

NORTH COAST REGIONAL WATER BOARD

Planning and Watershed Stewardship Division

Programs:

SWAMP

303(d)/305(b) Integrated Report

Grants

Watershed Stewardship

CyanoHAB Response

Irrigated Agriculture Permit Development

Triennial Review

Basin Planning

TMDL Development

FY 2018-2019 Work Plan



Division Chief: Alydda Mangelsdorf

Contents

1.0 BACKGROUND	4
1.1 Watershed Adaptive Management Unit.....	4
1.1.1 SWAMP	4
1.1.2 303(d)/305(b) Integrated Report.....	5
1.1.3 Grants Administration and Management.....	5
1.1.4 TMDL Implementation through Watershed Stewardship	6
1.1.5 CyanoHAB Response	6
1.1.6 Development of an Irrigated Agriculture Permit.....	6
1.2 Planning Unit	7
1.2.1 Triennial Review of the Basin Plan.....	8
1.2.2 Basin Plan Amendments.....	8
1.2.3 TMDL Program	9
1.3 Flow and Riparian Protection Specialist.....	9
2.0 DIVISION RESOURCES.....	11
2.1 Staff Resources.....	11
Table 1: Division Staff	11
2.2 Other Resources	11
2.2.1 Contracts	12
2.2.2 Grants.....	12
Table 2: Contracts and Grants	13
2.2.3 Regional Portion of Statewide SWAMP Contracts.....	17
Table 3: SWAMP Contract Projects	17
2.2.4 Summary of Other Resources for FY 2018-19	17
Table 4: Summary of Other Resources to be Managed in FY 2018-19	17
3.0 Watershed Adaptive Management Program.....	18
3.1 Core Activity and Projects by Priority	18
Table 5 – FY 18/19 Watershed Adaptive Management Program Core Activities and Projects by Priority.....	18
3.2 Core Activity and Project Descriptions	18
4.0 Planning Program	24
4.1 Core Activity and Project Priorities.....	24

Table 6 – FY 18/19 Planning Program Core Activities and Projects by Priority	24
4.2 Core Activity and Project Descriptions	24
5.0 Flow and Riparian Protection Program.....	36
5.1 Core Activity and Project Priorities.....	36
Table 7 – FY 18/19 Flow and Riparian Protection Program Core Activities and Projects by Priority	36
5.2 Core Activity and Project Descriptions	36

1.0 BACKGROUND

The role of the Planning and Watershed Stewardship Division is to build and supply to permitting and enforcement program staff the fundamental tools necessary to implement the North Coast Region's vision of Healthy Watersheds, Effective Regulation, and Strong Partnerships. The Planning and Watershed Stewardship Division is divided into two units (the Watershed Adaptive Management Unit and the Planning Unit) and includes the support of a Flow and Riparian Protection Specialist.

1.1 Watershed Adaptive Management Unit

The general function of the Watershed Adaptive Management Unit is two-fold: 1) to monitor and assess surface water quality conditions and 2) to implement stewardship activities to restore waters identified as impaired. There are many individual programs managed within the Watershed Adaptive Management Unit, which are coordinated to accomplish these general functions. They include:

- Surface Water Ambient Monitoring Program (SWAMP)
- Water Quality Assessment and 303(d)/305(b) Integrated Report
- Grants Administration and Management
- Watershed Stewardship
- CyanoHAB Response
- Development of an irrigated agriculture permit

1.1.1 SWAMP

The Surface Water Ambient Monitoring Program, or SWAMP, is a statewide monitoring effort designed to assess the conditions of surface waters throughout the state of California. The program is administered by the State Water Resources Control Board (SWRCB) and the responsibility for implementation of monitoring activities resides with the nine Regional Water Quality Control Boards that have jurisdiction over their specific geographical areas of the state.

The SWAMP mission is to provide resource managers, decision makers, and the public with timely, high-quality information to evaluate the condition of all waters throughout California. SWAMP accomplishes this through carefully designed, externally reviewed monitoring programs, and by assisting other entities state-wide in the generation of comparable data that can be brought together in integrated assessments that provide answers to current management questions.

To accomplish this mission, SWAMP has identified the pieces necessary to successfully and sustainably meet the goals identified in our mission. We have created a Quality Assurance (QA) program, developed a standardized data storage system, created Standard Operating Procedures (SOPs) for sampling, have peer reviewed monitoring plans for each project, and continue to create a water quality indicator list to work from.

The Planning and Watershed Stewardship Division includes a SWAMP Coordinator at 1.0 PYs. The SWAMP Coordinator implements the regional monitoring program for the North Coast Region and coordinates with the State Water Board and other regions on statewide monitoring efforts. The SWAMP Coordinator develops and implements a 3-year SWAMP workplan designed to implement a regional monitoring program based on regional priorities. Statewide SWAMP requires a 3-year workplan from each of the regions for budgeting funds allocated for regional monitoring. The

North Coast's SWAMP Coordinator is currently implementing the SWAMP Workplan for Fiscal Year 2017-2020.

1.1.2 303(d)/305(b) Integrated Report

Section 303(d) of the federal Clean Water Act and 40 CFR §130.7 require states to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses. These waters are placed on the Section 303(d) List of Water Quality Limited Segments (also known as the list of Impaired water bodies). The List identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. Placement on this list generally triggers development of a pollution control plan called a Total Maximum Daily Load (TMDL) for each water body and associated pollutant/stressor on the list. The TMDL serves as the means to attain and maintain water quality standards for the impaired water body. The Regional Water Board has the authority to establish an alternative TMDL, if actions under an alternative can provide reasonable assurance they will result in attainment of water quality objectives.

Section 305(b) of the federal Clean Water Act requires states to report biennially to the USEPA on the water quality conditions of their surface waters. The USEPA then compiles these assessments into their biennial "National Water Quality Inventory Report" to Congress.

California has integrated the 303(d) List of Impaired Waters and the 305(b) Water Quality Assessment Report into a single report (Integrated Report). This Integrated Report satisfies the requirements of both Clean Water Act Sections 303(d) and 305(b).

The Planning and Watershed Stewardship Division includes an Integrated Report Coordinator at 1.0 PYs. The Integrated Report Coordinator works with State and Regional Water Board staff and the public to assemble and assess water quality data from which to determine the water quality status of North Coast waters for both the 303(d) List of Impaired Waters and the 305(b) Water Quality Assessment Report.

1.1.3 Grants Administration and Management

California implements a Nonpoint Source Grant Program (NPS Grant Program), which is comprised of funds from a U.S. EPA Clean Water Act (CWA) section 319(h) grant to the State Water Board (CWA 319 grant)^[1] and from the Timber Regulation and Forest Restoration Fund (Timber Fund) established by the State. These funds are allocated to third party grantees on a competitive basis, to implement projects associated with nonpoint source pollution control, remediation and restoration. They are allocated to projects that meet the NPS Grant Program Preferences developed for that fiscal year. Projects and recipients of NPS Grant Program funding are subject to state and federal law requirements. The State Water Board considers the Human Right to Water while establishing the criteria in these guidelines.

During FY 2018-19, grant projects for FY 2019-20 will be solicited, reviewed and selected. Staff anticipates the section 319(h) grant will appropriate \$4,000,000 and the California Legislature will appropriate \$2,000,000 for 2019/2020 for statewide allocation. Unencumbered funds from previous grant years may be used for eligible projects in accordance with the 2019 Nonpoint Source Grant Program Preferences and source fund requirements. The grant solicitation period will begin the fall of 2018 and will end in December. The grantees who will receive funds will be identified by the end of FY 2018-19. Grants awarded at the end of FY 2017-18 are now in development. Funds awarded to projects in Region 1 are identified in Table 2.

^[1] U.S. EPA has final approval authority of all projects funded with CWA section 319 funds.

The Planning and Watershed Stewardship Division includes two staff at 2.0 PYs, who administer and manage the 319(h) and Timber Fund grants awarded for projects in the North Coast Region. Staff in the Planning and Watershed Stewardship Division coordinate with staff in the Nonpoint Source and Surface Water Protection Division to align program priorities, solicit projects meeting the priorities, and developing the 6-year Nonpoint Source Plan, which the Nonpoint Source and Surface Water Protection Division generates. The agency is currently implementing the FY 2014-2020 6-Year Nonpoint Source Plan.

1.1.4 TMDL Implementation through Watershed Stewardship

Watershed stewardship uses the principles of partnership, coordinated science and monitoring, and adaptive management to leverage the resources of entities with shared environmental goals, to maximize environmental benefit. The Regional Water Board has been implementing the principles of watershed stewardship since the adoption and approval of the Garcia River Sediment TMDL in 2002.

One of the results of an office-wide visioning process in 2015, was the development of two staff positions designed to further build and implement the agency's Watershed Stewardship Program. One watershed steward at 1.0 PY was assigned to the Scott and Shasta watersheds to implement the TMDL Action Plans for those watersheds, using partnerships, monitoring, adaptive management and effective regulation to achieve watershed health. A second watershed steward at 1.0 PY was assigned to the Elk River watershed for the same purpose. The agency is actively pursuing the development of a third watershed steward position to build and implement a watershed stewardship program in the Russian River watershed, as well. A 1.0 PY position and adequate funding are necessary to establish a Russian River Watershed Stewardship Program.

1.1.5 CyanoHAB Response

In recent years, there has been an increased frequency and severity of cyanobacteria harmful algal blooms (cyanoHABs) around the world, including the North Coast Region. The Regional Water Board has received reports of freshwater nuisance blooms and algal scums, animal illnesses, and on occasion, human health impacts within the North Coast.

The risk factors that contribute to freshwater cyanoHABs and nuisance blooms include nutrient (phosphorus and nitrogen) enriched waters, warming climate, and lower flows. The Regional Water Board is working to reduce risk factors through its water quality improvement programs.

There is a current need to manage freshwater cyanoHAB blooms through improved monitoring, assessment, and increased educational outreach. Regional Water Board staff are collaborating with county public and environmental health officials and other federal, state, county, and non-governmental organizations to address these needs. The Planning and Watershed Stewardship Division includes a CyanoHAB Coordinator at 0.25 PYs, who manages the agency's response to toxic algae blooms, primarily during the summer months when algal blooms are most problematic. The CyanoHAB Coordinator spends the rest of her time (0.75 PYs) in the Planning Unit conducting basin planning duties.

1.1.6 Development of an Irrigated Agriculture Permit

The North Coast Regional Water Board implements a broad Agricultural Lands Discharge Program, which addresses water quality impacts associated with activities on agricultural lands in the North Coast Region. There are approximately 350,000 acres of agricultural lands in the Region, which are primarily used for vineyards, orchards, row crops, grain, alfalfa, hay pasture, and dairies. Agricultural discharges can contain pollutants such as pesticides, nutrients, organic matter, salts,

pathogens, and sediment. These pollutants can harm aquatic life or make surface or groundwater unusable for drinking water or agricultural uses. Activities on agricultural lands can also result in the removal or suppression of riparian vegetation, which provide shade and other ecological functions to waterbodies. The Agricultural Lands Discharge Program is designed to meet the requirements of the California Water Code, the State Nonpoint Source Policy, and the Total Maximum Daily Loads (TMDLs) developed for certain watersheds in the Region.

The Agricultural Lands Discharge Program encompasses several separate Regional Water Board permits that address discharges of waste associated with agricultural lands. The scope of the program is defined by either the crop type or geographic location. Most of the agency's activities associated with the Agricultural Lands Discharge Program are undertaken by the Cannabis and Compliance Assurance Division and Nonpoint Source and Surface Water Protection Division. A position in the Planning and Watershed Stewardship Division at 1.0 PY is dedicated to the development of an Irrigated Agriculture Permit, focused on vineyards and orchards. The Division also hosts a second position at 1.0 PY, which is currently tasked with developing a Water Quality Management Plan with Smith River Lily Bulb growers and other similar projects.

1.2 Planning Unit

The function of the Planning Unit is to 1) develop and update water quality standards that are the minimum thresholds constituting water quality protection, 2) develop the total maximum daily loads (TMDLs) of pollutants allowable in waters not meeting the minimum thresholds, and 3) develop and update plans and policies by which to implement the standards and TMDLs. These activities are generally accomplished by amendment to the Water Quality Control Plan for the North Coast Region, which is the regulation by which the requirements of the state's Porter Cologne Water Quality Control Act and the federal Clean Water Act are implemented. Amendment of these regulations often requires careful scientific study, scientific peer review, public review, and a publicly noticed hearing of the Regional Water Board, which can take many years.

Both the Planning and TMDL programs are guided by a workplan, adopted by the Regional Water Board, which identifies the priorities of the Planning Unit for a 3-year period, as established during the triennial review of the basin plan. The Planning Program Workplan for FY 2018-2021 will be considered by the Regional Water Board for adoption in September 2018. The individual projects proposed for the FY 2018-2021 Planning Program Workplan are described in detail in Section 4.0 of this workplan. The projects include:

- Russian River Pathogen TMDL Action Plan
- Laguna de Santa Rosa Nutrient, DO, Temperature and Sediment TMDL Action Plan/TMDL Alternative
- Ocean Beaches and Freshwater Creeks Pathogen TMDL Action Plan/TMDL Alternative
- TMDL Program Retrospective Review
- Groundwater Protection Strategy
- Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective
- Climate Change Adaptation Strategy, including identification/development of landscape scale assessment tools to identify climate change vulnerabilities and locations of potential resilience (ONRWs)
- Revision to Chapter 3 of the Basin Plan to include language on Outstanding National Resource Waters

- Revision to Chapter 3 of the Basin Plan to modify the biostimulatory substances objective to address biostimulatory conditions
- Revision to Chapter 2 to update cultural and subsistence fishing beneficial uses to be consistent with statewide beneficial uses

The Planning and Watershed Stewardship Division includes 2.7 PYs dedicated specifically to basin planning work and 2.0 PYs dedicated to TMDL development. One of the Basin Planning staff spends 0.25 PYs as the CyanoHAB Coordinator during summer months (See Section 1.1.5). The part time planning position (0.7 PY) is currently vacant due to an extended leave of absence, which will last through most of FY 2018-19. As such, Basin Planning staff for FY 2018-19 account for 1.75 PYs. TMDL staff for FY 2018-19 account for 2.0 PYs, though one of the positions is currently vacant and recruitment efforts are underway.

Basin Plan Amendments and TMDL Action Plans are tracked by the State Water Board as performance measures. The performance target for FY 2018-19 is the adoption of 1 TMDL (Russian River Pathogen TMDL) and 0 Basin Plan Amendments.

1.2.1 Triennial Review of the Basin Plan

The federal Clean Water Act (Section 303 (c)) and the Porter-Cologne Water Quality Control Act require the Basin Plan to be reviewed and updated periodically (at a minimum every three years). The Regional Board review process includes identification of issues that may enhance water quality protection and presentation of a priority list of issues at a public hearing. The priority list of issues, referred to as the Triennial Review Priority List, includes:

- A (generalized) ranking of water quality issues;
- A brief description of each water quality issue;
- Identification of water quality issues that can be addressed with existing resource allocations over a three-year period; and
- Identification of water quality issues requiring additional resources to complete.

1.2.2 Basin Plan Amendments

The *Water Quality Control Plan for the North Coast Region* (Basin Plan) contains the regulations adopted by the Regional Water Board to control the discharge of waste and other factors¹ affecting the quality of waters of the state² within the boundaries of the North Coast Region. It is amended from time to time to incorporate new beneficial uses, water quality objectives, and programs of implementation including monitoring programs, and to conduct substantive and non-substantive revisions of existing language. Amendment of the Basin Plan is a regulatory action and requires public review and a duly noticed public hearing before the Regional Water Board. If the proposed regulation relies on science as its basis, then a scientific peer review is also required. Once the

¹ As described in the State Water Board's Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program, 2004 (Nonpoint Source Policy), factors that affect water quality include not only waste discharges, but also saline intrusion, reduction of waste assimilative capacity caused by reduction in water quantity, hydrogeologic modifications, watershed management projects, and land use.

² CWC § 13050(e) defines "Waters of the state" to mean any surface water or groundwater, including saline waters, within the boundaries of the state.

Regional Water Board adopts an amendment to the Basin Plan, both the State Water Board and Office of Administrative Law must also approve it, prior to its going into effect. Any amendment, which is a new or revised water quality standard must also be approved by U.S. EPA. The Regional Water Board establishes for each fiscal year, performance targets tracked by the State Water Board based on the number of basin plan amendments that will be adopted by the Regional Water Board in that year.

1.2.3 TMDL Program

A total maximum daily load (TMDL) is a planning and management tool intended to identify, quantify, and control the sources of pollution within a given watershed such that water quality objectives are achieved, and the beneficial uses of water are fully protected.

The term TMDL is used in two ways. First, it is the total maximum daily load of a pollutant that a water body can handle and still achieve acceptable water quality (this is also known as the loading capacity). Second, it is the document that includes all the supporting components.

Under Section 303(d) of the federal Clean Water Act, states are required to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses. States also identify the pollutant or stressor causing the impairments. The result of this effort is the 303(d) List of Impaired Waters (see Section 1.1.5). Placement on the 303(d) List generally triggers development of a TMDL for each waterbody and associated pollutant/stressor.

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, only if the program of implementation shows no promise of success. In 2016, states were asked to identify their "Vision" projects, with a commitment to establish a TMDL or TMDL alternative by 2022. The Regional Water Board has established the Laguna de Santa Rosa Watershed as its "Vision" project, to address sediment, temperature, nutrient, and dissolved oxygen impairments via a mixture of waste load and load allocations and implementation measures. (See Section 4.2.3).

1.3 Flow and Riparian Protection Specialist

As one result of an office-wide visioning process in 2015, flow and riparian protection were identified as key issues inherently important to the mission of the agency, but not comprehensively addressed through the Regional Water Board's existing programs. To better support the development of 1) inter- and intra-agency coordination on these issues and 2) tools to further the agency's mission on these topics, the Regional Water Board established a Flow and Riparian Specialist position (1.0 PY), which is housed within the Planning and Watershed Stewardship Division.

The general functions of the Flow and Riparian Specialist include:

- Management of a cross-program Flow Strategic Team
- Management of the development of flow objectives, criteria, and other assessment thresholds

- Coordination/collaboration with the Division of Water Rights
- Coordination/collaboration with other external partners
- Management of other flow and riparian-related special projects

2.0 DIVISION RESOURCES

2.1 Staff Resources

Much of the work of the Planning and Watershed Stewardship Division is accomplished by the state employees hired to positions within the division. The staff resources of the division are listed in Table 1. Table 1 includes the technical, specialist, admin support, and management staff dedicated to the division. In Sections 3.0, 4.0 and 5.0 of this workplan, staff resources are allocated to individual projects and activities in more detail. As a general matter, management resources are allocated to the management of personnel and programs, coordinating programs across divisions, interfacing with stakeholders and the Regional Water Board, and consulting on issues of policy. The staff resources described in Section 3.0, 4.0 and 5.0 are intended to add up to a total of 13.0 PYs.

Table 1: Division Staff

<i>Position</i>	<i>Name</i>	<i>Division or Unit</i>	<i>PYs</i>
Division Chief	Alydda Mangelsdorf	Planning and Watershed Stewardship Division	1.0
Specialist	Bryan McFadden	Planning and Watershed Stewardship Division	1.0
Senior	Katharine Carter	Watershed Adaptive Management (WAM) Unit	1.0
Technical	7 Staff	WAM Unit	7.0
Senior	Vacant	Planning Unit	1.0
Technical	5 Staff	Planning Unit	5.0
	1 Staff – Leave of Absence	Planning Unit	0.7
Admin Support*	6 Staff	Administration	1.25
Technical and Specialist Staff Total for FY 2018-19:			13.0
Division Total:			17.95

*1.25 PY of administrative support staff are included here to identify officewide analytical and administrative support but are not included below in Core Activities or Special Projects.

2.2 Other Resources

The Planning and Watershed Stewardship Division also relies on non-staff resources to accomplish its work. These other resources can be divided into two categories: contracts and grants. Contract funds are generally made available through the following funding sources: discretionary contract funds and the Cleanup and Abatement Account. There are miscellaneous sources of funds, which are only periodically available for contract support. Contracts are generally awarded on a competitive basis for professional services to the Regional Water Board, to conduct technical or other work, which requires special expertise.

Nonpoint source grants are made available through the following funding sources: 319(h) or Timber Regulation and Forest Restoration Fund. Grants are awarded on a competitive basis to entities implementing projects, which support the mission and vision of the agency, such as restoration projects, BMP installations, and other similar projects. (See Section 1.1.3).

The contracts and grants currently being managed in the Planning and Watershed Stewardship Division are identified in Table 2 and include active grants and contracts from previous fiscal years, as well as those being developed this fiscal year.

2.2.1 Contracts

Discretionary contract funds are administered by the State Water Board. The discretionary contract funds are limited in amount each year and available to the State Water Board and all regional water boards. Historically, contract proposals have been vetted by their relevant statewide roundtable and ranked by the Deputy Management Committee (DMC) for final funding recommendations by the Management Coordinating Committee (MCC) and final decisions by the State Water Board's Executive Director. Generally, access to the discretionary contract funds for technical support is highly competitive and only made available to critical regional projects and projects of statewide significance. The Division is currently managing contracts using discretionary contract funds to support development or implementation of 3 projects, including: the Scott River Sediment and Temperature TMDLs, the Coastal and Freshwater Creeks Pathogen TMDL, and the Navarro River Flow Objective Study Plan. In FY 2017-18, the Division was granted funds to support the Laguna de Santa Rosa TMDLs and an expansion of the Elk River Recovery Assessment, as well. These contracts will be developed during FY 2018-19.

The State Water Board also implements the Cleanup and Abatement Account (CAA), which provides funds for significant environmental cleanup activities. The Planning and Watershed Stewardship Division has in the past successfully acquired funds from the CAA to support pollutant remediation and watershed restoration, for example in the Elk River Watershed. In FY 2017-18 and again in FY 2018-19, the Division acquired funds from the CAA to support post-fire water quality monitoring.

Periodically, the State Water Board is unable to spend all the money it receives from U.S. EPA under Section 205(j) of the Clean Water Act to support planning activities. When this is the case, the unspent funds are sometimes made available to regional water boards to support planning projects at the regional level. Similarly, U.S. EPA manages a contract to fund TMDL development needs on a nationwide basis. These funds are generally reserved to support TMDL development required as the result of lawsuit. But, when the funds exceed the need, USEPA will periodically offer technical support to other TMDL development projects, which they view as high priority. This technical support is offered through U.S. EPA's contract, utilizing their identified contractor(s). The funds are not available to augment existing contracts managed by the State. The funds associated with both sources are available on an unpredictable, irregular schedule and generally are of small amounts. The Division is currently managing funds from the 205(j) source to support integration of the Elk River Recovery Assessment (i.e., a technical modeling project) and the Elk River Watershed Stewardship project (i.e., a grant funded activity – see below).

2.2.2 Grants

As described above, the Planning and Watershed Stewardship Division has two staff, who administer and manage the 319(h) and Timber Fund grants awarded to projects in the North Coast Region. See Section 1.1.3 for further discussion.

Table 2: Contracts and Grants

Contract or Grant	Funding Source	Project Title	Contractor or Grantee	Funding Amount	Contract or Grant End Date	Comments
REGIONWIDE						
Contract	Discretionary Funds	Lab Service for Pathogen Analyses	Humboldt Co. Public Health	\$53,480	6/30/2019	As part of this contract project, the Humboldt and Sonoma County health labs have been trained to run bacteroides analyses, expanding their skill set for public benefit.
FIRE						
Contract	To be determined	Post Fire Water Quality Monitoring	Aquatic Sciences Center	\$100,000		Approved for FY 2018-19 funding; contract to be developed
Grant	319(h)	Post Fire BMPs in Mark West Creek, Maacama Creek and Laguna de Santa Rosa	Sonoma RCD	\$500,000		Approved for FY 2018-19 funding; grant agreement under development
Grant	Timber Fund	Post Fire Recovery from Redwood Fire	Mendocino RCD	\$749,507		Approved for 2018 -19 funding; grant agreement under development
KLAMATH RIVER BASIN						
Contract	Discretionary Funds	Scott River Groundwater Study	UC Davis	\$200,000		Approved for FY 2018-19 funding; contract to be developed
Grant	319(h)	Bogus Creek Watershed Riparian Protection Project	Shasta Valley RCD	\$421,659	6/30/2019	

Contract or Grant	Funding Source	Project Title	Contractor or Grantee	Funding Amount	Contract or Grant End Date	Comments
Grant	319(h)	Shasta River Watershed Stewardship Implementation Project	Shasta Valley RCD	\$341,201	6/30/2020	
Grant	319(h)	Scott River Stream Restoration and Sediment Reduction	Shasta Valley RCD	\$333,623	3/31/2021	
Grant	319(h)	Sprague River Diffuse Source Treatment Wetlands Development	Trout Unlimited	\$371,860		Approved for FY 2018-19 funding; grant agreement under development
Grant	Timber Fund	Trinity River Watershed Roadside Fuel Reduction Project	Trinity RCD	\$250,503	11/30/2021	
HUMBOLDT BAY BASIN						
Contract	CAA	Elk River Recovery Assessment	CalTrout	\$475,030	5/30/2018	
Contract	Discretionary Fund	Elk River and Humboldt Bay Modelling to Support TMDL Implementation	CalTrout	\$250,000		Approved for FY 2018-19 funding; contract to be developed
Grant	319(h)	Elk River Watershed Stewardship Program Development and Sediment Remediation and Instream Pilot Projects	CalTrout	\$251,346	4/30/2019	Reassigned to CalTrout from Humboldt County. Awaiting State Board signature.
Grant	Timber Fund	Elk River Sediment Remediation and Instream Restoration Pilot Projects	CalTrout	\$638,557	3/31/2020	These projects are piloting sediment remediation and restoration techniques, as well as the permitting process for work of this nature
EEL RIVER BASIN						

Contract or Grant	Funding Source	Project Title	Contractor or Grantee	Funding Amount	Contract or Grant End Date	Comments
Grant	Timber Fund	Eel River Road Sediment Treatment and Inventory	Mendocino RCD	\$693,047		Approved for FY 2018-19 funding; grant agreement under development
MENDOCINO COAST						
Contract	Discretionary Funds	Study Plan for Development of Instream Flow Objectives for the Navarro River	R2	\$199,373	3/31/2019	
Grant	319(h)	Focused Implement of Sediment and Temperature TMDL Implementation	Fish Friendly Farming	\$250,750	4/30/2019	
Grant	319(h)	Mendocino Coast TMDL Implementation, Phase 2	Mendocino RCD	\$762,421		Approved for FY 2018-19 funding; grant agreement under development
Grant	Timber Fund	Large Wood Augmentation, Phase 2, Sediment TMDL Implementation	Trout Unlimited	\$421,223		Approved for FY 2018 funding; grant agreement under development
RUSSIAN RIVER BASIN						
Contract	Discretionary Funds	Completion of a Technical TMDL/Alternative TMDL for the Laguna de Santa Rosa	Request for Proposal	\$150,000		Approved for FY 2018 funding; contract to be developed
Contract	Discretionary Funds	Watershed Monitoring Consulting Services	Aquatic Science Center	\$70,000		Approved for FY 2018-19 funding; contract to be developed
Contract	Discretionary Funds	Development of Governance Structure for the Russian River Regional	Aquatic Science Center	\$200,000	3/31/2019	

Contract or Grant	Funding Source	Project Title	Contractor or Grantee	Funding Amount	Contract or Grant End Date	Comments
		Monitoring Program (R3MP)				

2.2.3 Regional Portion of Statewide SWAMP Contracts

To augment the statewide SWAMP program, the State Water Board allots a portion of the overall program contract funds to each region to budget for region-specific monitoring and analytical needs. The Office of Information Management and Analysis (OIMA) manages several multi-year contracts that provide a variety of analytical and support services to SWAMP both for statewide and regional projects. Each region establishes a 3-year workplan in which it identifies its highest priority projects and the portion of its overall allotment, which is budgeted for those projects. The current 3-year workplan is for FY 2017-2020. Table 3 identifies the North Coast Region’s highest priorities for the SWAMP program for FY 2018-19 and 2019-2020.

Table 3: SWAMP Contract Projects

Project	FY 2018-19	FY 2019-20
Reference Conditions Monitoring Program	\$27,544	\$0
Shasta River TMDL Implementation Monitoring	\$45,012	\$45,012
Garcia River TMDL Implementation Monitoring	\$21,126	\$25,746
Regional Cyanobacteria Monitoring	\$132,564	\$91,924
Watershed Baseline Conditions Monitoring	\$81,255	\$169,417
Withheld Funds – Outside Contracting (TBD)	\$45,800	\$55,000
Lost Funding (redirected due to contract delays)	\$33,784	\$0
TOTAL	\$387,085	\$387,099

2.2.4 Summary of Other Resources for FY 2018-19

As described above, the other resources spent in the North Coast Region to support Planning and Watershed Stewardship activities are comprised of contract funds, grant funds, and SWAMP contract allocations from the State Water Board. In any given fiscal year, the Planning and Watershed Stewardship Division manages more or fewer resources in each of the highlighted geographic areas, depending on the priorities at the time

Table 4: Summary of Other Resources to be Managed in FY 2018-19

Geographic Area	Contracts	Grants	SWAMP Contract	TOTAL
Regionwide and miscellaneous projects	\$53,480	\$0	\$320,947	\$374,427
Fire-related projects	\$100,000	\$1,249,507	\$0	\$1,349,507
Klamath River Basin projects	\$400,000	\$1,718,846	\$45,012	\$2,163,858
Humboldt Bay Basin projects	\$725,030	\$889,903	\$0	\$1,614,933
Eel River Basin projects	\$0	\$693,047	\$0	\$693,047
Mendocino Coast Basin projects	\$199,373	\$1,434,394	\$21,126	\$1,654,893
Russian River Basin projects	\$420,000	\$0	\$0	\$420,000
TOTAL	\$1,897,883	\$5,985,697	\$387,085	\$8,270,665

3.0 Watershed Adaptive Management Program

3.1 Core Activity and Projects by Priority

The primary responsibilities of program staff are categorized based on priority listed in Table 5. Each priority is described in more detail in Section 3.2, including the PYS allocated to individual programs, activities, and/or projects.

Table 5 – FY 18/19 Watershed Adaptive Management Program Core Activities and Projects by Priority

Priority Level	Activity/Project	Category	Deadline (FY 18/19 unless noted otherwise)
1	a. SWAMP Program	Core	On-going
	b. 303(d)/305(b) Integrated Report Program	Special	4 th Quarter
	c. Grant Program – Administration, Management, and Planning	Core	On-going
	d. Watershed Stewardship Program: Scott and Shasta TMDL Action Plans/WDR Waivers Implementation	Core	On-going
	e. Watershed Stewardship Program: Elk River TMDL Action Plan Implementation	Core	On-going
	f. Establish the Russian River Regional Monitoring Program governance and funding structure, including a Steering Committee	Special	3 rd Quarter
	g. CyanoHAB Response Program	Core	On-going
	h. Irrigated Agriculture Permit Program: Vineyard and Orchard Permit	Special	On-going
	i. Irrigated Agriculture Permit Program: Smith River Watershed Management Plan Development	Special	On-going
2	a. SWAMP Program - Develop and Implement Special SWAMP Contracts for post-fire monitoring	Special	Uncertain
	b. Internal Watershed Stewardship Coordination	Core	On-going
	c. Russian River Watershed Stewardship	Core	Uncertain

Categories: Categories are marked as either **Core** or **Special**

3.2 Core Activity and Project Descriptions

Activities and projects are described. Activities and projects are organized based on program. They are also identified by the priority (1, 2, 3, etc.) and the letter (a, b, c, etc.) listed in Table 5 above. Some project/activity groupings may be identified with multiple priorities, depending on the subtasks associated with the project/activity.

1.a and 2.a – SWAMP Program

As described in Section 1.1.1, the SWAMP Monitoring Plan is a 3-year monitoring plan established to monitor regional priorities.

Summary: Implement the SWAMP monitoring plan as established for FY 2018-19 including interagency coordination, conducting monitoring activities, and managing sample analysis, and data review and assessment. Develop and implement special contracts for post-fire monitoring and regional lab support. Complete monitoring reports associated with past SWAMP monitoring activities, including:

- Eel and Russian River Nutrient Study report
- Regional Trend Study report
- Cyanobacteria report on the South Fork Eel, Mainstem Eel, Russian River to be drafted by SCCWRP
- Genetic Analysis of Russian River Cyanobacteria to be drafted by CSU San Marcos (Hristova)

Milestones	Target Date (by FY Quarter)
<i>Complete Eel and Russian River Nutrient Study Report</i>	<i>Fourth Quarter</i>

PY Allocation for SWAMP Coordinator for FY 18/19: 1.0

1.b – 303(d)/305(b) Integrated Report Program

Summary: Implement activities in coordination with the State Water Board to develop lines of evidence and decisions associated with completion of the 303(d)/305(b) report analysis.

Key Issues to Resolve: Determine which manual lines of evidence to pursue. At issue are questions related to the assessment of dissolved oxygen, cyanobacteria, and other non-standard data.

Milestones	Target Date (by FY Quarter)
<i>Develop lines of evidence for manual assessment</i>	<i>Second Quarter</i>
<i>Develop decisions</i>	<i>Third Quarter</i>
<i>Draft Staff Report</i>	<i>Fourth Quarter</i>

PY Allocation for Integrated Report Coordinator for FY 18/19: 1.0

1.c – Grant Program – Administration, Management, and Planning

Summary: Implement grant administration and management activities in coordination with internal project managers and State Board/USEPA grant program managers, including tracking and review of grant deliverables and invoices. Projects in play this fiscal year are:

- Bogus Creek Watershed Riparian Project
- Shasta River Watershed Stewardship Implementation
- Mendocino Coastal TMDL Implementation
- Eel River Road Sediment Treatment and Inventory Project
- Redwood Fire Recovery Phase II Project
- SF Eel River Water Conservation Project-Sproul Creek
- Fish Friendly Farming Sediment TMDL Implementation and Navarro Temperature TMDL Implementation
- Scott River Stream Restoration
- Trinity River Fuels Reduction
- Post-Fire BMPs Implementation in Mark West Creek, Maacama, and Laguna de Santa Rosa

Coordinate with statewide roundtable, State Board grants managers, and USEPA grants managers to solicit grant applications for projects serving water quality protection goals, review applications to assist with project ranking, and participate in statewide funding decisions.

Key Issues to Resolve: None

Milestones	Target Date (by FY Quarter)
<i>Assist with 319(h) and Timber Fund Guideline Development</i>	<i>First Quarter</i>
<i>Grant proposal review</i>	<i>Fourth Quarter</i>

PY Allocation for Grant Program for FY 18/19: 2.0

1.d – Watershed Stewardship Program: Scott and Shasta TMDL Action Plans/WDR Waivers Implementation

Summary: Conduct ranch assessments, determine Waiver compliance, request the development of Grazing and Riparian Management and Monitoring Plans to address water quality protection needs, as necessary. For FY 2018-19 conduct at least 3 ranch assessments in each watershed. Follow up on ranch assessments from FY 2017-18 to ensure development of necessary ranch plans, including development of the Hayden Ranch Grazing and Riparian Management and Monitoring Plan. Coordinate with partners to support restoration activities in key tributaries, including Parks Creek, Big Spring Creek, Moffett Creek, Big Slough/Kidder Creek, Sugar Creek, French Creek, and East Fork Scott. Investigate violations of Waiver conditions and pursue progressive enforcement actions, as necessary.

Key Issues to Resolve: Karuk petition to the State Board on WDR Waivers. Prepare necessary responses for the State Board by September 10, 2018.

PY Allocation for Scott and Shasta Watershed Steward for FY 18/19: 0.75 PY

1.e – Watershed Stewardship Program: Elk River TMDL Action Plan Implementation

Summary: Re-establish the Elk River Watershed Stewardship Program through contract development and management, landowner outreach and coordination, interagency coordination, and coordination with Timber Program staff. Establish the key components of Elk River Watershed Stewardship, including: coordinated monitoring, special scientific studies, development of a strategy to protect public health (e.g., drinking water, onsite waste treatment systems, and flood protection), development of a strategy to improve stream channel form and function, and coordination with the larger Humboldt Bay restoration activities. Provide regular updates to supervisor, internal Stewardship Collective, executive management and Board. Manage and maintain Elk Stewardship lyrics list and other appropriate forms of external communication.

Continue to facilitate and participate in permitting process with CalTrout, NOAA-NMFS, CDFW, and landowners for restoration/remediation pilot projects at 1) the Flood Curve and 2) the Wrigley Orchard. Review and process invoices, progress reports, and deliverables. Provide regular updates to supervisor, internal Stewardship collective, executive management and Board.

Key Issues to Resolve: Work through delays with the State Water Board to execute the new grant agreement with CalTrout. Work through issues with resource agency partners to solve conflicts on restoration/remediation goals and objectives.

Milestones	Target Date (by FY Quarter)
<i>Execute new grant agreement</i>	<i>First Quarter</i>
<i>Re-Initiate Stewardship Grant Activities</i>	<i>First Quarter</i>
<i>CalTrout Final Pilot Projects Design due</i>	<i>Third Quarter</i>
<i>CalTrout Preferred Restoration Strategy Report due</i>	<i>Fourth Quarter</i>
<i>Environmental permitting for pilot projects developed, including 401 certification and CEQA</i>	<i>Fourth Quarter</i>

PY Allocation for Elk River Watershed Steward for FY 18/19: 0.75 PY

1.f and 2.c – Russian River Watershed Stewardship and establish the Russian River Regional Monitoring Program governance and funding structure, including a Steering Committee:

The Russian River Watershed is at the southern end of the North Coast Region and is the urban center of the region. The Russian River is impaired due to pathogens (See Section 4.2, Russian River Pathogen TMDL Action Plan project below). It is also listed as impaired due to sediment and sedimentation, temperature, and aluminum in several reaches. The Laguna de Santa Rosa, a tributary to the Russian River, also is listed as impaired for numerous pollutants. (See Section 4.2, Laguna de Santa Rosa Nutrient, DO, Sediment and Temperature project below). Staff from multiple programs have been engaged in several intersecting initiatives in the Russian River, necessitating the creation of a regular Russian River Watershed Stewardship Coordination meeting to keep all relevant staff informed. Projects of note include:

- Sonoma County Board of Supervisor’s Russian River Confluence
- Department of Water Resources CalForward Russian River Pilot
- Russian River Watershed Association Stormwater Management Planning
- Sonoma County Office of Resilience Watershed Task Force and Watershed Collaborative
- Sonoma County Water Agency Master Restoration Planning
- USGS Groundwater-Surface Water Interaction studies
- Russian River Watershed Independent Science Review Panel Science Forum
- And others

These projects are in addition to the Regional Water Board’s own initiatives in the Russian River, including the Russian River Regional Monitoring Program (R3MP), post fire monitoring and assessment, the Russian River Pathogen TMDL development and implementation, and the Laguna de Santa Rosa TMDLs development and implementation. The R3MP is an effort to develop a regional monitoring program to coordinate the best available independent science to support environmental, regulatory, and management decisions throughout the Russian River watershed. In 2017, Regional Water Board staff contracted with the San Francisco Estuary Institute - Aquatic Science Center (SFEI-ASC) to help develop the R3MP governance framework, including a proposed roster, charter, initial management questions, and a business model. To date, the R3MP Steering Committee has been initiated and are meeting regularly throughout 2018 in order to finalize the R3MP structure and guiding documents.

To manage the large number of overlapping initiatives, program development and implementation, and coordination needs, the Russian River would be well-served by establishing a Russian River Watershed Steward position and funding to hire staff into the position. To date, such a position has not yet been approved. In its absence, staff are diverted to efforts in the Russian River on an ad hoc basis and with consequences to other assigned duties.

Summary for FY 2018-19: During this fiscal year, staff will continue to manage the contract with the Aquatic Sciences Center to facilitate development of the Russian River Regional Monitoring Program, beginning with development of a Steering Committee and a governance and funding structure. The contract expires March 31, 2019 (see Table 2). Other related initiatives will continue to be staffed on an ad hoc basis. Executive management continues to pursue funding to establish a Russian River Watershed Steward position.

Key Issues to Resolve: Establish a Russian River Watershed Steward position and funding to hire staff.

PY Allocation for Russian River Watershed Steward for FY 18/19: There is no Russian River Watershed Steward position, yet. 0.1 PYs of the Elk River Stewards time is allocated to managing the R3MP project contract and assisting the Executive Officer in his duties as the Co-Chair of the Steering Committee. The support contract concludes on April 30, 2019.

1.g – CyanoHAB Response Program

Summary: Coordinate with regional partners to ensure cyanoHAB monitoring, review data, and post warnings, as warranted. Host website. Host coordination meetings. Host educational forums to further the knowledge of cyanoHABs, monitoring techniques, and public health risks. Participate in statewide roundtables. Provide updates to the public and Regional Water Board.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.25 Planning Staff (primarily during summer months)

1.h – Irrigated Agriculture Permit Program: Vineyard and Orchard Permit

Summary: The cornerstone to the irrigated lands program is the development of an irrigated lands permit for vineyards and orchards. The permit will be designed to implement the requirements of the Basin Plan on vineyards and orchards, which present a risk of pollutant discharge to waters of the State. To ensure that the permit is addressing the key pollutant risks, staff will conduct a geospatial analysis of key watershed factors and characteristics of agricultural activities in the North Coast Region. Following this assessment, the scope of the permit will be finalized, the schedule updated, and stakeholder outreach reinitiated.

Key Issues to Resolve: None

Milestones	Target Date (by FY Quarter)
<i>Complete technical analysis</i>	<i>Second Quarter</i>
<i>Update project schedule</i>	<i>Third Quarter</i>
<i>Update the Board</i>	<i>Third Quarter</i>
<i>Draft revised permit scope</i>	<i>Fourth Quarter</i>
<i>Reinitiate stakeholder outreach</i>	<i>Fourth Quarter</i>

PY Allocation for Vineyard and Orchard Permit Development for FY 18/19: 1.0

1.i - Irrigated Agriculture Permit Program: Smith River Watershed Management Plan Development

Summary: A key monitoring discovery of FY 2017-18 was the identification of toxicity issues in the lower Smith River. Staff are working with stakeholders to identify the management practices necessary to control sources of pollution, continue and expand water quality monitoring, and establish a watershed approach to management of conditions. The Regional Water Board will be working with lily bulb growers and partners to develop a Water Quality Management Plan, which establishes a coordinated approach to correcting the toxicity problems.

Key Issues to Resolve: Issued 13267 letter to Lily Bulb Growers with language that accommodates multiple interests and needs.

Milestones	Target Date (by FY Quarter)
<i>13267 Letter</i>	<i>First Quarter</i>
<i>In partnership with others, produce a coordinated Monitoring Plan</i>	<i>Second Quarter</i>
<i>In partnership with others, produce a coordinated Water Quality Management Plan</i>	<i>Ongoing</i>

PY Allocation for Smith River Watershed Management Plan project for FY 18/19: 1.0

2.b - Watershed Stewardship Program - Program Coordination

Summary: Coordinate the implementation of TMDL Action Plans in the Klamath River, Scott River, Shasta River, Garcia River and Elk River through use of regulatory and non-regulatory tools. Rely on partnership building, coordinated monitoring, and adaptive management to drive progress towards attainment of water quality conditions supportive of impaired beneficial uses. Establish an internal coordinated collective including the watershed stewards, Restoration Specialist, Watershed Stewardship Coordinator, and Planning and Watershed Stewardship Division Chief. The Klamath River and Garcia River TMDL implementation projects are not included below but are contained in other Division workplans.

Key Issues to Resolve: Need to fill the Restoration Specialist vacancy. Also, there are many external partners who are coordinating on the development of a Russian River watershed stewardship approach. The Regional Water Board should establish a Russian River Watershed Stewardship position and funding to be able to efficiently participate in this opportunity.

PY Allocation for Watershed Stewardship Program Coordination project for FY 18/19: Management only

4.0 Planning Program

4.1 Core Activity and Project Priorities

The primary responsibilities of program staff are categorized based on priority listed in Table 6. Each priority is described in more detail in Section 4.2, including the PYs allocated to individual programs, activities, and/or projects.

Table 6 – FY 18/19 Planning Program Core Activities and Projects by Priority

Priority Level	Activity/Project	Category	Deadline (FY 18/19 unless noted otherwise)
1	a. Adoption of the 2018 Triennial Review	Special	1 st Quarter
	b. Adoption of the Russian River Pathogen TMDL Action Plan	Special	2 nd Quarter
	c. Laguna de Santa Rosa Nutrient, DO, Sediment and Temperature TMDL Action Plan/Alternative Restoration Plan	Special	On-going
	d. Complete a peer review draft of the Ocean Beaches and Freshwater Streams Pathogen TMDL Alternative Staff Report	Special	4 th Quarter
	e. Develop a Project Plan and Schedule for the TMDL Program Retrospective Review project	Special	3 rd Quarter
	f. Update and implement the project workplan for development of the Groundwater Protection Policy	Core	On-going
	g. Final Draft Technical Report and Study Plans for the Navarro Instream Flow Objective project	Special	3 rd Quarter
	h. Climate Change Adaptation Strategy	Special	On-going
	i. Outstanding National Resource Waters	Special	4 th Quarter
	j. Biostimulatory Conditions	Special	4 th Quarter
2	a. Complete the shade model for the Laguna de Santa Rosa Temperature TMDL	Special	4 th Quarter
	b. Complete 4 data assessment reports for monitoring data collected as part of the Ocean Beaches and Freshwater Streams Pathogen TMDL Alternative project	Special	2 nd Quarter FY 19/20

Categories: Categories are marked as either **Core** or **Special**

4.2 Core Activity and Project Descriptions

Activities and projects are listed below. Activities and projects are organized based on program. They are also identified by the priority (1, 2, 3, etc.) and the letter (a, b, c, etc.) listed in Table 6 above. Some project/activity groupings may be identified with multiple priorities, depending on the subtasks associated with the project/activity.

1.a – 2018 Triennial Review

The 2018 Triennial Review began with a public review document released in May 2018 in preparation for a workshop before the Board that same month. The proposed 2018 Triennial

Review will be heard at the Regional Water Board’s September 2018 Board meeting. Following adoption of the Planning Program Workplan for FY 2018 through 2021, the 2018 Triennial Review will be submitted to the State Water Board and U.S. EPA for their records. The Planning Program Workplan for FY 2018 through 2021 will establish the planning projects, including TMDLs, that the Planning Unit works on during the next 3 years. The Planning Unit projects described in this Planning and Watershed Stewardship Division workplan are as proposed in the 2018 Triennial Review.

Summary of FY 2018-19: Bring the 2018 Triennial Review and proposed Planning Program Workplan for FY 2018 through 2021 to the Regional Water Board for consideration at a hearing on September 6, 2018. Assemble the administrative record and submit to the State Water Board and U.S. EPA for their records. Begin implementing the Planning Program Workplan as adopted.

Key Issues to Resolve: None

PY Allocation for FY 18/19: FY 2017-18 staff resources used to develop this project. Completion of the project will be staffed on an ad hoc basis, while key staff is away on medical leave.

Milestones	Target Date (by FY Quarter)
<i>Regional Water Board Adoption</i>	<i>First Quarter</i>
<i>Assemble administrative record</i>	<i>Third Quarter</i>
<i>Submit to State Water Board and U.S. EPA</i>	<i>Third Quarter</i>

1.b – Russian River Pathogen TMDL Action Plan

Reaches of the Russian River watershed are listed on the Clean Water Act 303(d) list of impaired waters due to the presence of fecal indicator bacteria (FIB). High concentrations of FIBs may indicate the presence of pathogenic organisms that are found in warm blooded animal waste, including human waste. Pathogens pose a potential health risk to people who recreate in contaminated waters. Water quality monitoring conducted as part of the development of a pathogen TMDL for the Russian River watershed confirmed the presence of FIB in locations throughout the watershed.

Development of a Russian River Pathogen TMDL ranked high on the 2011 triennial review list and again on the 2014 triennial review list of priority projects. The Regional Water Board directed staff to pursue the development of a pathogen TMDL for the Russian River on the basis that human health protection is a high priority of the Board. The Russian River watershed also was implicated in the Onsite Waste Treatment System (OWTS) Policy adopted by the State Water Board in June 2012. The OWTS Policy allowed an exemption for the Russian River from the requirements of State’s OWTS Policy until the development of the Pathogen TMDL. In its place, the Regional Water Board has implemented the regional OWTS Policy that otherwise applied to all of the North Coast Region up until the adoption of the statewide policy.

A draft Action Plan for the Russian River Pathogen TMDL was released for public review in August 2017, with comments due in October 2017. A hearing was scheduled for December 2017 but was postponed because of the October 2017 fires in Mendocino and Sonoma counties and due to delay by the State Water Resources Control Board’s adoption of new statewide bacteria objectives. The draft TMDL Action Plan relies on new, innovative analytical protocols by which specific animal sources (e.g., human, dog, bovine, etc.) of pathogenic contamination are distinguished through genetic markers. Implementation of the TMDL Action Plan will reduce risk of illness to users of the

Russian River by reducing sources of pathogenic contamination and meeting recommended recreational criteria established by USEPA and adopted by the State Water Resources Control Board in August 2018.

Summary of FY 2018-19: Staff must complete the responses to public comments on both the 2015 and 2017 versions of the project. The TMDL Action Plan, resolution and action plan must be updated to reflect public comments. Tools to allow the public to identify their responsibilities under the proposed TMDL Action Plan must be finalized. Bring the Russian River Pathogen TMDL Action Plan to the Regional Water Board for adoption in November 2018. Assemble the administrative record, to bring the adopted TMDL Action Plan to the State Water Board, Office of Administrative Law, and USEPA for approval. The administrative record must be completed. Staff presentations before the Regional Water Board and State Water Board must be developed and delivered, as well as board member and USEPA briefings.

Key Issues to Resolve: Need to identify the staffing needs to implement the Russian River Pathogen TMDL Action Plan, once adopted.

PY Allocation for FY 18/19: 0.1

Milestones	Target Date (by FY Quarter)
<i>Regional Water Board Adoption</i>	<i>Second Quarter</i>
<i>State Water Board Approval</i>	<i>Third Quarter</i>
<i>OAL Approval</i>	<i>Fourth Quarter</i>
<i>USEPA Approval</i>	<i>First Quarter FY 2019</i>

1.c - Laguna de Santa Rosa Nutrient, DO, Sediment and Temperature TMDL Action Plan/Alternative Restoration Plan

The Laguna de Santa Rosa is a subwatershed of the larger Russian River watershed. It is listed on the Clean Water Act 303(d) list of impaired waterbodies due to water quality impairments associated with nutrients, low dissolved oxygen, elevated temperature and excess sediment. Development of a Laguna de Santa Rosa TMDL Action Plan ranked high in the 2011 triennial review and again in the 2014 triennial review of the Basin Plan.

Over the past several years, staff have been working on two distinct tracts in the Laguna de Santa Rosa: 1) technical TMDL development and 2) advance implementation of source control, restoration, and adaptive management initiatives, where opportunities for such have arisen. The latter has consisted of several successful efforts by staff to develop partnerships with watershed stakeholders and to secure grant and contract funding from a variety of sources. As a result, many important collaborative initiatives are now underway in the Laguna de Santa Rosa, including but not limited to: the development of a regional monitoring program, the development of historical ecology data and a master restoration plan, and the development of a water quality trading framework for phosphorus – one of California’s first. On the technical TMDL development tract, staff’s early monitoring and modeling work has most recently been supplemented by contract support. To date, the USEPA has provided two phases of expert contract support, yielding sediment and nutrient budgets. A pending request for additional contract support represents the third and final phase of work that must be done to complete the technical elements of the Laguna de Santa Rosa TMDLs.

The North Coast Region has identified the Laguna de Santa Rosa project as its EPA Vision Project, with a commitment to finish it by 2021. Further, it is anticipated that the third and final phase of technical work described above may best be codified in an Alternative Restoration Plan, rather than a standard TMDL. An Alternative Restoration Plan would identify several implementation actions, which are predicted to return the Laguna de Santa Rosa system to a trajectory of recovery. An Alternative Restoration Plan for the Laguna de Santa Rosa likely would include the array of source control, restoration, and adaptive management initiatives described above, at a minimum. It may also include waste load allocations for nutrients, sediment or a surrogate parameter, should a waste load allocation be found necessary to support point source permitting needs and/or a water quality credit trading program as a compliance option, which can fund restoration projects.

Finally, the Sonoma County wildfires in October 2017 affected numerous locations throughout the Russian River watershed and elsewhere. But, much of the damage was focused in the Laguna de Santa Rosa watershed. It is yet unknown what long-term consequences for water quality there may be from the wildfires. But, it is anticipated that the loss of cover may result in elevated peak flows, large scale erosion, and debris flows. Further, any toxics that enter the fluvial system because of runoff from the burned over developed landscape, may accumulate in downstream sediments.

Summary for FY 2018-19: Progress on this project requires that we fill the vacant TMDL staff position, as soon as possible. Similarly, discretionary contract money allocated for technical support must be encumbered in a contract. Implementation of the recently adopted Water Quality Trading Framework requires that TMDL staff work with stakeholders to develop, review and approve pre-qualified practices. Development of a Master Restoration Plan requires that TMDL staff participate on the Management Advisory Committee of the Sonoma County Water Agency’s restoration planning project, implemented through a grant with the San Francisco Estuary Institute. This fiscal year, technical work running a shade model for the Laguna will be complete and ready for review as the key tool to support temperature implementation measures in the Laguna de Santa Rosa Watershed.

Key Issues to Resolve: Filling the vacant TMDL staff position and encumbering funds in a TMDL technical support contract for the Laguna de Santa Rosa TMDLs.

PY Allocation for FY 18/19: 1.0 PY TMDL Staff Lead and 0.15 TMDL Staff Technical Assistance. The TMDL Staff Lead position is currently vacant.

Milestones	Target Date (by FY Quarter)
<i>Hire Staff</i>	<i>Second Quarter</i>
<i>Execute a contract for TMDL Technical Support</i>	<i>Fourth Quarter</i>
<i>Complete Shade Model</i>	<i>Fourth Quarter</i>
<i>TMDL Complete</i>	<i>FY 21/22 Second Quarter</i>

1.d and 2.b – Ocean Beaches and Freshwater Creeks Pathogen TMDL Action Plan/TMDL Alternative

The Ocean Beaches and Freshwater Creeks Pathogen TMDL project (Coastal Pathogen Project) was approved as a high priority TMDL project during the 2014 triennial review of the Basin Plan. Since being identified as a high priority, staff has been collecting dry and wet season ambient water quality data from listed ocean beaches and freshwater streams over two calendar years. These datasets are now complete, and staff have begun statistical analysis. Staff also has collected dry and wet season samples over the same two years at reference streams and reference beaches. The

reference streams study assesses bacteria concentrations in minimally disturbed waterbodies across a range of freshwater streams. The reference beach study is in collaboration with the San Francisco Bay and Central Coast Regional Water Quality Control Boards. These reference data will help inform the analysis of impairment status and compliance with the natural background requirements of the Region’s bacteria objective.

Simultaneously, fecal waste sources have been evaluated, by collecting water quality data at locations immediately downstream from suspected fecal waste source landuse categories, including: dairies, developed rural areas (e.g., onsite wastewater treatment systems), developed urban areas (e.g., sewers), and wildlife areas. These data will help inform the range of control measures that will be necessary to address pathogen contamination in the various impaired freshwater streams and ocean beaches.

The Coastal Pathogen Project will result in a pollutant control strategy designed to control fecal waste contamination and reduce the risk of illness to recreational use in watersheds now impaired. A pollutant control strategy may take the form of a TMDL Action Plan, other Action Plan, or policy proposed for adoption into the Basin Plan. It may be an alternative TMDL and rely on mechanisms other than a Basin Plan Amendment to accomplish fecal waste discharge control. For example, the proposed control strategy may rely in part on Local Area Management Plans (LAMPs), depending on their status at the time this project concludes. In any event, implementation of a pollutant control strategy will require close collaboration with local planning, permitting, and public health agencies to ensure the repair and installation of appropriate waste treatment and control measures.

Summary for FY 2018-19: This fiscal year, staff will complete assessment of the past two years monitoring to identify reference conditions, confirm freshwater pathogen impairments, confirm ocean pathogen impairments, and assess pathogen sources. Staff will draft a report to support a TMDL or TMDL Alternative and prepare it for scientific peer review.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.75 PY TMDL Staff Lead.

Milestones	Target Date (by FY Quarter)
<i>Complete 4 Data Assessment Reports</i>	<i>Second Quarter</i>
<i>Draft Peer Review TMDL Alternative Staff Report</i>	<i>Fourth Quarter</i>

1.e – TMDL Program Retrospective Review

Since its inception in the 1980s, the TMDL Program in the North Coast Region has produced dozens of TMDLs addressing multiple pollutants, but primarily focused on sediment, temperature, and nutrients. In addition to these “technical” TMDLs, the Basin Plan includes the following TMDL Action Plans and implementation policies.

- Action Plan for the Garcia River Sediment TMDL
- Action Plan for the Shasta River Temperature and Dissolved Oxygen TMDLs
- Action Plan for the Scott River Sediment and Temperature TMDLs
- Action Plan for the Klamath River Temperature, Dissolved Oxygen, Nutrient, and Microcystin TMDLs
- Action Plan for the Upper Elk River Sediment TMDL
- Sediment TMDL Implementation Policy
- Temperature Implementation Policy

The Sediment TMDL Implementation Policy and Temperature Implementation Policy direct staff to use existing tools to control the discharge of sediment and protect stream flows and riparian shade to restore water quality conditions in impaired waters.

The Regional Water Board has also developed a Watershed Stewardship Program, which endeavors to extend the Regional Water Board's usual tools by coordinating with watershed partners and applying all available natural resource protection tools towards the attainment of common goals. A complimentary principle to watershed stewardship is adaptive management, in which monitoring and assessment is used to inform modifications to implementation plans.

The North Coast's TMDL Program has matured to such a degree that it is time to assess its success not just on the individual watershed scale, but on a programmatic scale. A TMDL Program Retrospective Review is intended to assess the requirements of each TMDL, evaluate how those requirements have been implemented, assess existing data to determine if implementation is showing success, and develop recommendations to inform the future of the TMDL program. Some of the questions this review should be designed to answer include:

- Are TMDL Action Plans being implemented as designed? If not, why not?
- Are TMDL Action Plans resulting in improvements in water quality conditions? If not, why not?
- Is the Sediment TMDL Implementation Policy being implemented in all the sediment impaired waters? If not, why not?
- What are the mechanisms by which the Sediment TMDL Implementation Policy is being implemented? Are those mechanisms resulting in improvements in water quality conditions? If not, why not?
- Is the Temperature Implementation Policy being implemented in all the temperature impaired waters? If not, why not?
- What are the mechanisms by which the Temperature Implementation Policy is being implemented? Are those mechanisms resulting in improvements in water quality conditions? If not, why not?
- Should these policies and plans be implemented differently to improve their potential to result in water quality improvements?
- Should policies and plans be designed differently to improve their potential to result in water quality improvements?
- Should TMDLs be developed differently to support policies and plans with greater potential to result in water quality improvements?

Summary for FY 2018-19: The two Watershed Stewards will co-host a cross-program team to assess TMDL action plans/policies, TMDL implementation (e.g., permits and enforcement), and monitoring to draw conclusions regarding the effectiveness of the Regional Water Board's TMDL implementation. The team will establish an assessment protocol and project schedule to complete the assessment by July 2020. In this fiscal year, the team will implement those tasks identified for FY 2018-19.

Key Issues to Resolve: Identification of program staff who will participate in the assessment team

PY Allocation for FY 18/19: The two Watershed Stewards are allocated 0.25 PYs and 0.15 PYs as co-leads of the assessment effort. It is estimated that of time from other program staff may be necessary to accomplish the project.

Milestones	Target Date (by FY Quarter)
<i>Assemble Team</i>	<i>Second Quarter</i>
<i>Develop Assessment Protocol</i>	<i>Third Quarter</i>
<i>Develop Project Plan and Schedule</i>	<i>Third Quarter</i>

1.f - Groundwater Protection Strategy

This project began on the Triennial review in 2007 as a comprehensive and ambitious Basin Plan amendment that included revisions to Chapter 3 (water quality objectives) and Chapter 4 (Implementation Plans). Due to the large scope of work, the project was split into two phases: Phase I was the update of water quality objectives (WQO Update Amendment, # 3, above) and Phase II the development of a groundwater protection policy. Phase I was completed with the adoption of Resolution No. R1-2015-0018 in June 2015. During the adoption of the 2014 Triennial Review of the Basin Plan in March 2015, the Board identified Phase II as priority No. 5 on the 2014 Triennial Review Basin Planning Project Priorities.

Following the development of the North Coast Regional Strategic Priority Teams, the Groundwater Team expanded its vision beyond the basin plan amendment project as described in the 2014 Triennial Review to include other regulatory and non-regulatory elements. To capture these other regulatory and non-regulatory elements, the project has evolved into the North Coast Groundwater Protection Strategy.

The goal of the Groundwater Protection Strategy is to organize with strategic purpose all existing Regional Water Board tools and developing statewide tools for the protection of groundwater quality on a basin wide scale to protect ecosystem function, and the human right to clean water now and under future changed climatic conditions. The strategy includes the following five components:

1. Groundwater Protection Programs
2. Groundwater Ambient Monitoring and Assessment (GAMA) Program
3. Statewide Policies and Regional Planning
4. Data Driven Adaptive Management
5. Partnering

The 2018 Triennial Review identifies the following as components of a basin plan amendment to support the Groundwater Protection Strategy. The Basin Plan Amendment will include: designation of beneficial uses for groundwater, an action plan to outline the designated level methodology for discharges of waste to land, and an action plan to assess and address incidences of salt and nutrient contamination or threat of contamination of groundwater.

This project is managed by the Groundwater Water Protection Specialist in the Point Source and Groundwater Protection Division. Staff and management in the Planning and Watershed Stewardship Division coordinate with the Groundwater Protection Specialist on this project.

Summary for FY 2018-19: The Groundwater Specialist will 1) conduct groundwater basin data assessments, 2) conduct stakeholder outreach activities (e.g., Sustainable Groundwater Management Agencies, and 3) draft basin plan amendment and staff report language in a manner and on a schedule suitable to produce a draft amendment and staff report prior to the June 2020 project end date.

Key Issues to Resolve: Rapidly changing laws, regulations, and guidelines associated with groundwater management in the State of California have necessitated a significant re-calibration of this Triennial Review project, as it was contemplated in the 2014 Triennial Review. The 2018 Triennial Review considers some of the statewide changes and proposes an altered schedule for completion of the project, as a result. The Groundwater Protection Specialist must re-consider the project workplan as the basis for activities in FY 2018-19 and FY 2019-20.

PY Allocation for FY 18/19: 0.50 PY of the Groundwater Protection Specialists time is allocated to this project this fiscal year.

1.g – Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective

The 2014 Triennial Review established as a priority, the development of instream flow criteria/objectives for the Navarro River. The project also calls for staff to evaluate other rivers as candidates for future flow criteria development, as warranted. And, it calls for staff to consider the development of a regional narrative flow objective and corresponding implementation methodology.

As it relates to the Navarro River, this project consists of three phases:

Phase I:

The Regional Water Board has funded a contractor (R2 Resource Consultants, Inc.) to create work plans for development of instream flow criteria in the Navarro River Watershed. The workplans will define a comprehensive approach to implementing an analytical assessment of in-stream flow needs in the Navarro River watershed. The deliverables include various study plans for individual components of an overall analysis to be used to develop flow criteria.

The study plans will describe procedures and protocols for all field data collection, surveying, mapping, and modeling necessary for implementation, as well as cost estimates for each of the workplan elements.

Phase II:

Following on development of the plans produced in Phase I, staff will seek contract funding to implement the plans. Phase II will result in development of flow criteria, as described in the study plans developed in Phase I. Phase II is likely going to be delayed until 2021 due to the limited capacity of the State Water Board to develop contracts submitted by the Regional Water Boards.

Phase III

Once flow criteria are developed for the Navarro River, a basin plan amendment process will follow to incorporate water quality objectives for flow into the Basin Plan, with an accompanying implementation plan.

With respect to evaluating other rivers as candidates for flow objectives, staff have established a Flow Workgroup, which is developing multiple tools for assessing flow related impacts in the

region and determining the highest priorities. The Karuk Tribe has suggested that the Regional Water Board develop flow objectives for the Scott River. With respect to the development of narrative flow objectives, the Flow Workgroup is also evaluating multiple techniques for describing adequate flow conditions to protect cold freshwater habitat and meet other water quality objectives. Projects that the Flow Group is tracking include work required by the California Action Plan to conduct flow studies in the Shasta River, South Fork Eel River, and Mark West Creek. Recommendations from the Flow Workgroup are not yet forthcoming. But, their recommendations will be described in future updates to the Board regarding the progress on planning projects and allow for reconsideration of planning priorities, as appropriate. This project is managed by the Flow and Riparian Specialist, the position of which is contained within the Planning and Watershed Stewardship Division.

Summary for FY 2018-19: Staff will manage the contract for Phase I with R2, attend stakeholder meetings, and review contractor deliverables.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.1 PY of the Flow and Riparian Specialists time is allocated for this project for contract management and product review.

Milestones	Target Date (by FY Quarter)
<i>Final Draft Technical Report and Study Plans</i>	<i>Third Quarter</i>

1.h - Climate Change Adaptation Strategy

The North Coast Region constitutes about 12% of the state’s geographic area including approximately 340 miles of scenic coastline. Historically, it has also accounted for about 41% of its annual runoff. The North Coast Region straddles the Southern Oregon/Northern California and Central California ecologically significant units for coho salmon. It also has two major bays: Humboldt Bay and Bodega Bay, both of which support significant development, including roads, treatment facilities, structures, homes, and industry. Dairy farming and other agricultural pursuits are common in the region’s low-lying estuaries. And, many of the region’s watersheds are groundwater-fed during summer months, requiring adequate wet weather infiltration. The documented incidences of toxic algae blooms in the North Coast have increased notably over the last several years, as well as water shortages during the dry season.

The 2014 Triennial Review planning priorities adopted by the Regional Water Board included as a high priority, the development of a Climate Change Adaptation Policy. Staff was hired with experience in climate change modeling to begin the development of a landscape scale geospatial tool to assess the potential water quality impacts arising as a result of various climate change scenarios, including: impacts due to sea level rise, more intense winter storm events punctuated with longer periods of drought, alterations in the pH of ocean and bay waters, alteration in floral and faunal species composition and extent, etc. This geospatial tool is intended to link with various climate change scenarios to allow assessment of the water quality issues of most concern and the locations in the region most vulnerable, to prioritize efforts accordingly. Basin Planning efforts that could result from this evaluation include the development of: seasonal beneficial uses and objectives, natural conditions clause, policy for the protection of groundwater recharge areas, policy for the sustainable management of floodplain and riparian function, designation of Outstanding National Resource Waters, and others.

The staff hired to begin development of a geospatial tool was diverted to help complete the Upper Elk River Sediment TMDL, which required more staff resources than anticipated. As such, development of a landscape scale tool has yet to be initiated. Planning staff have conducted initial outreach with Regional Water Board program staff to identify key issues of concern. A subcommittee of the statewide Basin Planning Roundtable has been formed to provide feedback on regional planning efforts with respect to climate change. Planning staff have provided technical input on projects evaluating drought, flow habitat needs, and flow-water quality needs. Finally, planning staff have compiled a significant library of resources relating to climate science, water quality issues, and existing analytical tools.

Summary of FY 2018-19: Staff will be participating on statewide roundtables and in interagency meetings related to climate change adaption, emerging science, and modeling. Staff will be evaluating literature and available landscape assessment tools to develop a proposed approach to conducting landscape scale assessments. To test the applicability of identified landscape assessment tools, staff will develop geodatabases for a data rich watershed (i.e., Laguna de Santa Rosa) and a data poor watershed (i.e., Smith River) to test the recommended tools with respect to data input needs. Staff will specifically design a landscape assessment module, which allows for assessment of ONRW eligible waters as climate resilient waters.

Key Issues to Resolve: The availability of tools to develop an assessment “tool box” are not yet fully known. As staff makes further progress on this project, it will become more evident whether existing tools are sufficient to generate desired outputs.

PY Allocation for FY 18/19: 0.8 PYs of Planning staff time is allocated to this project. The remainder of time (0.2 PYs) is allocated for technical assistance on other projects in the office requiring high level statistical or modeling expertise.

Milestones	Target Date (by FY Quarter)
<i>Memo defining climate change-related impacts to the North Coast Region based on first assessment</i>	<i>First Quarter</i>
<i>Completed geodatabases for the Smith River and Laguna de Santa Rosa</i>	<i>Second Quarter</i>
<i>Testing of climate change-related modeling tools on the Smith River and Laguna de Santa Rosa watersheds</i>	<i>Third Quarter</i>
<i>Draft methodology and accompanying literature review for objective and quantitative approach to ONRW designation</i>	<i>Fourth Quarter</i>

1.i - Outstanding National Resource Waters

An Outstanding National Resource Water (ONRW) is a designation under the Clean Water Act, which restricts the degradation of high quality waters or waters of exceptional recreational or ecological value. The two ONRWs in California include Mono Lake and Lake Tahoe, both in the Lahontan Region. As part of an effort to think ahead to the potential water quality impacts associated with climate change, one potentially important tool to protect high quality waters and promote ecosystem resilience will be the designation of ONRWs. A heightened protected status may improve our ability to restore and protect ecologically or recreationally exceptional waterbodies.

During the 2014-2017 triennial review period, an ONRW team was assembled, with an initial focus on the Smith River.

The conclusion was drawn that Chapter 3 (Water Quality Objectives) of the Basin Plan must first be updated to define ONRWs as a concept and associate the term with the limitations under the antidegradation provision of the Clean Water Act. Subsequently, individual ONRW designations can be made and the requirements spelled out in revisions to Chapter 4 (Implementation Plans). A landscape scale assessment tool, to be developed to support the Climate Change Adaptation Strategy, is anticipated to provide the objective basis for identifying ONRW-eligible waters whose designation would improve climate resilience.

Summary for FY 2018-19: As described in the Climate Change Adaptation Strategy project, staff will be developing an objective and quantitative methodology for identifying ONRW-eligible waters. Staff will also be developing Basin Plan amendment language to include in Chapter 3 of the Basin Plan, which introduces the term “Outstanding National Resource Water”, defines the term, and establishes its purpose with respect to the Antidegradation Policy.

Key Issues to Resolve: See Climate Change Adaptation Strategy. With respect to the Antidegradation Policy, Regional Water Board staff will need to work closely with State Water Board staff and the Office of Chief Counsel to ensure consistency of interpretation.

PY Allocation for FY 18/19: PY allocation for this project is allocated as part of other projects. See Climate Change Adaptation Strategy for technical work. Also, see Biostimulatory Conditions project for basin planning work.

1.j – Biostimulatory Conditions

Section 3.4.2 of the Basin Plan currently contains the following narrative objective for biostimulatory substances: “Water shall not contain substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.” Nuisance aquatic growth includes excessive algae growth generally and harmful algal blooms that produce toxins, such as microcystin. Current scientific understanding indicates that there are complex linkages amongst many controllable factors that promote nuisance aquatic growth. These factors include biostimulatory substances such as nitrogen and phosphorus; but, they also include physical habitat, light availability, hydromodification, temperature, and other conditions. This proposed triennial review project would evaluate the implications of amending the existing biostimulatory substances objective in the Basin Plan to redefine it as a biostimulatory conditions objective. This change will better support the effort of program staff to require relevant control of controllable factors associated with biostimulatory conditions, especially harmful algal blooms. The increase in incidences of toxic algae blooms, especially during drought years, highlights the need for additional tools to address this growing issue.

The State Water Board has been working for several years on the development of a statewide biostimulatory substances amendment, as well as a biological integrity assessment implementation plan. As of 2017, these efforts have been combined, with the goal of amending the Water Quality Control Plan for the Inland Surface Waters, Enclosed Bays and Estuaries of California (ISWEBE Plan) in three phases. The Biostimulatory Substances Amendment could include a statewide

numeric objective (with a numeric translator), and various regulatory control options for point and non-point sources. The completion date for the statewide project is unknown.

In the proposed 2018 Planning Program Workplan, staff recommend that staff resources be applied to evaluating the implications of amending the existing biostimulatory substances objective contained in the Chapter 3 of the Basin Plan to be revised as a biostimulatory conditions objective, instead. This revision to Chapter 3 of the Basin Plan would also incorporate the term “Outstanding National Resource Waters” and define its meaning, as described in the planning project above.

Summary for FY 2018-19: Staff will be developing Basin Plan amendment language to include in Chapter 3, which revises the existing biostimulatory substances objective to address biostimulatory conditions. Peer review (if required) and public outreach will occur in FY 2019-20, in preparation for proposed adoption in FY 2019-20.

Key Issues to Resolve: Staff will need to work closely with State Water Board staff to ensure consistency of interpretation.

PY Allocation for FY 18/19: 0.7 PYs of Planning staff time are allocated to the development of Basin Plan amendment language for Chapter 3 to address both the ONRW project and the Biostimulatory Conditions project.

Milestones	Target Date (by FY Quarter)
<i>Draft Basin Plan Amendment language for Chapter 3 of the Basin Plan crafted and ready for outreach and review</i>	<i>Fourth Quarter</i>

5.0 Flow and Riparian Protection Program

5.1 Core Activity and Project Priorities

The primary responsibilities of the Flow and Riparian Specialist are categorized based on priority listed in Table 7. Not reflected in Table 7 is the Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective Project which is described in Section 4.2. Each priority is described in more detail in Section 5.2, including the PYs allocated to individual programs, activities, and/or projects.

Table 7 – FY 18/19 Flow and Riparian Protection Program Core Activities and Projects by Priority

Priority Level	Activity/Project	Category	Deadline (FY 18/19 unless noted otherwise)
1	a. Interagency Coordination of Flow and Riparian Management	Core	On-going
	b. Flow Monitoring and Assessment: Trinity River Monitoring Report, South Fork Eel flow monitoring data, and Russian River Flow-Dissolved Oxygen report	Special	3 rd Quarter
	c. Provide technical consultation internally and externally, as needed	Core	On-going
2	a. Manage cross-program interaction on flow-related issues, including management of the Flow Strategic Team	Core	On-going
	b. Flow Monitoring and Assessment: Draft study plans for flow monitoring to support cannabis prioritization and Navarro flow objective projects	Special	4 th Quarter

Categories: Categories are marked as either **Core** or **Special**

5.2 Core Activity and Project Descriptions

Activities and projects are listed below. Activities and projects are organized based on program category. They are also identified by the priority (1, 2, 3, etc.) and the letter (a, b, c, etc.) listed in Table 7 above. Some project/activity groupings may be identified with multiple priorities, depending on the subtasks associated with the project/activity.

1.a – Interagency Coordination of Flow and Riparian Management

The Flow and Riparian Specialist represents the Region in numerous interagency venues on the topics of flow and riparian management. These venues include: the California Water Quality Monitoring Council eFlow Workgroup, the Interagency Flow Coordination Committee, and the California Water Action Plan coordination committee. Meetings of these groups are generally quarterly, all-day meetings.

The California Water Quality Monitoring Council eFlow workgroup has contracted with UC Davis to develop a modeling tool (Tier 1) and site-specific studies (Tier 2) to produce estimates of unimpaired flows in streams across the state. Tier 1 and Tier 2 products are intended to support permit development and stormwater management through use of desktop tools.

The Interagency Flow Coordination Committee discusses ongoing or planned flow assessments and flow-related regulatory matters. The committee includes representatives from State and Federal agencies.

Coordination on the California Water Action Plan is to address flow criteria development for Mark West Creek, South Fork Eel River, and Shasta River.

Summary for FY 2018-19: The Flow and Riparian Specialist will continue to attend the quarterly meetings associated with these coordination efforts.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.1 PY of the Flow and Riparian Specialist’s time is allocated to this effort.

1.b and 2.b – Flow Monitoring and Assessment

The Flow and Riparian Specialist is instrumental in flow monitoring and assessment efforts throughout the Region. These include flow monitoring projects in:

- Russian River tributaries, in coordination with the California Department of Fish and Wildlife (CDFW) and SeaGrant, to establish the relationship between flow and dissolved oxygen.
- Trinity River to assess effects of cannabis grows on summer flows.
- South Fork Eel to support the California Action Plan
- Cannabis-impacted watersheds to support regulatory prioritization.
- Navarro River to augment work conducted by R2 under contract to develop flow objectives for the Navarro

Summary for FY 2018-19: The Flow and Riparian Specialist will continue efforts on the above-mentioned projects, with project deliverables identified below.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.5 PYs of the Flow and Riparian Specialists time is allocated to these projects.

Milestones	Target Date (by FY Quarter)
<i>Trinity River Monitoring Report</i>	<i>First Quarter</i>
<i>South Fork Eel data QC and finalized spreadsheet</i>	<i>Second Quarter</i>
<i>Russian River Flow-DO Report</i>	<i>Third Quarter</i>
<i>Cannabis and Navarro Flow and Water Quality Monitoring Study Plans</i>	<i>Fourth Quarter</i>

1.c Consultation and Technical Review

The Flow and Riparian Specialist is the agency’s subject matter expert. He consults with staff in all programs on issues related to flow, temperature, and riparian management. Similarly, he is the agency’s contact for members of the public, non-governmental organizations, and other agencies on these same topics. The Flow and Riparian Specialist provides technical review on projects

requiring his expertise, including grants and water rights permits, EIRs, FERC license applications, and others.

Summary for FY 2018-19: The Flow and Riparian Specialist will continue to act as the agency's subject matter expert both internally and externally, providing consultation and technical review services as necessary.

Key Issues to Resolve: None

PY Allocation for FY 18/19: 0.3 PYs of the Flow and Riparian Specialists time is allocated to this task.

2.a Flow Strategic Team

The Flow and Riparian Specialist is the lead of a cross-program Flow Strategic Team. The team has identified numerous projects and initiatives as priorities. Most of the priority projects are managed directly by the Flow and Riparian Specialist and are described separately below. Projects managed by other Flow Strategic Team members include:

- Development of water conservation permit language for new and renewed permits
- Basin Scale Flow Assessment and Prioritization

The Flow Strategic Team provide a forum for internal review of all flow-related projects and vetting of new proposed projects/priorities.

Summary for FY 2018-19: The work of the Flow Strategic Team is ongoing. It requires periodic meetings, meeting management, product development and product review.

Key Issues to Resolve: The framework of the strategic teams will be re-evaluated in FY 2018-19, with a potential shift in their management, depending on the assessment outcome.

PY Allocation for FY 18/19: 0.1 PYs of the Flow and Riparian Specialist's time is allocated to managing cross-program integration, including management of the Flow Strategic Team. 0.05 PYs of Planning staff time is allocated specifically to development of water conservation permit language for new and renewed permits. No additional time is allocated to the Basin Scale Flow Assessment and Prioritization project, until next steps are identified.