work by December 2023
    b. Participate in regular meetings of the Interagency Team and Citizens Advisory Group

Colorado River (Region 7)

Goal 1: Reduce impacts to groundwater from septic tanks by implementing the requirements established in the Onsite Treatment Policy.

Background: 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. The following Local Agency Management Programs are approved to be used in the Colorado River Basin region with approval dates in parenthesis: San Diego County (04/29/2015), Imperial County (06/30/2016), Riverside County (11/17/2016), San Bernardino County (07/13/2017), and City of Needles (11/08/2018).

Objectives and Milestones:

1. Review, and if appropriate, approve Local Agency Management Programs which are submitted. Tasks include:
   a. RB staff review
   b. Issuing a public review draft
   c. Regional Board Workshop
   d. Regional Board Hearing
   e. Adoption of a Local Agency Management Program (as needed)
2. Provide oversight to the implementation and management of the approved Local Agency Management Programs for Imperial, Riverside, San Bernardino and San Diego counties, and the City of Needles. Review Local Agency Management Program Annual Reports.
3. 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.

Santa Ana (Region 8)

Goal 1: Implement the OWTS Policy.

Objectives and Milestones:

1. Revise the Quail Valley Prohibition for On-Site Septic Tanks-Subsurface Disposal to consider exceptions and update the Basin Plan to reflect these exceptions
2. Approve the Local Agency Management Program, as requested
3. Evaluate requests for OWTS Policy Conditional Waivers of WDRs for Accessory Dwelling Units

O. Transboundary Impacts

Colorado River (Region 7)

Goal 1: Assist Federal, State and local partners on the development and implementation of the New River Improvement Project (NRIP) in Calexico to address the public health threat to the community

State Board regulations considers surface water pollution from Mexico as nonpoint source. Water quality in the New River International Boundary is threatened by frequent discharge events of raw sewage from Mexicali into the New River due to deteriorating sewage infrastructure. New River water quality impairments at the International Border are caused by dumping of trash, point and nonpoint sources of pollution, nutrients, and pathogens from confined animal feeding operations as well as from slaughterhouses in Mexicali, Mexico. The Colorado River Water Board is a member of the Binational Technical Committee (BTC) for the New River/Mexicali Sanitation Program. The BTC identifies pollution problems, oversees development and implementation of the binational sanitation projects agreed upon by Mexico and the US, and makes project and policy recommendations to address overall New River pollution from Mexico.

Objectives and Milestones:

1. Assess water quality impacts in the US from discharge of raw sewage in Mexico
    a. Regional Board staff will attend six BTC meetings annually and write reports on each of the Binational observation tours and inspections, identifying areas of progress or concern for follow-up.
    b. Review bi-monthly International Boundary and Water Commission (IBWC) monitoring data (24 sampling events per year). Use data to communicate status of WQ in a presentation to stakeholders.
    c. Monitor water quality at the border including constituents not analyzed by IBWC monitoring. Monitoring is done for several constituents including pathogens, dissolved oxygen (DO), pH, biochemical oxygen demand (BOD) etc. monthly. Additional monitoring is done for areas impacted by sewer bypasses, 3-4 times per year or more, as discovered. All data is posted to Region 7 website and used to support reporting and other programs.
2. Provide technical assistance to Cal EPA's contract managers for a future construction project that includes installation of a self-cleaning and fully automated trash screen at the New River International Boundary to capture trash coming into the US in Calexico, CA

San Diego (Region 9)

Goal 1: Reduce or eliminate transboundary sewage flows from Mexico; reduce discharges of sewage, industrial waste, and trash discharges to Tijuana River, Estuary and Shoreline.

Objectives and Milestones:

1. Develop TMDL staff report in 2021-22
2. Better characterization of conditions: 2024
3. Obtain a dedicated position for border liaison
4. International Boundary Water Council
    a. Implement and review data from (tentative) Investigative Order issued to IBWC to characterize conditions
    b. Continue to support civil court case against IBWC
5. Stakeholder engagement
    a. Stakeholder coordination via Tijuana River Valley Recovery Team
    b. Continue stakeholder coordination: 2020-2024
6. Review data from third parties (e.g., US Customs and Border Patrol) (ongoing)

P. Cannabis Cleanup

Background

Cultivation of marijuana in California has increased in recent years, both in the number of grows and the size of grow operations. Growing operations are appearing on both private and public land and have the potential to adversely impact waters. The Water Boards have developed a plan to address water quality impacts due to cannabis operations. This plan focuses on illegal and abandoned operations that pose a threat to water quality. Potential water quality impacts from illegal and abandoned operations include:

- erosion and sediment deposition from grading, terracing, dam, and road construction
- toxicity from illegal use of rodenticides, fungicides, herbicides and insecticides
- nutrification and harmful algal blooms from soil amendments and fertilizers
- toxicity and bacteria impacts from trash and haphazard management of human waste
- toxicity from substandard storage of hazardous materials such as diesel and gasoline; and
- flow impacts from unauthorized diversion of water

The Water Boards' Cannabis Program staff in various regions throughout the state conduct inspections, investigations, and enforcement of water quality impacts from cannabis cultivation sites under the Water Board's Cannabis Cultivation program. Information about these inspections and permitting activities is recorded in California Integrated Water Quality System (CIWQS), a database used by 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.

State Water Board

Goal 1: Reduce nonpoint source pollution from illegal and/or abandoned cannabis cultivation sites.

Background: California Department of Resources Recycling and Recovery (CalRecycle) administers the Farm and Ranch Solid Waste Cleanup and Abatement Grant Program, which provides up to $1 million annually in grants for the cleanup of illegal solid waste sites on farm or ranch property. A site may be eligible for funding if the parcel(s) is(are) zoned for agricultural use, where unauthorized solid waste disposal has occurred, and where the site(s) is(are) in need of cleanup in order to abate a nuisance or public health and safety threat and/or a threat to the environment. Sites are not eligible for funding if the site is located on property where the owner or local agency is responsible for the illegal disposal of solid waste.[8]

Objectives and Milestones:

1. Once or twice per year, review CIWQS for location of illegal or abandoned grow sites and determine if the sites are impacting water quality.
2. Attend Cannabis Program roundtables or teleconference calls to present the goals of the NPS Program and the importance of CIWQS data entry to identify illegal and abandoned grow sites and to discuss potential legal mechanisms for providing funding for cleanup.
3. Interact with California Department of Resources Recycling and Recovery (CalRecycle) to identify priority illegal or abandoned grow sites for cleanup activities to address nonpoint source pollution.

Q. NPS Program Administration

Update the 2000 NPS Program Plan

In the late 1990s, the State Water Resources Control Board and Regional Water Quality Control Boards (collectively the Water Boards), and the California Coastal Commission (Coastal Commission) developed the Plan for California's Nonpoint Source Pollution Control Program (2000 NPS Program Plan), which serves as both the state's "inland" NPS Program and its CNPCP. The United States Environmental Protection Agency (U.S. EPA) and the National Oceanic and Atmospheric Administration approved the NPS Program Plan on July 17, 2000, satisfying both CWA 319 and CZARA requirements. The 2000 NPS Program Plan contained a fifteen-year strategy, consisting of three nested five-year implementation plans, with the last implementation plan extending through June 30, 2014. The Water Boards and Coastal Commission developed a fourth program implementation plan covering the period of July 1, 2014 through June 30, 2020. The content of this document represents the fifth program implementation plan for the NPS Program, covering the period of July 2020 – June 2025. One of the goals for the next five year period is to review the 2000 NPS Program

[8] https://www.calrecycle.ca.gov/lea/grantsloans/farmranch (accessed April 6, 2020)

Plan, at a minimum identifying elements of the 2000 Nonpoint Source Program Strategy still applicable to future work and those no longer applicable, and updating elements needed to inform the next five-year (2025-2030) Nonpoint Source Program Implementation Plan.

CWA 319 Grant Administration

One significant element of nonpoint source pollution control in California is the Nonpoint Source Grant Program, which distributes CWA 319 grant funds and state funds[9] (when allocated to the State Water Board) to local entities throughout the state. The majority of NPS Grant Program funds are awarded to California Resource Conservation Districts (RCDs), which are special districts of the State of California, set up to be locally governed agencies that implement projects on public and private lands, and educate landowners and the public about resource conservation. Funds are also awarded to nonprofit organizations such as California Trout and the California Land Stewardship Institute, other state agencies such as the Tahoe Conservancy and the American River Conservancy, and local agencies such as Marin Municipal Water District, Tahoe Regional Planning Agency, and Placer County.

The collaboration with these state, local, and federal entities is essential for reducing nonpoint source pollution in California. These entities are granted subawards ranging from $250,000 to $800,000 to reduce nonpoint source pollutant loads to waters of the state. Examples of the type of work funded by Nonpoint Source Grant Program are:

- Agricultural nutrient and irrigation monitoring stations (reduces pesticide and nutrient loading)
- Agricultural best management practices such as cover crops, hedgerows, bioreactors, sediment basins (reduces pesticide, nutrient, and sediment loading)
- Installation of large wood debris to streams and rivers (improves ecological habitat, reduces sediment transport and loading)
- Livestock fencing to restrict access to waters (reduces sediment, nutrients, and bacteria loading)
- Rural road improvements such as installation of rolling dips, outsloping, berms and road decommissioning, culvert upgrades/replacements, watercourse crossings (reduces sediment loading)
- Riparian restoration such as revegetation and bank stabilization (reduces sediment, pesticide, and nutrient loading)
- Vegetation treatment to reduce wildfire fuel (lessens risk of wildfires and reduces sediment and post-fire debris loading after a wildfire)
- Facility improvements at dairy operations (reduces nutrients, bacteria, and sediment loading)

[9] For example, the Timber Regulation and Forest Restoration Grant Funds, which were allocated to the State Water Board for five consecutive years beginning in fiscal year 2015/2016.

The NPS Program has several tasks that are relatively consistent from year to year. These include applying for the CWA 319 grant, reporting on progress, and preparing financial summaries. Table 2: Annual Milestones shows annual milestones for these tasks, and Figure 1: Cycle of NPS Program Tasks displays the cycle of these tasks graphically.

Table 2: Annual Milestones

Due Date	Milestone
February 1	Semi-Annual Progress Report for CWA 319 grant (July 1 – December 31)
February 28	Annual load reductions from CWA 319 grant-funded projects entered into EPAs Grants Reporting and Tracking System
April 1	Draft annual work plan for CWA 319 grant
May 1	Annual grant CWA 319 application with final annual work plan
June 31	Draft "Success Stories" [10] submitted into EPA's Grants Reporting and Tracking System
August 1	Semi-Annual Progress Report for CWA 319 grant (January 1 – June 30)
September 30	Annual Report on NPS Program accomplishments
September 30	Grant Closure Report for expiring CWA 319 grant
September 30	Federal Financial Reports for CWA 319 grants (obtained from DAS)
September 30	Disadvantaged Business Enterprise report for CWA 319 grants

[10] EPA's National Water Program Guidance: Addendum FY 2021 (Publication Number: 850B20001) identifies as a Continuing Measure the "Number of primarily nonpoint source-impaired waterbodies partially or fully restored by nonpoint source (NPS) program actions". These are referred to as Success Stories. (https://www.epa.gov/sites/production/files/2020-04/documents/fy21-national-water-program-guidance-addendum.pdf)

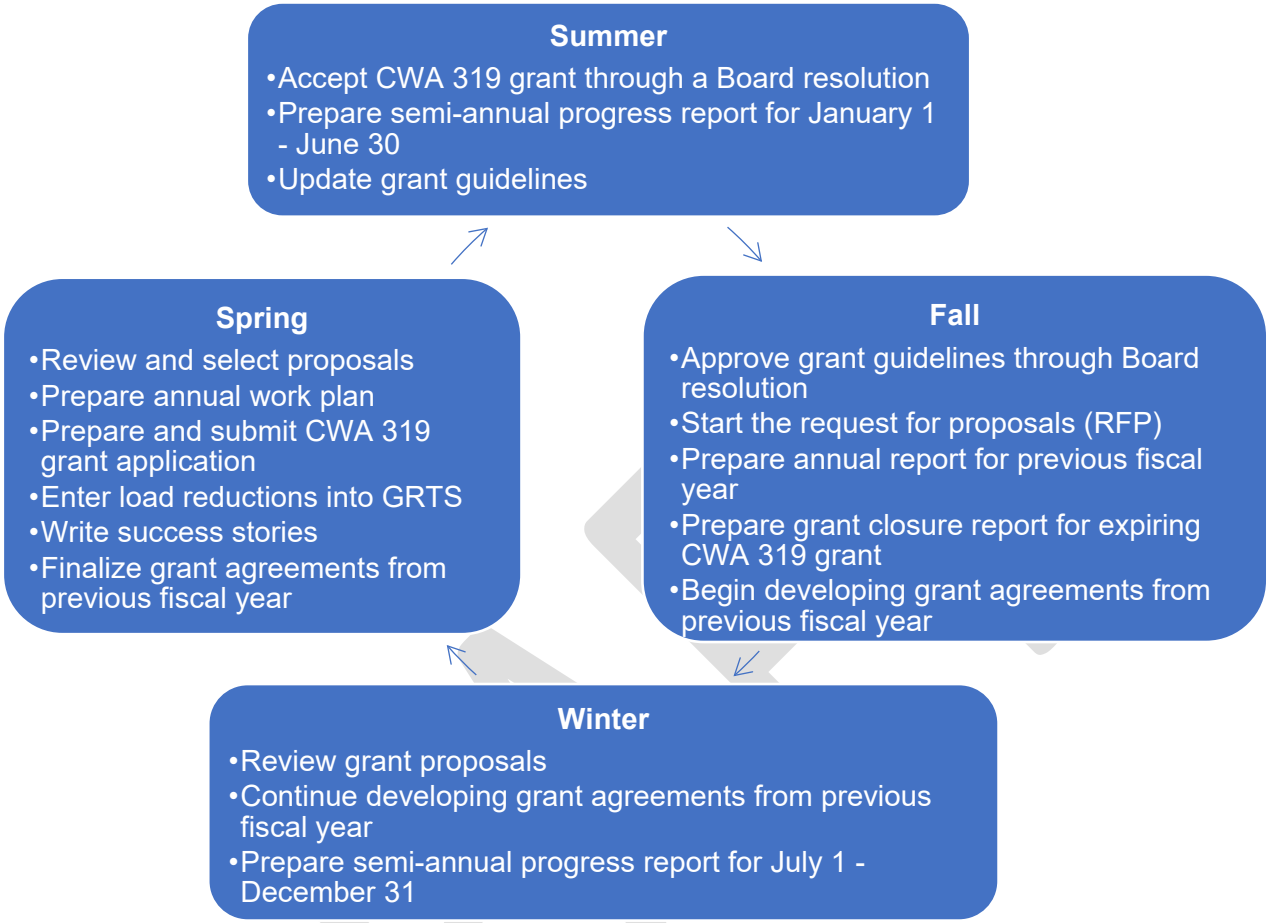

Figure 1: Cycle of NPS Program Tasks

The Water Boards prepare a budget for each CWA 319 grant. The State Water Board budgets approximately half of its CWA 319 grant funds for personnel to accomplish elements of this plan as identified in the annual 319 work plans. The State Water Board budgets the other half for projects implementing watershed-based plans.

Financial Tracking

A recurring issue with grant administration is dispositioning leftover CWA 319 grant funds when the Water Boards or its subrecipients do not use funds as budgeted, which leads to previously allocated and/or obligated funds becoming available. This occurs when spending on personnel is less than planned, or when sub-awards for projects end underbudget or are cancelled selection but before completion. In these situations, the State Water Board has solicited project proposals from the Regional Water Boards or the Coastal Commission, and decided, with US EPA's approval, on projects to fund.

To better disposition and liquidate funds, during the 2020-205 timeframe, the State Water Board will:

- Implement procedures for timelier tracking/reporting/drawdown of personnel and sub-award expenditures.
- Develop a strategic plan to annually identify highest priority uses for 319 funds to address state nonpoint source pollution priorities, to facilitate re-aligning of unencumbered funds for optimal use.
- Develop a strategic plan to secure management support and advance the use of state funds to achieve the "super match" (exemption from the 50% watershed project funding requirement, as described in US EPA 2013 *Nonpoint Source Program and Grants Guidelines for States and Territories*, Section IX.G.

R. Performance Measures and Reporting

The main performance measures for the NPS program are the number of primarily nonpoint source-impaired waterbodies partially or fully restored by nonpoint source (NPS) program actions, and the volume and/or mass of nonpoint source pollutant load reductions. The NPS program writes water quality success stories to report on waterbodies partially or fully restored. Historically, the NPS program has committed to two success stories per year, which will be the target number of success stories for this plan. To the extent possible, the NPS program will coordinate with the TMDL program's water quality report cards to leverage water quality performance tracking and reporting. Nonpoint source load reductions will be entered into the Grants Reporting Tracking System and reported yearly in the Annual Report.

Goal 1: Performance Measures

Objectives and Milestones:

1. Success Stories - The NPS program will coordinate with the TMDL program to leverage water quality performance tracking and water quality report cards to support success story development. Water Boards will submit to EPA via the Grants Reporting Tracking System a minimum of two success stories per year.

2. Load reductions - For all active projects that have NPS reduction goals for nutrients or sediment (including 319- and match-funded projects), load reductions will be entered into the Grants Reporting Tracking System yearly and reported in the Annual Report

Goal 2: Reporting

For tracking and reporting on the initiatives of this program implementation plan, the state has several existing reporting mechanisms including annual Water Board Performance Reports (which include TMDL water quality report cards and the NPS program success stories), Executive Director and Executive Officer reports (which include updates on the Irrigated Lands Regulatory Program), the annual Water Boards Accomplishments Report, AB 1492 Legislative Report (for reporting on the Forest

Resource Management efforts), and reporting to Grants Reporting and Tracking System (load reductions, success stories, and CWA 319 Grant data).

1. Annual Water Board Performance Reports:[11] This annual report provides a mechanism to measure and evaluate both what the California Water Boards are doing and how the environment is responding to Water Board actions. It is part of the Water Boards' overall effort to be a performance-based organization. The report presents numerous performance measures for key functional categories of Water Board work, described below, captured in several categories (Plan & Assess, Regulate, Clean Up, Enforce, Funds, Allocate, and Targets). Performance related to the state's strategy for addressing NPS pollution (elements in this plan) will be primarily reported through the "plan and assess" and "regulate" functional categories. Specific performance measures that relate to this plan include:
    - TMDL Implementation and Outcomes -number of water quality report cards written to date, organized by water quality conditions improving, data inconclusive, improvement needed, and targets achieved/waterbody delisted
    - Water Quality Restoration - number of nonpoint source success stories written for impaired waterbodies partially or full restored in the reporting year
    - Regulating Irrigated Lands - number of acres enrolled in irrigated lands regulatory programs per Region
    - Regulating Dairies - number of dairies regulated per Region number of mature cows regulated per Region; number of active confined animal facilities inspected
    - Loans and Grants Funding – amount allocated to current projects, by funding source (includes funds beyond those addressing NPS pollution).

2. Executive Director and Executive Officer reports: These reports contain information about current and high priority issues, and typically include an update on the irrigated lands regulatory program. These reports are posted on the individual Water Board websites (sometimes embedded in Board Meeting agendas, e.g, Regions 1, 3, and 8).

Water Board Executive Director/ Executive Officer Report websites	**Link**
North Coast Regional Board (Region 1)	https://www.waterboards.ca.gov/northcoast/board_info/board_meetings/
San Francisco Regional Board (Region 2)	https://www.waterboards.ca.gov/sanfranciscobay/board_info/eo_report.html
Central Coast Regional Board (Region 3)	https://www.waterboards.ca.gov/centralcoast/board_info/agendas/

[11] https://www.waterboards.ca.gov/about_us/performance_report_1819/index.html

Water Board Executive Director/ Executive Officer Report websites	Link
Los Angeles Regional Board (Region 4)	https://www.waterboards.ca.gov/sandiego/publications_forms/publications/eoreports.html
Central Valley Regional Board (Region 5)	https://www.waterboards.ca.gov/centralvalley/board_info/exec_officer_reports/
Lahontan Regional Board (Region 6)	https://www.waterboards.ca.gov/lahontan/publications_forms/available_documents/e_o_reports/
Colorado River Regional Board (Region 7)	https://www.waterboards.ca.gov/coloradoriver/board_info/executive_officers_reports/
Santa Ana Regional Board (Region 8)	https://www.waterboards.ca.gov/santaana/board_info/agendas/index.html
San Diego Regional Board (Region 9)	https://www.waterboards.ca.gov/sandiego/publications_forms/publications/eoreports.html
State Water Board	https://www.waterboards.ca.gov/board_info/exec_dir_rpts/

3. Annual Water Boards Accomplishments Report:[12] This report summarizes significant accomplishments achieved by the California Water Boards for each calendar year. The information in this report is vetted by Executive Management at the State Water Board and may include some of the accomplishments achieved under this plan.

4. Annual AB 1492 legislative report:[13] This report is required by AB 1492 and provides an overview of accomplishments in implementing the Timber Regulation and Forest Restoration Program (TRFRP). It describes the number of Timber Harvesting Plans (THPs) and Nonindustrial Timber Management Plans (NTMPs) filed, acres addressed by those plans, and the length of review periods (from submission to approval) for those plans. It also describes other initiatives of the TRFRP such as implementation of an information system to track permitting activities, development of ecological performance measures, and administrative transparency. Finally, this report describes allocation of the Timber Regulation and Forest Restoration Funds (TRFRF) to sub-grant projects and to personnel across the state and to different agencies. (In recent years, the NPS Program has jointly solicited TRFRF and CWA 319 funds.)

5. Grants Reporting and Tracking System (GRTS): GRTS is US EPA's database for tracking and sharing CWA 319 accomplishments. The State Water Board enters

[12] https://www.waterboards.ca.gov/publications_forms/publications/general/#Aa
[13] https://resources.ca.gov/Initiatives/Forest-Stewardship/Annual-Reports-to-Legislature

information about projects funded with CWA 319 grant funds. In 2020, load reductions from these projects, and success stories to meet some of EPA reporting requirements.

Objectives and Milestones:

1. The State Water Board is developing a data entry protocol to ensure data entry in the GRTS database is consistent, accurate, and timely.
    a. Following the completion of the data entry protocol, State Water Board intends to rely on GRTS to provide reports on sub-grant projects, and also to capture more of the information required for semi-annual progress reports . (2021)
2. The State Water Board is piloting use of GRTS for entering progress updates for selected Program activities in the Workplan (e.g., the NPS project solicitation process).
    a. The State will evaluate if reporting is streamlined by increased use of GRTS in lieu of semi-annual grant progress reporting, determine the preferred reporting mechanism for Workplan tasks, and where increased use of GRTS is selected, develop processes for implementation. (2022)

IV. Appendices

A. Regional Water Board Environmental and Geographic Characteristics and Maps of Targeted Waterbodies

North Coast Regional Water Quality Control Board

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. The boundaries of the North Coast Region surround all 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 coastline and remote wilderness areas, as well as urbanized and agricultural areas.

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, 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.

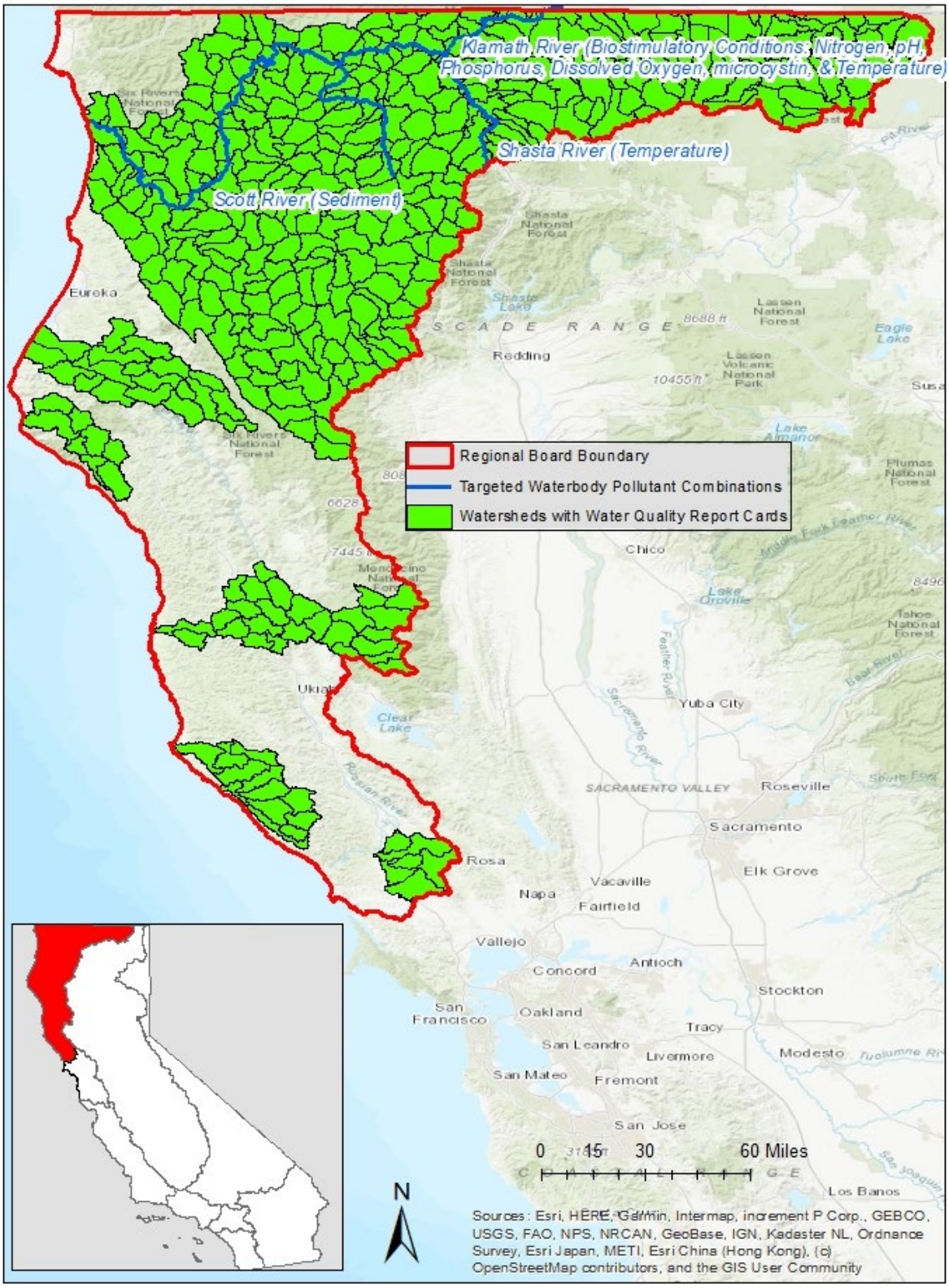

Figure 2: North Coast Water Board Watersheds for CA NPS Program Reporting and Targeted Waterbody Pollutant Combinations

San Francisco Bay Regional Water Quality Control Board

The San Francisco Bay Region covers a basin of approximately 4,550 square miles and is on the central coast of California. The San Francisco Bay-Sacramento San Joaquin River Delta (Bay Delta) forms 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. The basin supports an extraordinarily diverse and productive ecosystem. Its deep-water 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.

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 as 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.

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, confined animal facilities, rural roads, and legacy mining have resulted in surface water impairments. 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).

The initiatives described in this plan for San Francisco Bay Region, although focused on the North Bay and San Mateo coast, are not intended to exclude other San Francisco Bay Regional Water Board efforts, such as implementation of other approved TMDLs that have nonpoint source pollution issues (such as the Guadalupe River watershed mercury TMDL and other bacteria/pathogen TMDLs). The initiatives 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.

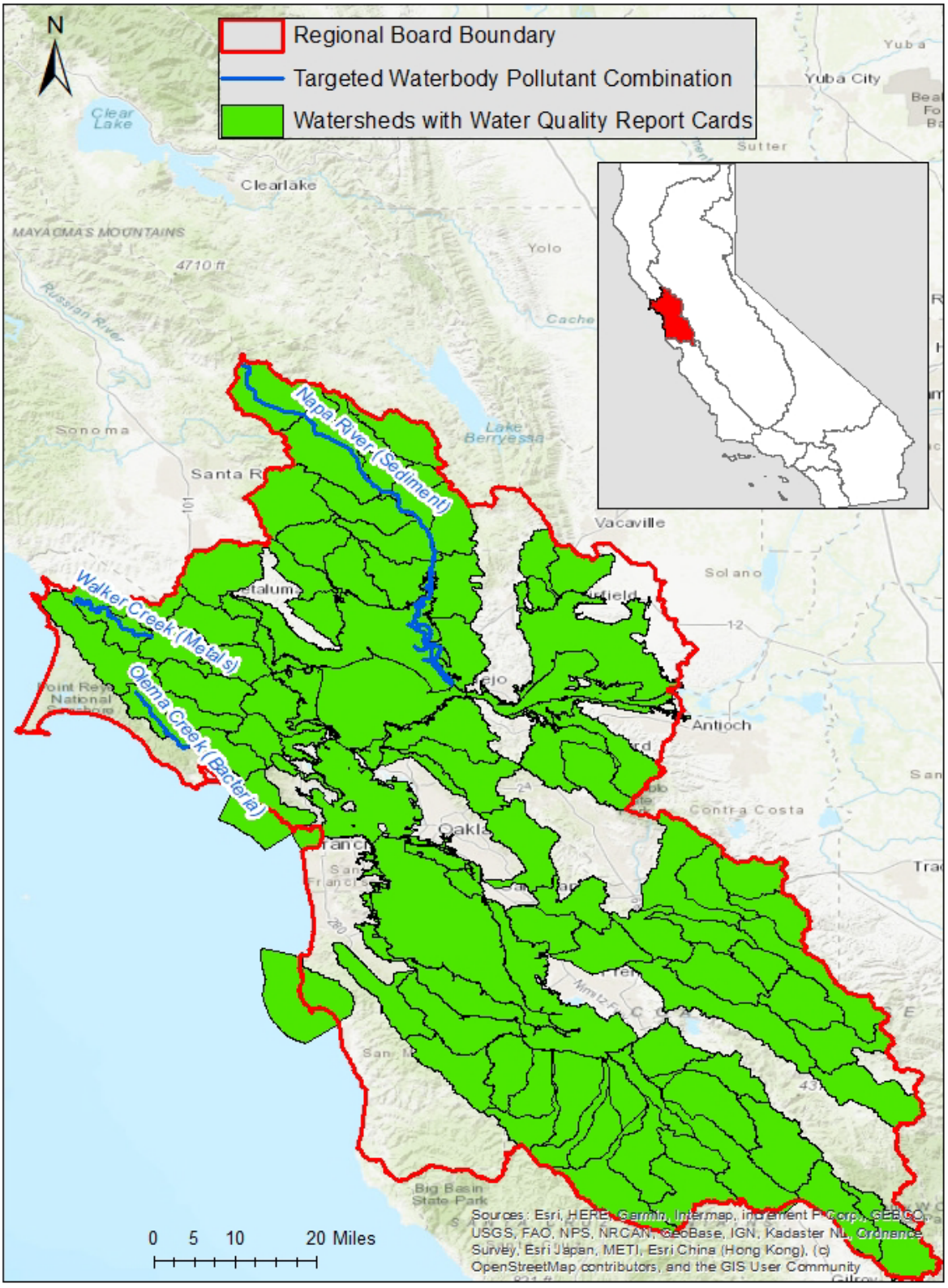

Figure 3: San Francisco Bay Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

Central Coast Regional Water Quality Control Board

The Central Coast Region extends 378 miles along the Central California coast, from southern San Mateo County to northern Ventura County, and includes a national marine sanctuary (Monterey Bay) and a national estuary (Morro Bay). 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. Nonpoint sources of pollution cause many of the Region's most severe water quality problems.

Land use activities such as agriculture have resulted in surface water and groundwater impairments. 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 Pajaro River, Lower Salinas River (including Galiban Creek), Lower Santa Maria River (including Oso Flaco Creek), Carpinteria Creek, Santa Ynez River, Moro Cojo Slough, Bradley Channel, Blanco watershed, Morro Bay, Franklin Creek, San Antonio Creek, Arroyo Pardeon, Bell Creek, Glen Annie/Tecolotito Creek, Carneros Creek, Gazos Creek, San Carpoforo Creek, Scott Creek, and Waddell Creek.

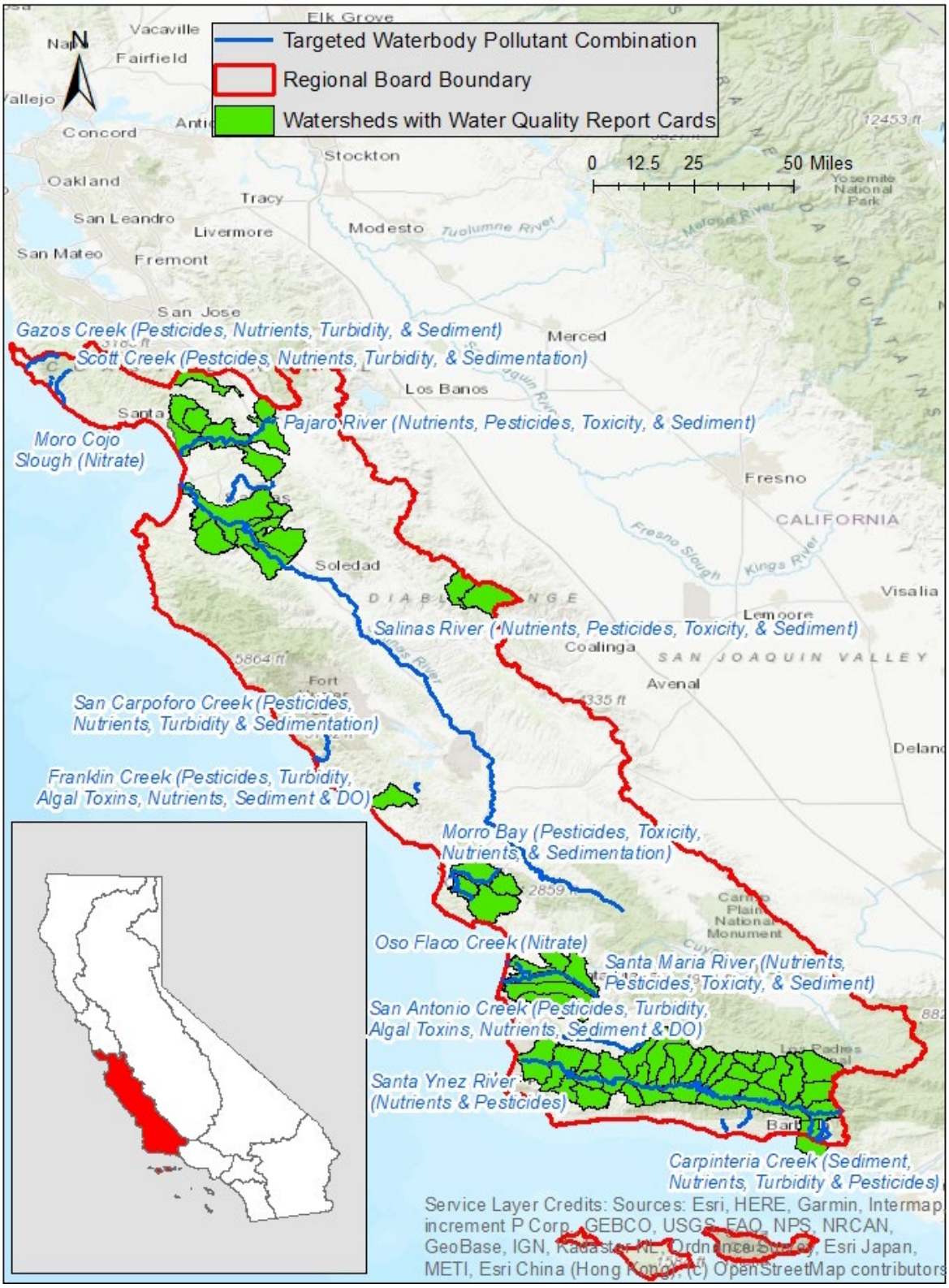

Figure 4: Central Coast Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

Los Angeles Regional Water Quality Control Board

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).

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 source discharges 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.

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 will 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 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.

Land use activities such as agriculture, grazing, horse/intensive livestock activities, and coastal activities have resulted in surface water impairments. These impairments are mainly associated with: (1) pesticides, (2) Nutrients, (3) Sediment, and (4) toxic pollutants, such as biocides in harbors; . 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 Calleguas Creek, Santa Clara River, Ventura River, Malibu Creek, as well as McGrath Lake, Oxnard Drain No.3, Alamitos Bay, Channel Island Harbor, King Harbor, Los Angeles and Long Beach Harbors, Marina del Rey Harbor, and Ventura Harbor-Ventura Keys.

Figure 5: Los Angeles Water Board Watersheds for CA NPS Program Reporting and Targeted Waterbody Pollutant Combinations

Central Valley Regional Water Quality Control Board

The Central Valley Region 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. 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% of the total area of the state and approximately 75% 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% 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.

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 San Joaquin River, Sacramento-San Joaquin Delta, Battle Creek, Clear Lake, American River, and Sacramento River.

Figure 6: Central Valley Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

Lahontan Regional Water Quality Control Board

The Lahontan Region is about 31,131 square miles in size or 20% of California. Its water resources include over 700 lakes, 3,170 miles of streams and 1,581 square miles of ground water basins (Figure 7). It includes 42 recognized major watersheds or "hydrologic units", and water bodies of statewide, nationwide, and international importance (e.g., two Outstanding National Resource Waters, 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 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.

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). 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 irrigated alfalfa crops), and defense-related activities.

Water quality problems in the Lahontan Region are largely related to nonpoint source pollution (including erosion from legacy land uses, timber harvesting, and livestock grazing), runoff from recreation sites such as ski areas and campgrounds, 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. 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 Lake Tahoe, Heavenly Valley Creek, Blackwood Creek, Truckee River, Squaw Creek, Indian Creek Reservoir, West Fork Carson River, Bishop Creek, and East Walker River.

Figure 7: Lahontan Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

Colorado River Regional Water Quality Control Board

The Colorado River Basin Region covers approximately 13 million acres (20,000 square miles) in the southeastern portion of California. It includes 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.

The Colorado River Basin is one of the most arid regions of California. Despite the relative lack of precipitation, the Region contains 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 include international pollution from Mexico, the Salton Sea, pollution from agricultural runoff, and groundwater pollution. As a result, dischargers in Bard, Coachella, Imperial, and Palo Verde Valleys will continue to be targeted by implementing agricultural waivers of WDRs, TMDLs, and the state's Onsite Wastewater Treatment Systems Policy. The Regional Board's strategy for addressing the Salton Sea's impairments is to address the impairments in its tributary waters. It makes sense to develop Control Plans for the tributary waters because the Alamo River, Coachella Valley Stormwater Channel, Imperial Valley Drains, New River and Salton Sea are interconnected surface waters in the Salton Sea Transboundary watershed. As a result of this, water quality improvements in the tributary waterways will result in improvements to the downstream Salton Sea.

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 Alamo River, Imperial Valley Drains, and New River (including International Border).

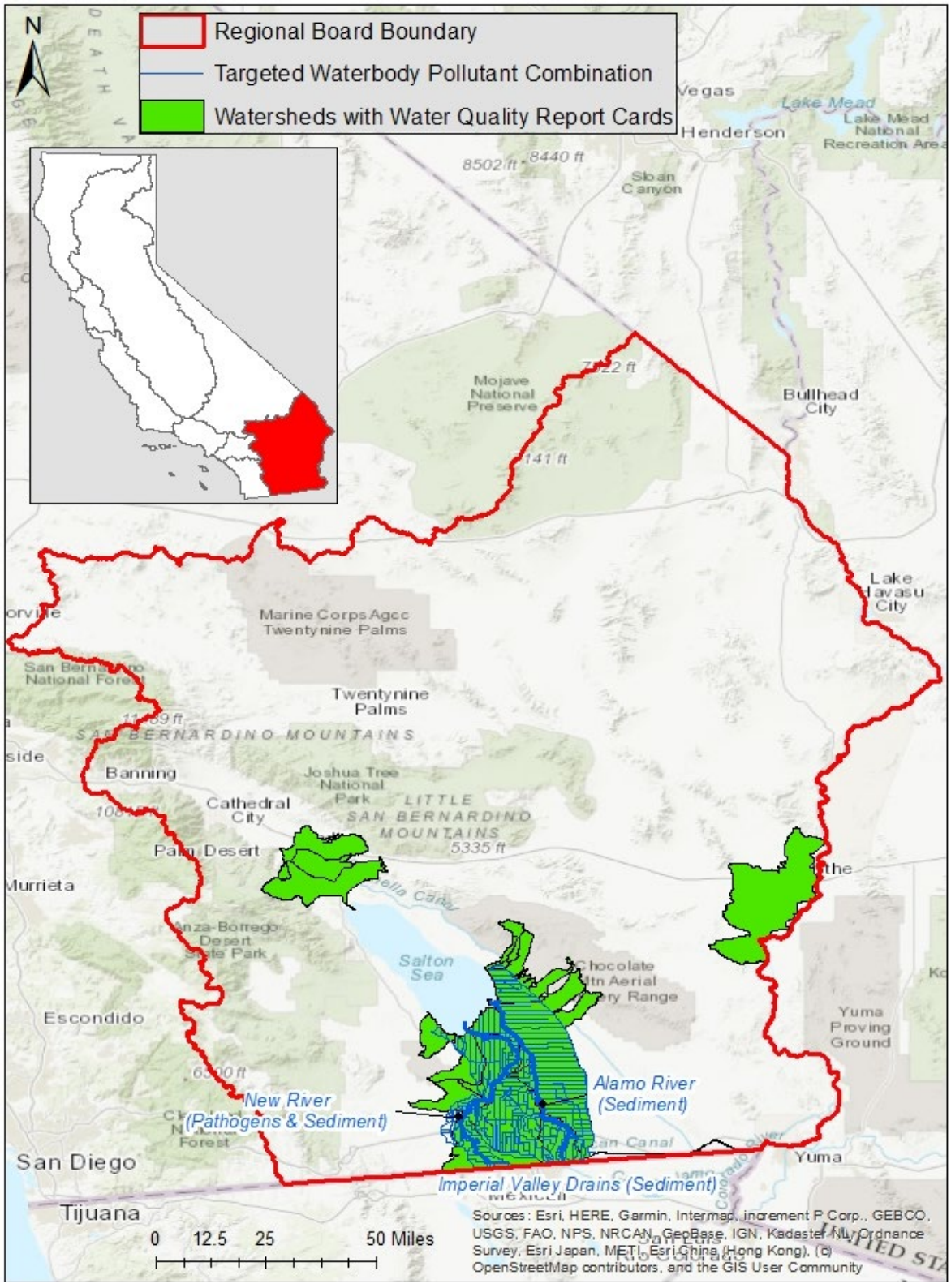

Figure 8: Colorado River Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

Santa Ana Regional Water Quality Control Board

The Santa Ana Region extends southwestward from the crest of the San Gabriel, San Bernardino, and San Jacinto Mountains to the northern part of the Orange County Coast (from the Los Angeles County line and south to the city of Laguna Beach). The 2,800 square mile region, located 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 two-thirds of Orange County, as well as the population centers of San Bernardino and Riverside counties. The climate of the Santa Ana Region is classified as Mediterranean: generally dry in the summer and mild and wet in the winter with an average annual rainfall of about fifteen inches, most of it occurring between November and March.

The boundaries among California's nine regions are usually hydrologic divides that separate watersheds, except for the boundary between the Los Angeles and Santa Ana Regions being the Los Angeles County line. Since that county line only approximates the hydrologic divide, part of the city of Pomona area in Los Angeles County drains into the Santa Ana Region, and in Orange County, part of the city of La Habra and other areas of the northwestern section of the County drain into the Los Angeles Region. The east-west alignment of the crest of the San Gabriel and San Bernardino Mountains separates the Santa Ana River Basin from the Mojave Desert, which is part of the Lahontan Basin (Region 6). The crest of the San Jacinto Mountains separates the Region from the Colorado Desert Region (Region 7). In the south, the regional boundary divides the Santa Margarita River drainage area, which is part of the San Diego Region (Region 9), from that of the San Jacinto River, which normally terminates in Lake Elsinore.

The Santa Ana River, the region's main surface water body, is divided into six reaches and consists of natural flows and highly treated municipal wastewater discharges. The San Jacinto Watershed, an area encompassing approximately 780 square miles, contains Lake Elsinore and Canyon Lake. This Watershed connects to the Santa Ana River when Lake Elsinore overflows, which it does rarely under extreme storm events. 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 Newport Bay / San Diego Creek, Big Bear Lake, Middle Santa Ana River, San Jacinto River, Canyon Lake, and Lake Elsinore.

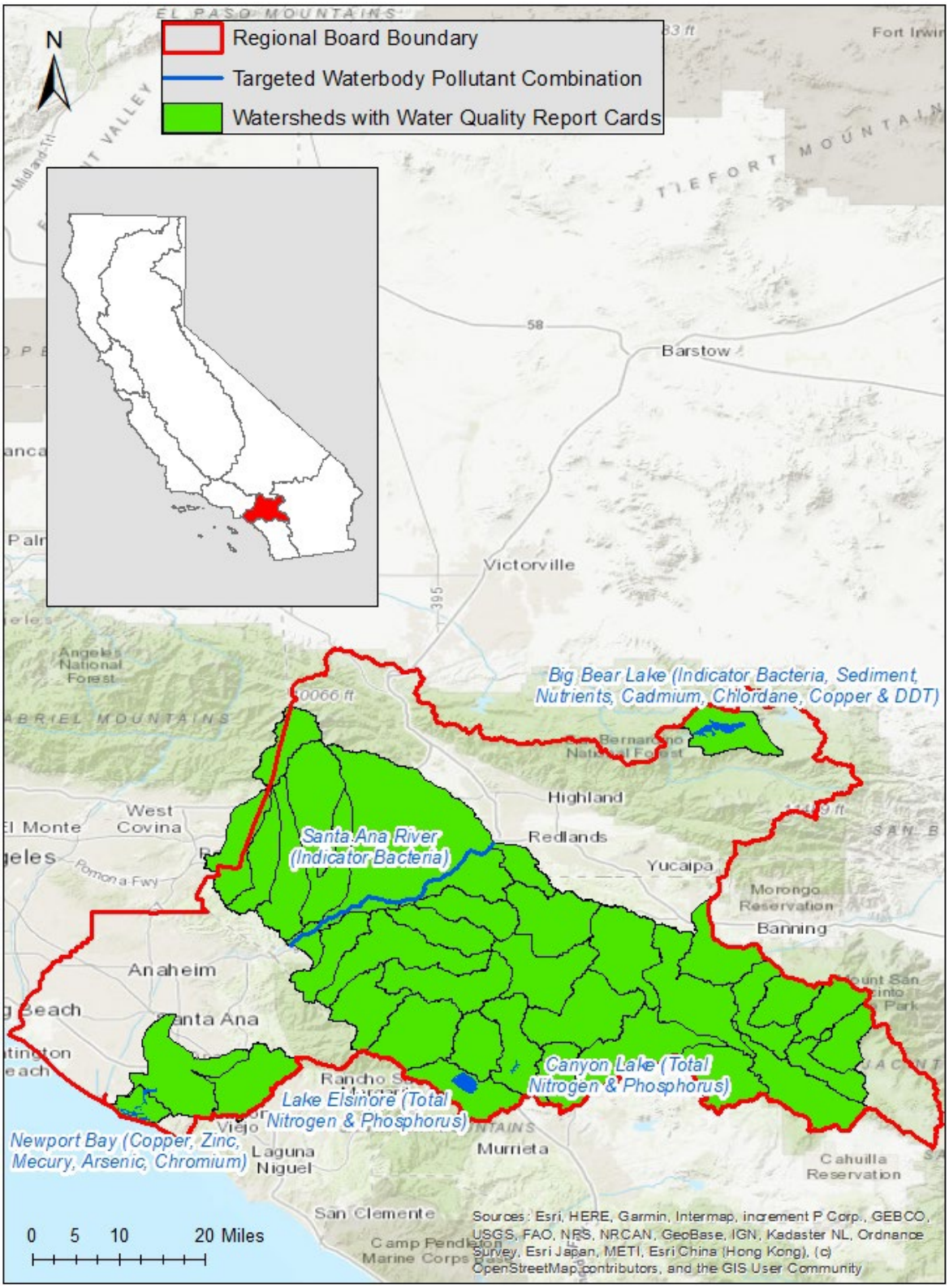

Figure 9: Santa Ana Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

San Diego Regional Water Quality Control Board

The San Diego Region is in the southwestern corner of California and comprises most of San Diego County and the southern parts of Orange County and Riverside County. The population of the Region is 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 several special status species, and many designated conservation areas for protection of natural habitats and ecosystems and native species.

Land use activities such as agriculture, coastal activities, and hydromodification and hydrologic alteration have resulted in surface water impairments. 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 lower reach of the Tijuana River, San Diego Bay, and Santa Margarita River and Estuary. Additionally, the San Diego Water Board supports protection for the San Mateo Creek watershed to ensure it maintains its high quality and continues to support all its beneficial uses.

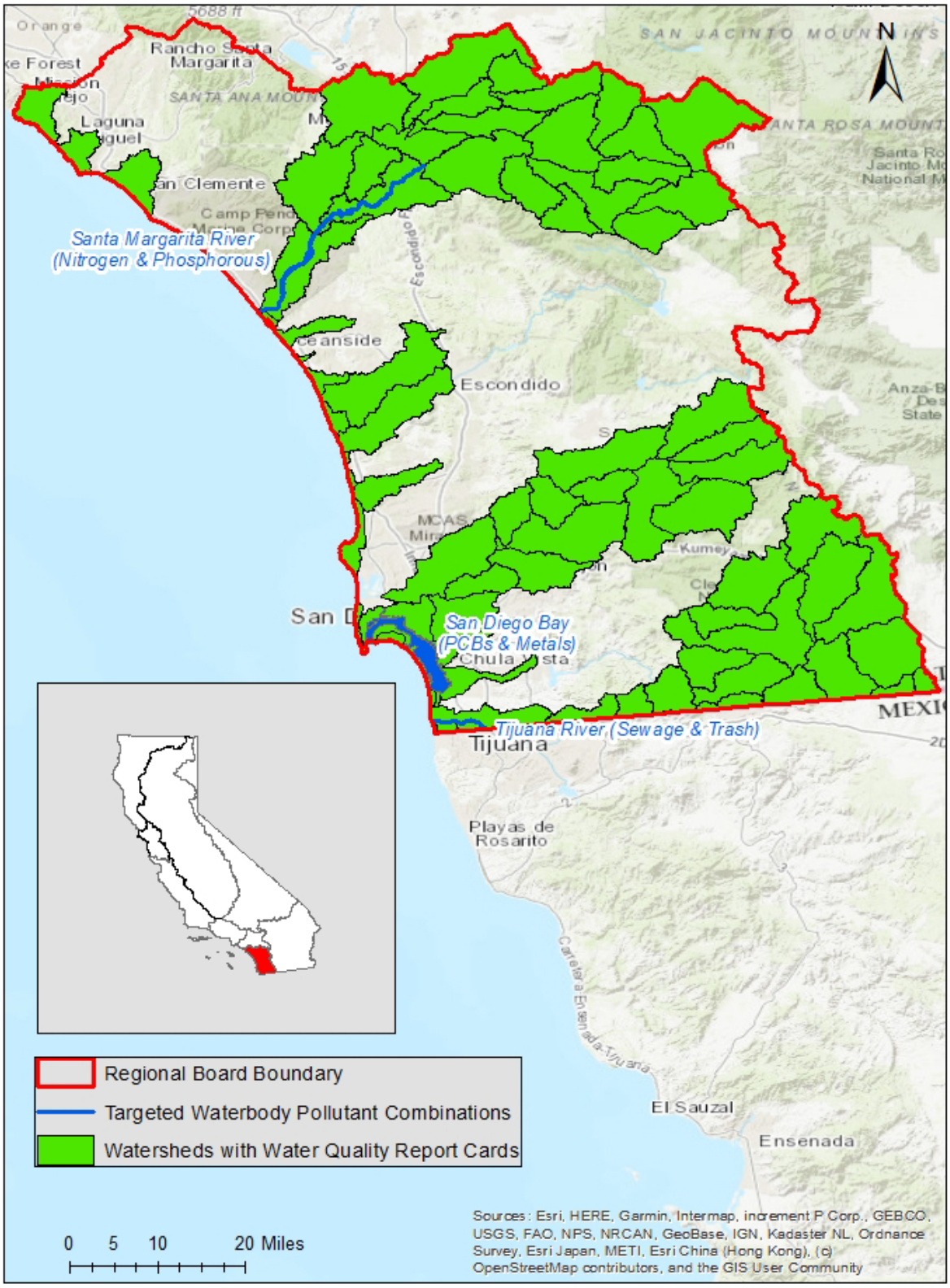

Figure 10: San Diego Region Targeted Waterbody-Pollutant Combinations and Water Quality Tracking

B. Targeted Waterbody-Pollutant Combinations by Region

Region	Waterbody	Pollutant(s)
North Coast (Region 1)	Klamath River (Upper)	Biostimulatory Conditions: Nitrogen, Phosphorus, Dissolved Oxygen, microcystin, pH, and Temperature
	Klamath - Scott River	Sediment
	Klamath - Shasta River	Temperature
San Francisco Bay (Region 2)	Walker Creek	Mercury
	Olema Creek	Fecal Coliform
	Napa River	Fine Sediment
Central Coast (Region 3)	Pajaro River	Nutrients, pesticides, toxicity, and sediment
	Lower Salinas River (Including Gabilan creek watershed)	Nutrients, pesticides, toxicity, and sediment
	Lower Santa Maria River (including Oso Flaco Watershed)	Nutrients, pesticides, toxicity, and sediment
	Basins 100% reliant on groundwater drinking water, sole source aquifers, Sustainable Groundwater Management Act (SGMA) high priority basins. Highest priority SGMA basins include Salinas Valley, Gilroy/Hollister, Carpinteria and Pajaro Valley.	Nitrate as N, Pesticides, 1,2,3-TCP, Hexavalent Chromium, Arsenic
	Carpinteria area watersheds (Carpinteria Creek and the Carpinteria Marsh watershed)	Nutrients and pesticides
	Lower Salinas River watershed (Including Gabilan creek watershed)	Nutrients and pesticides
	Santa Cruz area watersheds	Nutrients and pesticides
	Santa Maria River	Nutrients and pesticides
	Santa Ynez River	Nutrients and pesticides
	Moro Cojo Slough, Bradley Channel, Blanco watershed, and/or Oso Flaco watershed	Nitrate
	Santa Maria/Oso Flaco, Salinas, Pajaro, Morro Bay (Chorro and Los Osos Creeks), Franklin Creek, San Antonio Creek, Arroyo Paredon, Bell Creek, Glen Annie/Tecolotito Creek and Carneros Creek	Pesticides, toxicity, nutrients, dissolved oxygen, algal toxins, turbidity, and sediment

Region	Waterbody	Pollutant(s)
	Upper Carpinteria Creek watershed, Gazos Creek, San Carpoforo Creek, Scott Creek (Santa Cruz Co.), Waddell Creek (Santa Cruz Co.), and any stream that supports anadromous fisheries	Sediment, nutrients, pesticides, and turbidity
Los Angeles (Region 4)	Alamitos Bay, Channel Island Harbor, King Harbor, Los Angeles and Long Beach Harbors, and Ventura Harbor-Ventura Keys	Biocides
	Calleguas Creek Watershed	Nitrogen Compounds, Boron, Chloride, Sulfate and TDS (Salts)
	Calleguas Creek Watershed and Mugu Lagoon	Organochlorine Pesticides, PCBs, Siltation, Toxicity, Chlopyrifos, Diazinon, Metals and Selenium
	Malibu Creek Watershed	Nutrients and Sedimentation
	Marina del Rey Harbor	Toxic Pollutants
	McGrath Lake	PCBs, Pesticides and Sediment Toxicity
	Oxnard Drain No.3	Pesticides, PCBs and Sediment Toxicity
	Revolon Slough and Beardsley Wash	Trash
	Santa Clara River Lakes	Nutrients
	Santa Clara River Watershed	Nitrogen Compounds and Bacteria
	Upper Santa Clara River	Chloride
	Ventura River Estuary	Trash
	Ventura River Watershed	Algae, Eutrophic Conditions and Nutrients
Central Valley (Region 5)	Sacramento-San Joaquin Delta	Nutrients and Dissolved Oxygen
	San Joaquin River (Mud Slough)	Selenium
	Battle Creek Watershed	Sediment
	Clear Lake	Phosphorous
	American River	E. coli
	Sacramento-San Joaquin Delta and Tributaries	Pyrethroids
	San Joaquin River and Tributaries (Del Pureto Creek, Hospital Creek, Ingram Creek, Mustang Creek)	Pyrethroids
	San Joaquin River Watershed (Harding Drain, Mustang Creek)	Chlorpyrifos and Diazinon

Region	Waterbody	Pollutant(s)
	Sacramento River Tributaries	Chlorpyrifos and Diazinon
Lahontan (Region 6)	Lake Tahoe	Sediment. Nitrogen, phosphorous
	Heavenly Valley Creek	Sediment
	Blackwood Creek	Sediment
	Truckee River	Sediment
	Squaw Creek	Sediment
	Indian Creek Reservoir	Sediment, total phosphorous
	Carson River, West Fork	Indicator Bacteria; chloride, nitrate, nitrogen, phosphorus, sulfates, total dissolved solids, turbidity
	Bishop Creek, middle and lower reaches	Indicator Bacteria
	East Walker River and select tributaries (Clearwater, Green, Long Valley, Summers, Buckeye, Robinson, and Swauger Creeks)	Indicator Bacteria (fecal coliform)
Colorado River (Region 7)	Alamo River	Sediment
	Imperial Valley Drains	Sediment
	New River	Sediment
	New River (International Border)	Pathogens
Santa Ana (Region 8)	Big Bear Lake and Tributaries	Cadmium, chlordane, copper, DDT, indicator bacteria, nutrients, sedimentation/siltation
	Canyon Lake and Lake Elsinore	Total Nitrogen and Phosphorus
	Middle Santa Ana River	Indicator Bacteria
	Newport Bay	Copper, Zinc, Mercury, Arsenic, Chromium
San Diego (Region 9)	Santa Margarita River and Estuary	Nitrogen and Phosphorus
	San Diego Bay	PCBs and Metals
	Tijuana River, Estuary, and Shoreline	Sewage and Trash
	REC-1 Waters (20+ waterbodies)	Human Sources of Indicator Bacteria
	High Quality Streams (20+ defined by CSCI thresholds)	Nutrients, Flow, Physical Habitat

C. Priority TMDLs by Region

Regional Water Board	Priority TMDLs
North Coast (Region 1)	Klamath River TMDL Implementation and Watershed Stewardship Program
	Lost River TMDL Implementation and Watershed Stewardship Program
	Scott and Shasta TMDL Waivers of Waste Discharge Requirements
	Coastal Pathogen TMDL
	Upper Elk River Sediment TMDL
	Laguna de Santa Rosa TMDL/Vision Project
	Pathogen TMDL for Russian River watershed
San Francisco (Region 2)	Lagunitas Creek Sediment TMDL
	Napa River and Sonoma Creek pathogen TMDLs
	Napa River Sediment TMDL
	Petaluma River Bacteria TMDL
	San Pedro Creek and Pacifica State Beach Bacteria TMDLs
	Sonoma Creek Sediment TMDL
	Tomales Bay Mercury TMDL
	Tomales Bay Pathogen
	Walker Creek Mercury TMDL
Central Coast (Region 3)	Arroyo Paredon Diazinon TMDL
	Arroyo Paredon Nitrate TMDL
	Bell Creek Nitrate TMDL
	Franklin Creek Nutrients TMDL
	Glen Annie Canyon, Tecolotito Creek, and Carneros Creek Nitrate TMDL
	Los Berros Creek TMDL for Nitrate
	Los Osos Creek, Warden Creek, and Warden Lake Wetland TMDL for Nutrients
	Lower Salinas River Watershed Chlorpyrifos and Diazinon TMDL
	Lower Salinas River Watershed Nutrient TMDL
	Lower Salinas River Watershed Sediment Toxicity and Pyrethroids in Sediment TMDL
	Morro Bay Sediment TMDL
	Pajaro River Basin Nutrient TMDL
	Pajaro River Nitrate TMDL
	Pajaro River Sediment TMDL
	Pajaro River Watershed Chlorpyrifos and Diazinon TMDL
	San Antonio Creek Chlorpyrifos TMDL
	San Antonio Creek Nitrate TMDL
	San Luis Obispo Nitrate TMDL
	Santa Maria River Watershed Nutrients TMDL

Regional Water Board	Priority TMDLs
	Santa Maria River Watershed Toxicity and Pesticide TMDL
Los Angeles (Region 4)	Calleguas Creek Nitrogen Compounds and Related Effects TMDL
	Calleguas Creek Watershed and Mugu Lagoon Metals and Selenium TMDL
	Calleguas Creek Watershed and Mugu Lagoon OC Pesticides & PCBs TMDL
	Calleguas Creek Watershed and Mugu Lagoon Siltation TMDL
	Calleguas Creek Watershed and Mugu Lagoon Toxicity, Chlorpyrifos, and Diazinon TMDL
	Calleguas Creek Watershed Boron, Chloride, Sulfate and TDS (Salts) TMDL
	Malibu Creek Watershed Nutrients TMDL
	Malibu Creek Watershed Sedimentation and Nutrients TMDL
	Marina del Rey Harbor Toxic Pollutants TMDL
	McGrath Lake PCBs, Organochlorine Pesticides, and Sediment Toxicity TMDL
	Oxnard Drain #3 Pesticides, PCBs, and Sediment Toxicity TMDL
	Revolon Slough and Beardsley Wash Trash TMDL
	Santa Clara River Bacteria TMDL
	Santa Clara River Estuary Toxaphene TMDL
	Santa Clara River Nitrogen Compounds TMDL
	Santa Clara River Lakes Nutrient TMDL
	Upper Santa Clara River Chloride TMDL
	Ventura River Algae, Eutrophic Conditions and Nutrients TMDL
	Ventura River Estuary Trash TMDL
Central Valley (Region 5)	Central Valley Diuron TMDL
	Central Valley Pesticide TMDL
	Central Valley Pyrethroid Pesticides TMDL
	Clear Lake Nutrient TMDL
	Sacramento and Feather Rivers Diazinon and Chlorpyrifos TMDL
	Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL
	San Joaquin River Diazinon and Chlorpyrifos TMDL
	San Joaquin River Salt and Boron TMDL
	San Joaquin River Dissolved Oxygen TMDL
	San Joaquin River Selenium TMDL
Lahontan (Region 6)	Indian Creek Reservoir Phosphorus TMDL
	Blackwood Creek Sediment TMDL
	Squaw Creek Sediment TMDL
	Heavenly Valley Creek Sediment TMDL
	Lake Tahoe Sediment and Nutrients TMDL
	Middle Truckee River Watershed Sediment TMDL
	Bishop Creek (Vision Project)

Regional Water Board	Priority TMDLs
	West Fork Carson River (Vision Project)
Colorado River (Region 7)	Coachella Valley Organochlorine Compounds TMDL
	Imperial Valley Pesticides TMDL
	New River Pyrethroids TMDL
	Palo Verde Valley and Mesa DDT and Toxaphene TMDL
Santa Ana (Region 8)	Canyon Lake and Lake Elsinore Nutrient TMDLs
	Middle Santa Ana River Watershed Bacterial Indicator TMDLs
	Newport Bay Heavy Metals TMDLs
San Diego (Region 9)	Santa Margarita River and Estuary Eutrophic Conditions TMDLs
	REC-1 Waters Indicator Bacteria TMDLs
	Tijuana River Indicator Bacteria, Trash, and Sediment TMDLs

D. Priority Pollutants by Region

Priority Pollutants	R1	R2	R3	R4	R5	R6	R7	R8	R9
Sediment/Siltation	X	X	X	X	X	X	X	X	X
Nutrients	X	X	X	X	X	X		X	X
Pathogens	X	X		X			X		
Indicator Bacteria				X	X	X	X	X	X
Pesticides		X	X	X	X		X		
Temperature	X								
Dissolved Oxygen	X	X		X			X	X	
Cyanobacteria & Cyanotoxins	X					X			
Metals	X	X	X	X	X	X		X	X
Bio-stimulatory Conditions	X								
Toxicity			X	X					
Nitrogen				X		X			
Trash				X			X		X
Salts				X	X	X			
Selenium				X				X	
PCBs				X					X