

# NORTH COAST REGIONAL WATER BOARD

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## *Planning and Stewardship Division*

### *Programs:*

*SWAMP*

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

*Grants Administration and Management*

*CyanoHAB Monitoring & Response Program*

*Basin Planning*

*TMDL Development*

*Flow and Riparian Protection*

*Watershed Stewardship*

**Fiscal Year (FY) 2019-2020 WORK PLAN**



*Division Chief: Alydda Mangelsdorf*

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## 1.0 BACKGROUND

The Planning and Stewardship Division (Division) plays a unique role at the North Coast Regional Water Quality Control Board (Regional Water Board). The Division is responsible for developing and maintaining the planning, monitoring, assessment, and stewardship functions of the office. These activities serve as the bedrock upon which the Regional Water Board implements its vision of **Healthy Watersheds, Effective Regulation, and Strong Partnerships**. The Planning and Stewardship Division is divided into two units: the Planning Unit and the Adaptive Management Unit; and includes the support of a Flow and Riparian Protection Specialist. The Planning and Stewardship Division also works closely with the Watershed Stewardship Coordinator.

### 1.1 Planning Unit

The Planning Unit is responsible for maintaining the *Water Quality Control Plan for the North Coast Region* otherwise known as the Basin Plan. The Basin Plan includes information regarding the North Coast Region, as well as the regulations by which the Regional Water Board implements the Porter-Cologne Water Quality Control Act. The regulations include designation of beneficial uses; water quality objectives to protect those uses; an antidegradation policy; and prohibitions, action plans, and policies by which the water quality standards are implemented, including Total Maximum Daily Load (TMDL) Action Plans. The Basin Plan provides the regulatory basis for the permitting and enforcement activities of the office.

#### 1.1.1 Triennial Review of the Basin Plan

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 was adopted by the Regional Water Board in September 2018. 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 (ONRWs)

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- 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

### **1.1.2 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.

One of the results of an office-wide visioning process that concluded in 2014, was the designation 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. The Watershed Stewardship Program is led by the Watershed Stewardship Coordinator, a technical expert reporting directly to the Executive Officer.

Watershed Stewardship relies on the following steps for implementation:

- Build partnerships
- Characterize watersheds
- Establish watershed goals and identify solutions
- Implement identified solutions
- Measure progress

### **1.2 Adaptive Management Unit**

The general function of the 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 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
- CyanoHAB Monitoring & Response Program

### **1.3 Flow and Riparian Protection Specialist**

Another result of an office-wide visioning process concluded in 2014, was the identification of flow and riparian protection 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, 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 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, and management staff dedicated to the Division, including the individuals, their position, classification and time base. As shown in Table 1, there are currently 4.7 PYs vacant in the Division. Table 1 does not include 3 Scientific Aids, who are currently employed within the Division. Scientific Aids are allotted 1500 hours of work during the calendar year, allowing them to function as seasonal employees. Table 1 also does not include the portion of the Administrative Unit's time that is dedicated to supporting the Division.

**Table 1: Planning and Stewardship Division Staff**

Position	Name	Classification	PYs
Division Chief	Alydda Mangelsdorf	EPM I	1.0
Flow and Riparian Specialist	Bryan McFadden	Senior WRCE	1.0
Adaptive Management Unit Senior	Katharine Carter	Senior ES	1.0
SWAMP Program	Richard Fadness	EG	1.0
Grants Program	Michele Fortner	ES	1.0
Grants Program/CyanoHAB Program	VACANT	ES	1.0
Integrated Report Program	VACANT	ES	1.0
Adaptive Management Program	Ben Zabinsky <sup>1</sup>	WRCE	1.0
Basin Planning/TMDL Unit Senior	Lisa Bernard	Senior ES	1.0
Basin Planning/TMDL Development	Lance Le	WRCE	1.0
Basin Planning/TMDL Development	Kelsey Cody	ES	1.0
Basin Planning/TMDL Development	VACANT	ES	0.7
Basin Planning/TMDL Development	VACANT	WRCE	1.0
Basin Planning/TMDL Development	VACANT	WRCE or EG	1.0

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<sup>1</sup> 0.5 PY of Mr. Zabinsky's time is allocated to projects within the Point Source and Groundwater Protection Division.

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<b>Position</b>	<b>Name</b>	<b>Classification</b>	<b>PYs</b>
Watershed Stewardship	Elias Scott	ES	1.0
Watershed Stewardship	Chuck Striplen	ES	1.0
		<b>Technical and Specialist Staff Total</b>	<b>12.7</b>
		<b>Division Total</b>	<b>15.7</b>

## 2.2 Other Resources

The Planning and 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 discretionary contract funds. These funds 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.

To support the statewide SWAMP Program, the State Water Board allots a portion of the statewide 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. However, due to contracting issues resulting from delays in fully implementing the new Fi\$Cal program, SWAMP projects have been implemented on an adhoc basis in FY 2018-19 and will continue in FY 2019-20, with the 3-year workplan essentially on hold. 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 to control nonpoint sources of pollution, which support the mission and vision of the agency, such as restoration projects, BMP installations, and other similar projects.

The number and value of contracts and grants managed and implemented within the Planning and Stewardship Division varies from fiscal year to fiscal year.

### 3.0 ADAPTIVE MANAGEMENT PROGRAM

#### 3.1 Core Activity and Projects by Priority

The primary responsibilities of Adaptive Management Program staff are listed in Table 2 and categorized based on the priorities. Each priority is described in more detail in Section 3.2, including the PYs allocated to individual programs, activities, and/or projects.

Described in this section is the work of:

- 1.0 PY SWAMP Program staff
- 1.0 PY Grants Administration and Management staff
- 1.0 PY Grants Administration and Management/CyanoHAB Response Program staff—position currently vacant
- 1.0 Integrated Report Program staff—position currently vacant

The duties of one position (listed as Adaptive Management Program staff in the above table) are described in Section 5.0 as part of the Watershed Stewardship Program description. The remainder of his duties are described in the Point Source Control and Groundwater Protection Division workplan.

**Table 2 – FY 2019-20 Adaptive Management Program Core Activities and Projects by Priority**

Priority Level	Activity/Project	Category	Deadline
1	a. SWAMP Program	Core	On-going
1	b. 303(d)/305(b) Integrated Report	Special	February 2020
1	c. Grant Administration and Management	Core	On-going
1	d. CyanoHAB Monitoring and Response Program	Core	On-going
2	a. Grant Administration and Management: Cultivate New Grant Projects	Core-New	On-going
3	No priority 3 projects currently		

**Priority 1 Programs/Projects** are ones that barring unusual circumstances, are top priorities. **Priority 2 Programs/Projects** are ones that may be put on hold if staff are diverted to other higher priorities. **Priority 3 Programs/Projects** are ones that are currently unstaffed.

#### 3.2 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 2 above.

### 1.a SWAMP Program

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 Board. 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. To support the regions' monitoring activities, the statewide SWAMP Program has created a Quality Assurance (QA) program, developed a standardized data storage system, created Standard Operating Procedures (SOPs) for sampling, generate peer reviewed monitoring plans for each project, and regularly updates a water quality indicator list to work from.

Region 1's Planning and 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.

#### **Task 1: Implement FY 2017-2020 SWAMP Workplan**

**Summary:** With input from staff and management, the SWAMP Coordinator develops a 3-year workplan to direct SWAMP monitoring resources to the highest monitoring priorities. The last workplan developed was for FY 2017-2020. Implementation of the SWAMP Workplan is an on-going activity with field work conducted both during the summer season (e.g., cyanoHAB) and winter season (e.g., stormwater runoff). The SWAMP Coordinator conducts field sampling activities with assistance from Scientific Aids and other program staff. The SWAMP Coordinator provides field equipment and guidance to program staff who conduct monitoring activities to support their own project work. The SWAMP Coordinator oversees contract work, as necessary. Key activities and associated milestones are listed in the table below.

**Key Issues to Resolve:** Implementation of the FY 2017-2020 workplan has been interrupted by delays at the State Board in renewing key SWAMP contracts. The State's difficulty with onboarding the Fi\$Cal system has led to numerous contracting delays. As a result, monitoring activities during the 2018-19 fiscal year, and for FY 2019-2020, have been conducted on an adhoc basis, using existing in-house staff resources and leftover contract funds, where available.

Milestones	Target Date
Addendum to FY 2017-2020 SWAMP Workplan for FY 2019-2020: Memorandum	September 2019
Smith River Water Quality Management Plan: Monitoring Plan	December 2019
Cyanobacteria Visual Identification Guidance Document	December 2019

Milestones	Target Date
Statewide Cyanobacteria Monitoring Guidance for Rivers and Lakes	March 2020

**Task 2: Data Management and Assessment**

**Summary:** The SWAMP Coordinator, with assistance from Scientific Aids, is responsible for managing the data as received from the labs and conducting assessment of the data to support policy decisions and watershed stewardship. Data management and assessment is an on-going activity. The State Board expects 95% of the data to be available within 2 years of sample collection and 50% of the data available within 1 year of sample collection. The SWAMP Program processes ensure these performance targets are met, with data being entered into CEDEN directly following their analysis at the lab.

The SWAMP Coordinator assesses data using standard statistical and assessment procedures. The SWAMP Coordinator produces data tables and charts illustrating water quality violations, exceedance of thresholds, and trends.

**Key Issues to Resolve:** None

Milestones	Target Date
Data summaries for Summer 2019 Monitoring	December 2019
Data summaries for Winter 2019-20 Monitoring	June 2020

**Task 3: Assessment Reporting**

**Summary:** On a periodic basis, the SWAMP Coordinator assembles multiple years of collected data and data summaries to produce technical memorandums and/or monitoring reports. These memos or reports are a key way to share the results of publicly funded ambient water quality monitoring with interested stakeholders and the general public.

- A report on the findings of the Eel River and Russian River Nutrient Study, with monitoring conducted in 2010 in the Eel River and 2011 in the Russian River, has been outstanding. A final report was scheduled to be completed by fourth quarter FY 2018-19. The data collected from these studies has been assembled in spreadsheets and analyzed. Summary tables and charts have been produced. A conceptual model of the key biostimulatory interactions has been defined. And, a draft report has been completed. A final report will be completed in FY 2019-2020.

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- A report on the findings of a 2016 survey of cyanoHABs in the Eel River and Russian River has also been outstanding. A final report was scheduled to be completed by fourth quarter FY 2018-19. A draft final report was delivered as scheduled. Following management review, it will be finalized and posted on our website in FY 2019-2020.

**Key Issues to Resolve:** The availability of a technical writer to assist with this periodic task would improve our ability to more regularly produce memos or reports of SWAMP Program data, which are suitable for a more general audience. In the meantime, a Scientific Aid will be assigned to revising the draft Eel River and Russian River Nutrient Study report, following the summer field sampling season.

Milestones	Target Date
Eel and Russian River Nutrient Study Report	December 2019
Fire Response Monitoring Fact Sheet	December 2019
2016 Survey of CyanoHABs in the Eel River and Russian River	March 2020

**Task 4: Develop FY 2020-23 SWAMP Monitoring Workplan**

**Summary:** The FY 2017-20 SWAMP Monitoring Workplan will expire at the end of FY 2020. A new 3-year workplan must be developed to identify the Region’s high priority monitoring needs and develop projects to implement the limited funds. The SWAMP Coordinator, with assistance from the Adaptive Management Unit Senior, will lead a series of internal discussions by which to establish a draft plan for Management approval.

**Key Issues to Resolve:** None

Milestones	Target Date
Draft FY 2020-23 SWAMP Monitoring Workplan for Management Approval	March 2020

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

Section 305(b) of the federal Clean Water Act requires states to assess the condition of its waters and report its findings. Section 303(d) of the federal Clean Water Act 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 or 303(d) List).

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).

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The State Water Board is responsible for producing an Integrated Report every 2 years. Each report compiles and assesses data for 3 regions at a time. Region 1 is on a 6-year cycle for inclusion in the 2012, 2018, and 2022 Integrated Reports. Staff are currently working to complete assessments associated with the 2018 cycle.

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, federal and state agencies, tribes, non-governmental organizations, 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.

**Task 1: Assess data, develop lines of evidence, and develop decisions**

**Summary:** A new Integrated Report Coordinator was hired in mid-2018 and trained, along with multiple other program staff, in the process by which data is assessed to develop lines of evidence and listing decisions for the Integrated Report. Lines of evidence were schedule to be completed in 3<sup>rd</sup> quarter of FY 2018-19, followed by listing decisions and a staff report to be completed in the 4<sup>th</sup> quarter of FY 2018-19. In the 2<sup>nd</sup> and 3<sup>rd</sup> quarter of FY 2018-19, the Integrated Report Coordinator was diverted to the Russian River Pathogen TMDL project. He assisted in the re-analysis of *E. coli* and enterococci data for the Russian River, in accordance with the new statewide bacteria objective that was adopted in August 2018. His role was to ensure that the data re-analysis was conducted in a manner consistent with both the needs of the TMDL and the 303(d) Listing Policy. His diversion from the management of the Integrated Report project caused a delay in completion of FY 2018-19 milestones.

The Integrated Report Coordinator hired in 2018 has now left the position. Because of the delay in the project and the length of time required to hire and train staff, the Adaptive Management Unit Supervisor will be completing the work of the Integrated Report Coordinator, putting aside her own duties until the project is complete.

Highlighted projects to be completed:

- Assessment of fish tissue data for mercury
- Assessment of benthic macroinvertebrate data
- Assessment of the Redwood Creek sediment data
- Complete Decisions for all pollutant/waterbody pairs
- Develop Staff Report

**Key Issues to Resolve:** Assistance from the State Water Board on the first two highlighted projects above is needed.

Milestones	Target Date
Complete lines of evidence, decisions and staff report ready for public review	December 2019

Milestones	Target Date
Bring proposed North Coast Integrated Report to Regional Water Board for adoption	March 2020

### 1.c Grant 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)<sup>[1]</sup> 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.

The Planning and Stewardship Division includes two staff at 2.0 PYs<sup>2</sup>, who administer and manage the 319(h) and Timber Fund grants awarded for projects in the North Coast Region. Staff in the Planning and Stewardship Division coordinate with staff in the Nonpoint Source and Surface Water Protection Division to align program preferences, solicit projects meeting the preferences, and develop the 5-year Nonpoint Source Plan, which the Nonpoint Source and Surface Water Protection Division generates. The agency is currently implementing the FY 2014-2020 Nonpoint Source Plan, which for administrative reasons was constructed as a 6-year plan. The agency is currently developing the 5-Year Nonpoint Source Plan for FY 2020-25.

#### ***Task 1: Manage Existing Grant Projects/Closeout Completed Grant Projects***

**Summary:** Existing Grant Projects active in FY 2019-20 are listed below. Grant management activities are ongoing and involve reviewing and approving invoices, reviewing technical deliverables and providing comment, and approving final deliverables.

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

<sup>2</sup> One of the positions in Grants Administration and Management became vacant on May 23, 2019 due to a retirement. The vacant position is expected to be filled during Q2.

**Table 3: Existing Grant Projects**

<b>Grant Agreement Name</b>	<b>Amount</b>	<b>End date</b>	<b>Grant Manager</b>
Elk River Sediment Remediation Pilot Implementation Projects	\$638,557	3/31/2020	Elk River Steward
Mendocino Coastal TMDL Implementation	\$800,000	3/31/2020	Grant Staff
Shasta River Watershed Stewardship Implementation Project	\$341,204	6/30/2020	Scott and Shasta River Steward
Scott River Watershed Stewardship Implementation Project	\$333,623	3/30/2021	Scott and Shasta River Steward
Eel River Road Sediment Treatment and Inventory Project	\$693,047	12/31/2021	Timber Staff
Trinity River Watershed Roadside Fuel Reduction Project	\$250,503	11/30/2021	Grant Staff
Elk River Stewardship Program	\$251,346	3/31/2020	Elk River Steward
Post-Fire Best Management Practices in the Mark West Creek, Maacama Creek, and Laguna de Santa Rosa	\$500,000	6/30/2022	Grant Staff
Post-Fire Recovery from the Redwood Fire	\$749,507	6/30/2022	Grant Staff

**Key Issues to Resolve:** The payment of grantee invoices has been delayed due to the State’s transition to Fi\$Cal. This has caused some grantees significant financial hardship. Some grantees find the requirements associated with the 319(h) Program overly burdensome, declaring they are unlikely to be applying for these funds in the future. Where one or both issues have affected otherwise successful and dependable grantees who conduct valuable nonpoint source pollution control and abatement work, the mission of the agency significantly suffers.

***Task 2: Develop Grant Agreements for New Grant Projects***

**Summary:** Grant projects funded in FY 2018-19 will begin implementation in FY 2019-20 following the development of grant agreements. The development of a grant agreement requires facilitation between the grantee, the grant manager, and the State Water Board. Once a grant agreement is finalized and the project begins, it is added to the Existing Grant Projects table above and ongoing grant management activities ensue.

**Key Issues to Resolve:** Fill the current 1.0 PY vacant position in the Grants Administration and Management Program. The person who fills this position will act as the Region’s CyanoHAB Coordinator 50% of his/her time.

Milestones	Target Date
Complete a grant agreement for the Large Wood Augmentation, Phase II, in Sediment Impaired Watersheds in the North Coast Region	March 2020
Complete a grant agreement for the Mendocino Coast TMDL Implementation Program, Phase II	March 2020

***Task 3: Cultivate Grant Projects to Address the High Priority Nonpoint Source-Related Water Quality Impairments***

**Summary:** Successful watershed stewardship relies on our ability to cultivate external partners with whom we share environmental goals. Specific to the Grants Administration and Management Program is the cultivation of successful grantees who can implement on-the-ground nonpoint source remediation and restoration projects necessary to returning impaired watersheds to a trajectory of recovery. A portion of the current vacant Grants Administration and Management Program position will be devoted to this task. The cultivation of successful grantees is particularly important given the competitive nature of the nonpoint source grant funding, the high administrative burden associated with the 319(h)-grant program in particular, and the long delays in state payment given Fi\$Cal. The duties associated with this activity are ongoing. There are no specific milestones for FY 2019-20.

The Nonpoint Source Program preferences for FY 2019-20 are listed below. These preferences describe the areas within which grant applications will be accepted this fiscal year. The grant preferences are updated each fiscal year.

- Elk River- Implement management measures to address sediment
- Scott River- Implement management measures to address sediment and increase effective shade
- Shasta River – Implement management measures to address low dissolved oxygen and elevated temperatures
- Eel River – Implement management measures or practices to reduce sediment discharges, restore riparian vegetation, reconnect floodplains to stream channels, reduce instream temperatures, and increase groundwater recharge

**Key Issues to Resolve:** Same as Task 2 above.

**1.d CyanoHAB Monitoring and Response Program**

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, reduced riparian shade, channel aggradation, 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 role of CyanoHAB Coordinator has been played by various staff over the years, not as a defined position, but as assigned duties due to the high priority. The current vacant Grants Administration and Management Program position will be specifically defined as a 50% CyanoHAB Coordinator position. Should state funding for cyanoHAB response work become available, the Region hopes to receive funds to establish a full-time position for this important work.

The CyanoHAB Coordinator participates in state-wide program development efforts and manages the region's outreach and response to toxic cyanobacteria blooms, primarily during the summer months when blooms are most abundant. The CyanoHAB Coordinator is supported by the water quality monitoring efforts of the SWAMP Coordinator and special studies conducted in collaboration with multiple other external entities, including research organizations.

***Task 1: Coordinate with Internal and External Partners on CyanoHAB Response***

**Summary:** Coordinate with regional partners to ensure cyanoHAB monitoring, review data, and post warnings, as warranted. Host and manage 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:** Fill the current 1.0 PY vacant position in the Grants Administration and Management Program. The person who fills this position will act as the Region's CyanoHAB Coordinator 50% of his/her time. Negotiate with the State Water Board on the allocation of a full 1.0 PY for a CyanoHAB Response position, should additional state funds become available.

## 4.0 PLANNING PROGRAM

### 4.1 Core Activity and Project Priorities

The core activities and responsibilities of program staff are prioritized as listed in Table 4. These projects and activities are also categorized in Table 4 as either core or special. Planning staff engages in core category activities on an as needed basis, while the special category projects and activities receive staff support with a discrete beginning and end. Each priority is described in more detail in Section 4.2, including the PYs allocated to individual programs, activities, and/or projects.

**Table 4 – FY 2019-20 Planning Program Core Activities and Projects by Priority**

Priority Level	Activity/Project	Category	Deadline
1	a. Adopt Russian River Pathogen TMDL Action	Special	August 2019
1	b. Laguna de Santa Rosa Nutrient, DO, Sediment, and Temperature TMDLs or Alternative (EPA Vision Project)	Special	December 2021
1	c. Climate Change Adaptation Strategy	Special	June 2020
1	d. Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective	Special	FY 2024-25
2	a. Laguna de Santa Rosa Nutrient, DO, Sediment and Temperature TMDL or Alternative: Technical Support on Permit Development	Core	On-going
2	b. TMDL Program Retrospective Review	Special	FY 2020-21
2	c. Outstanding Natural Resource Waters Amendment	Special	FY 2020-21
2	d. Tribal and Subsistence Fishing Beneficial Uses Revision	Special	FY 2020-21
3	a. Ocean Beaches and Freshwater Creeks Pathogen TMDL or Alternative	Special	FY 2020-21 Currently Unstaffed
3	b. Groundwater Protection Policy	Special	June 2021
3	c. Biostimulatory Conditions Amendment	Special	FY 2020-21 Currently Unstaffed

**Priority 1 Programs/Projects are ones that barring unusual circumstances, are top priorities. Priority 2 Programs/Projects are ones that may be put on hold if staff are diverted to Priority 1 Projects/Programs. Priority 3 Programs/Projects are ones that are currently unstaffed.**

Described in this section is the work of 4.7 PYs Basin Planning and TMDL Development staff. 2.7 PYs of this total are currently vacant positions. The work of the remaining 2.0 PYs Watershed Stewardship staff is described in Section 5.0, Watershed Stewardship Program.

## **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 4 above. Some project/activity groupings may be identified with multiple priorities, depending on the subtasks associated with the project/activity.

### **2018 Triennial Review**

The 2018 Triennial Review was adopted by the Regional Water Board in September 2018. The 3-year workplan establishes the proposed approach to accomplishing the priority projects identified during the triennial review of the Basin Plan, assuming full staffing, funding for necessary contract support, and no diversions of staff time to other high priority work. The planning projects identified as a high priority for the period of FY 2018-21 are in order of priority:

1. Russian River Pathogen TMDL and Action Plan
2. Laguna de Santa Rosa Nutrient, Dissolved Oxygen, Temperature and Sediment TMDL Action or TMDL Alternative
3. Ocean Beaches and Freshwater Streams Pathogen TMDL or TMDL Alternative
4. TMDL Program Retrospective Review
5. Russian River Sediment TMDL Action Plan or TMDL Alternative
6. Groundwater Protection Strategy
7. Instream Flow Criteria/Objectives for the Navarro River and Regional Flow Objective
8. Landscape scale assessment tool to assess water quality impacts of climate change
9. Revise Basin Plan to include ONRW definition and designate waters
10. Biostimulatory Substances Objective
11. Revise Native American Culture and Subsistence Fishing beneficial use definitions and designations

Work planning for these projects is described below in the order of the projects listed in Table 4 above.

### 1.a 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.

The Planning and Stewardship Division Chief and the Point Source Control and Groundwater Protection Division Chief are the acting staff on this project. Their division management duties will be put on hold to allow focus on completing the project, as necessary, prior to hearing.

#### ***Task 1: Adopt Russian River Pathogen TMDL Action Plan***

**Summary:** Bring the Russian River Pathogen TMDL Action Plan to the Regional Water Board for adoption. Assemble the administrative record to bring the adopted TMDL Action Plan to the State Water Board, Office of Administrative Law, and USEPA for approval.

**Key Issues to Resolve:** An adoption hearing for August 14, 2019 has been scheduled and noticed. At the time this Work Plan is being drafted, Staff are in the process of responding to 21 comment letters covering many topics. Vacancies within the Division limit the staff resources assigned to this top priority project.

<b>Milestones</b>	<b>Target Date</b>
Regional Water Board Adoption	September 2019
State Water Board Approval	March 2020
OAL Approval	June 2020
USEPA Approval	September 2020

### 1.b 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. Basin Planning/TMDL Development staff are developing a TMDL Action Plan/Alternative Restoration Plan to address these impairments. The City of Santa Rosa and Town of Windsor implement NPDES permits with discharge limitations for phosphorus of zero. A Water Quality Trading Framework was adopted by the Regional Water Board in 2018, which guides the offset of point source discharges of phosphorus from the City or Town by implementation of nonpoint source, remediation and/or restoration projects as an offset of any point source phosphorus discharge. A

framework for a Russian River Regional Monitoring Program (R3MP) was completed in Spring 2019 via contract with Aquatic Sciences Center. Also, Staff participate in a master restoration planning effort of the Sonoma Water via a contract with Aquatic Sciences Center. Each of these programs require ongoing efforts to further their development and implementation.

This position was vacant for many months during FY 2018-19. The position is now filled. A 1.0 PY Basin Planning and TMDL Development staff is assigned to this project.

***Task 1: Complete the technical analyses necessary to propose TMDLs or alternatives***

**Summary:** Manage the contract with Tetra Tech to ensure completion of the technical analyses necessary to develop and propose TMDLs or alternatives. Coordinate with inhouse staff on completion of the shade model to develop temperature TMDL.

**Key Issues to Resolve:** None.

<b>Milestones</b>	<b>Target Date</b>
Review and approve technical reports on sediment and nutrient budgets, linkage analysis, targets and allocations	June 2020
Review in-house shade model and develop temperature targets and allocations	June 2020

***Task 2: Develop Library of Pre-Approved Practices for the Water Quality Trading Framework***

**Summary:** As an ongoing effort, coordinate with stakeholders to populate the library of pre-approved practices in accordance with the documentation required in the approved Water Quality Trading Framework.

**Key Issues to Resolve:** None.

***Task 3: Develop a Funding Strategy to Support the Implementation of R3MP***

**Summary:** As an ongoing effort, coordinate with stakeholders to develop and implement a funding strategy to support implementation of R3MP.

**Key Issues to Resolve:** None.

***Task 4: Participate in the Development of a Master Restoration Plan***

**Summary:** Attend Technical Advisory Committee, Management Advisory Committee, and public meetings hosted by Sonoma Water and/or Aquatic Sciences Center in the effort to develop a Master Restoration Plan for the Laguna de Santa Rosa.

**Key Issues to Resolve:** None.

### **1.c Climate Change Adaptation Strategy**

The 2018 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.

There is 1.0 PY Basin Planner/TMDL Developer position assigned to this and other technical tasks associated with planning and TMDL development.

#### ***Task 1: Document Existing Climate Change Assessment Tools***

**Summary:** Staff will draft a series of memoranda describing existing climate change landscape assessment tools applicable to key sectors of water quality interest including sea level rise, fires, drought, and floods. Each memorandum will each provide an overview of the existing publicly available tools, describe applicable benefits and shortcomings, and provide recommendations for Regional Water Board programs applicability.

**Key Issues to Resolve:** None

<b>Milestones</b>	<b>Target Date</b>
Technical memoranda on applicable climate change assessment tools addressing sea level rise, fires, drought, and floods	March 2020

#### ***Task 2: Develop Landscape Scale Assessment Tool***

**Summary:** A landscape assessment tool is envisioned as a vehicle by which staff may assess waterbodies for climate change vulnerability, resiliency, and eligibility for ONRW status that offering transparency for the general public. This landscape assessment tool is currently proposed as a web-based platform, toolbox or “dashboard” with various tools or modules available to the user. Through this dashboard, the public and agency staff can leverage relevant datasets to better understand the health of given

waterbodies and subject these data to analyses. Region 1 staff is currently working with OIMA staff to advance this tool.

**Key Issues to Resolve:** Parameters related to vulnerability, resiliency (i.e. watershed health) and criteria to assess ONRW eligibility for use in the landscape assessment tool remain to be determined. Staff is working with the Healthy Watersheds Initiative Partnership and State Water Board staff to discern key watershed health parameters to use for assessment. In addition, the availability of data varies from waterbody to waterbody across the region. The alpha version of the landscape assessment tool will be used to compare assessment results from data rich and data poor watersheds, clarify data needs, develop scientifically acceptable and defensible methodologies for using indicator parameters and imputing data where necessary.

Milestones	Target Date
Completed alpha version of a landscape assessment tool	June 2020

**1.d Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective**

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

This project is managed by the Flow and Riparian Specialist, a 1.0 PY position that is contained within the Planning and Watershed Stewardship Division. The Flow and Riparian Specialist reports directly to the Division Chief.

***Task 1: Implement Phase 2 of 3 on the Navarro Flow Objective Development Project***

**Summary:** Phase 2 of 3 requires the development of a hydrodynamic model and data to populate it. The estimated cost for implementation of Phase 2 is well beyond what is currently available as discretionary contract money. Staff is coordinating with Division of Water Rights to seek a pared down version of the Phase 2 recommendations that might be funded under an existing contract with the Division. These discussions are ongoing without a schedule.

**Key Issues to Resolve:** Negotiate a pared down approach to data collection and modelling and seek funding.

***Task 2: Develop Narrative Flow Objective and Implementation Procedures***

**Summary:** The Flow and Riparian Specialist in conjunction with the Flow Workgroup will be developing draft narrative flow objective language and implementation procedures as a white paper ready for Executive Team review and discussion. Following internal agreement on the appropriate approach, the white paper will be updated and submitted to the Division of Water Rights for their review and discussion. Once full agreement on the approach is accomplished, a draft basin plan amendment, including a staff report will be developed and submitted for scientific peer review, in FY 2020-21.

**Key Issues to Resolve:** None

<b>Milestones</b>	<b>Target Date</b>
Develop white paper with narrative flow objective and implementation approach for Executive Team review	March 2020
Update white paper for review at the Division of Water Rights	June 2020

**2.a. Laguna de Santa Rosa Nutrient, DO, Sediment and Temperature TMDL or Alternative: Technical Support on Permit Development**

Multiple point and non-point sources within the Laguna de Santa Rosa watershed contribute to nutrients, low dissolved oxygen, elevated temperature and excess sediment impairments. In concert with development of the Laguna de Santa Rosa TMDL and TMDL Action Plan/Alternative Restoration Plan Planning staff will work with program implementation staff to develop the technical basis for permit criteria to address watershed impairments.

***Task 1: Provide Technical Support in the Development/Renewal of Permits Applicable to the Laguna***

**Summary:** On an adhoc basis, Basin Planning/TMDL Development Staff will provide technical support to:

- NPDES Unit on renewal/implementation of City of Santa Rosa and Town of Windsor permits
- NPDES Unit on renewal/implementation of MS4 permits
- Groundwater Permitting Unit on development of a Vineyard permit
- Southern Nonpoint Source & Forestry Unit on renewal/implementation of the Dairy permit

**Key Issues to Resolve:** None.

## 2.b 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 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.

A team of Planning staff was assembled last fiscal year and generated a charter and general scope of work. The team consisted of 3 Planning Unit staff.

### ***Task 1: Finalize a Project Workplan and Schedule***

**Summary:** The project team was meant to finalize a project workplan and schedule by third quarter last fiscal year. Other priorities superseded and a workplan and schedule have not yet been developed.

<b>Milestones</b>	<b>Target Date</b>
Develop a project workplan and schedule	December 2019

### ***Task 2: Develop, Populate and Analyze Data from a TMDL Program Water Quality Database***

**Summary:** Develop a database or tracking system within which to house water quality data associated with all the TMDL watersheds in the Region. Assess data availability, data gaps, and trends.

**Key Issues to Resolve:** Same as Task 1.

Milestones	Target Date
Develop a database framework or initial tracking system	June 2020

## 2.c Outstanding National Resource Waters Amendment

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.

Staff have restructured this project into a 2-phase project, wherein revisions to Chapter 3 of the Basin Plan would be made as Phase 1, followed by specific designations made as Phase 2 in a revision to Chapter 4. The landscape scale assessment tool, under development as described as part of the Climate Change Adaptation Strategy, is anticipated to provide the objective basis for identifying ONRW-eligible waters whose designation may improve climate resilience.

The effort to develop a landscape assessment tool is.

### ***Task 1: Amend Chapter 3 of the Basin Plan to Include the Definition of an ONRW***

**Summary:** Staff will coordinate with State Water Board technical and legal staff to develop appropriate language for Chapter 3 of the Basin Plan to define ONRWs. A draft staff report, and basin plan amendment language will ultimately be developed for scientific peer review, public review and adoption by the Regional Water Board.

**Key Issues to Resolve:** None

Milestones	Target Date
Develop a schedule and workplan for completing the amendment to Chapter 3 of the Basin Plan	December 2019

## 2.d Tribal and Subsistence Fishing Beneficial Uses Revision

In May 2017, the State Water Board adopted new statewide beneficial uses for Tribal Tradition and Culture (CUL), Tribal Subsistence Fishing (T-SUB), and Subsistence Fishing (SUB). These statewide beneficial uses are similar, but not identical to, the tribal

and subsistence fishing beneficial uses developed by the North Coast Board in 2003. This basin planning project is 1) to amend the beneficial uses to be consistent with the statewide definitions 2) assess existing CUL beneficial use designations for consistency with the new definitions and 3) solicit information to consider additional CUL, T-SUB, and SUB designations.

### ***Task 1: Conduct Stakeholder Outreach***

**Summary:** Staff will conduct outreach, particularly with tribes within the North Coast Region's boundaries, to receive feedback on new and existing CUL, T-SUB and SUB beneficial use designations.

**Key Issues to Resolve:** Staff working on this assignment have other high priority projects. This project is viewed as important, but less critical than the other assignments. As issues arise on the other more critical projects, the Tribal and Subsistence Fishing Beneficial Uses Revision project may be delayed.

### **3.a Ocean Beaches and Freshwater Creeks Pathogen TMDL Action Plan/TMDL Alternative**

The Ocean Beaches and Freshwater Creeks Pathogen TMDL project (Coastal Pathogen Project) was adopted as a high priority TMDL project during the 2014 triennial review of the Basin Plan. Since 2014, 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 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 land use 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 address pathogen contamination in the various impaired freshwater streams and ocean beaches.

The Ocean Beaches and Freshwater Creeks 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 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.

This project has historically been one of several projects managed by a 1.0 PY Basin Planner/TMDL Developer.

### ***Task 1: Develop Draft Staff Report***

**Summary:** Four Data Assessment reports were completed last fiscal year describing the findings of the pathogen studies conducted to date. These assessment reports must now be incorporated into a staff report to go out for scientific peer review. The staff assigned to this project, who both designed the studies and implemented them, has now retired. This project will remain on hold until the vacancy is filled, and the incumbent is adequately trained, at which time milestones for the development of the staff report will be developed.

**Key Issues to Resolve:** The vacant position must be filled.

### **3.b Groundwater Protection Strategy**

This project is described within the Point Source Control and Groundwater Protection Division's FY 2019-2020 Work Plan.

### **3.c Biostimulatory Conditions Amendment**

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.

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The State Water Board has been working for several years on the development of a statewide biostimulatory substances objective, 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) for statewide applicability. The ISWEBE 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.

A Basin Planner/TMDL Developer vacancy is currently in the hiring process. When filled, the incumbent will work on the biostimulatory conditions amendment (as warranted).

***Task 1: Coordinate with State Water Board***

**Summary:** Staff will be coordinating closely with the State Water Board and participating in its project to develop a biostimulatory substances project. Depending on the State Water Board's progress, staff will assess whether or not work should begin on the Regional Water Board's own biostimulatory conditions amendment to Chapter 3 of the Basin Plan, to revise the existing biostimulatory substances objective to address biostimulatory conditions. Peer review (if pursued) and public outreach will occur in FY 2020-21, in preparation for proposed adoption in FY 2021-22.

**Key Issues to Resolve:** Fill vacant position.

**4.3 Performance Targets**

Planning and TMDL projects tend to be complex and therefore lengthy to complete. Due to the long-term nature of these projects Performance Targets should be reviewed and considered over the course of three to four-year periods. Performance Targets for the planning program reported to the State Water Board are based upon three key elements 1) the number of pollutant/waterbody combinations that are addressed 2) adopted TMDLs, and 3) adopted Basin Plan amendments. Table 5 shows target performance since FY 2015-2016 and proposed targets for FY 2019-2020.

**Table 5 – Performance Targets for the last FY and proposed for FY 19/20**

<b>Fiscal Year</b>	<b>Pollutant/Waterbody Combinations Target</b>	<b>Pollutant/Waterbody Combinations Addressed</b>	<b>% Target Complete</b>	<b>Adopted TMDLs Target</b>	<b>Number of TMDLs Adopted</b>	<b>% Target Complete</b>	<b>Basin Plan Amendments Target</b>	<b>Basin Plan Amendments Adopted</b>	<b>% Target Complete</b>
2018-19	9	0	0%	1	0	0%	0	0	-
2019-20	9	-	-	1	-	-	1	-	-

## 5.0 FLOW AND RIPARIAN PROTECTION PROGRAM

### 5.1 Core Activity and Project Priorities

The core responsibilities of the Flow and Riparian Specialist are categorized based on priority listed in Table 6. The Flow and Riparian Specialist is the lead staff for the Instream Flow Criteria/Objectives for the Navarro River and Regionwide Narrative Flow Objective project. Each priority is described in more detail in Section 5.2, including the PYs allocated to individual programs, activities, and/or projects.

**Table 6 – FY 2019-20 Flow and Riparian Protection Program Core Activities and Projects by Priority**

Priority Level	Activity/Project	Category	Deadline
1	a. Provide Expert Technical Guidance to Internal and External Partners in the areas of Flow and Riparian Protection	Core	Ongoing
2	No priority 2 projects currently		
3	No priority 3 projects currently		

**Priority 1 Programs/Projects are ones that barring unusual circumstances, are top priorities. Priority 2 Programs/Projects are ones that may be put on hold if staff are diverted to other higher priorities. Priority 3 Programs/Projects are ones that are currently unstaffed.**

### 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 4 above. Some project/activity groupings may be identified with multiple priorities, depending on the subtasks associated with the project/activity.

#### 1.a Provide Expert Technical Guidance to Internal and External Partners in the areas of Flow and Riparian Protection

The Flow and Riparian Protection Specialist provides expert technical guidance to internal and external partners in the areas of flow and riparian protection. He participates in external coordination meetings (e.g., Division of Water Rights, Department of Fish and Wildlife, Potter Valley Project). He provides in-house technical support to programs attempting to address riparian protection and water withdrawal and storage. He provides the agencies formal review and comment on flow and/or water rights projects (e.g., water rights permits, Biological Opinion on the Russian River). He coordinates special studies to investigate the water quantity-related impacts to water quality, as well as the development of flow criteria and objectives.

The Flow and Riparian Specialist is a 1.0 PY position. PY Allocation for FY 19/20: 0.5 PYs of the Flow and Riparian Specialists time is allocated to the projects described below.

***Task 1: 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 committees. Meetings of these groups are generally quarterly 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 and ecological flow criteria 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. Most of the coordination for these efforts is directly with Division of Water Rights staff, in addition to quarterly planning meetings for Mark West Creek efforts

**Summary:** The Flow and Riparian Specialist will continue to attend the quarterly meetings associated with these coordination efforts.

**Key Issues to Resolve:** None

***Task 2: 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 Water Action Plan.
- Cannabis-impacted watersheds to support regulatory prioritization.
- Navarro River to implement monitoring identified in a study plan developed by R2 under contract to the Regional water Board to support the development of flow objectives for the Navarro River watershed.

**Summary:** The Flow and Riparian Specialist will continue efforts on the above-mentioned projects, with key deliverables identified below.

**Key Issues to Resolve:** None

<b>Milestones</b>	<b>Target Date</b>
Peer Review Draft Trinity River Monitoring Report	December 2019

***Task 3: 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.

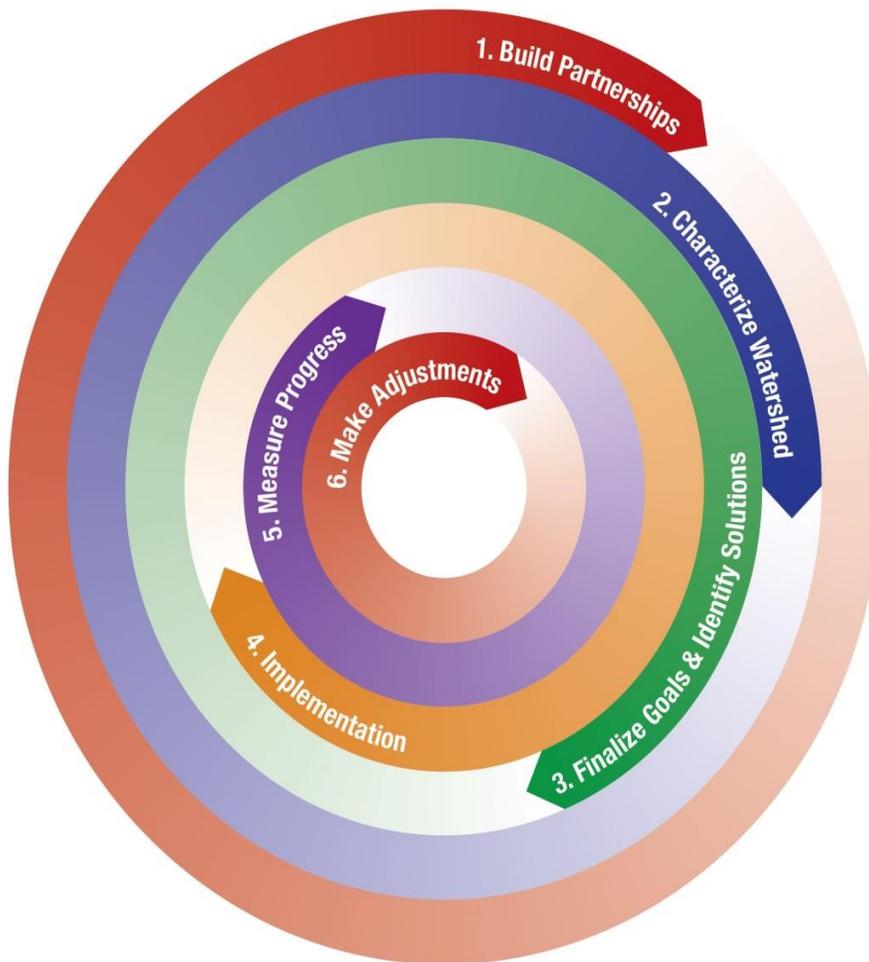
**Summary:** The Flow and Riparian Specialist will continue to act as the agency's subject matter expert both internally and externally, providing consultation and technical review services as necessary.

**Key Issues to Resolve:** None

## 6.0 WATERHSED STEWARDSHIP PROGRAM

The Watershed Stewardship Program is building enhanced capabilities for the Regional Water Board to work with other agencies and organizations to develop comprehensive and collaborative water quality improvement measures that support desired environmental outcomes through an increased level of coordination. The Watershed Stewardship Program augments and complements our regulatory programs. The Watershed Stewardship Initiative is based on defined watershed management areas and a cycle of steps intended to promote collaboration among participants. The initiative involves identifying stewardship leads within targeted watersheds and actively working with these leads to develop the watershed stewardship frameworks. The steps associated with the watershed stewardship approach management cycle are illustrated in the Watershed Stewardship Adaptive Management Cycle.

### Watershed Stewardship Approach: Adaptive Management Cycle



The Watershed Stewardship Coordinator is a 1.0 PY position with direct report to the Executive Officer. The Watershed Stewards are housed in the Planning Unit, within the Planning and Stewardship Division (2.0 PYs). Their project work is included below. Adaptive Management staff has also been focused on stewardship activities associated with the Smith River. The Watershed Stewardship Coordinator works directly on Klamath River stewardship activities, as described below.

**Table 7 – FY 2019-20 Watershed Stewardship Program Core Activities and Projects by Priority**

Priority Level	Activity/Project	Category	Target Date
1	a. Watershed Stewardship – Program Coordination	Core	On-going
1	b. Watershed Stewardship – Scott and Shasta TMDL Action Plans/WDR Waivers Implementation	Core	On-going
1	c. Watershed Stewardship – Elk River TMDL Action Plan Implementation	Core	On-going
1	d. Watershed Stewardship – Smith River Watershed	Core	On-going
2	a. Watershed Stewardship – Russian River Watershed Stewardship	Core	On-going
3	No priority 3 projects currently		

Priority 1 Programs/Projects are ones that barring unusual circumstances, are top priorities. Priority 2 Programs/Projects are ones that may be put on hold if staff are diverted to other higher priorities. Priority 3 Programs/Projects are ones that are currently unstaffed.

**1.a Watershed Stewardship – Program Coordination**

The Watershed Stewardship Coordinator works on a regionwide scale to build the partnerships, funding, and implementation tools necessary to support the region’s Watershed Stewardship Program. In addition, the Coordinator builds capability within our own organization, through training, cross-program coordination, and oversight of the activities of the watershed stewards. Similarly, the Coordinator mentors the agency’s four specialists (Ecological Restoration, Flow and Riparian Protection, Groundwater Protection, and Enforcement) with the purpose of promoting the development of new or expanded tools to complement water quality protection regulation. Each of the Specialists is housed within a separate division, reporting directly to their division chiefs (4.0 PYs spread across 4 divisions).

**Task 1: Build Partnerships, Funding, and Implementation Tools to Support Stewardship**

**Summary:** On an ongoing basis, the Coordinator will build partnerships with other federal, state, and local agencies. To maximize the stewardship benefits, the

Coordinator provides oversight of regionwide implementation activities such as FishPAC CalTrans Stormwater, and other TMDL Implementation activities.

**Key Issues to Resolve:** Currently under negotiation, the revision to the CalTrans NPDES Stormwater permit offers opportunity for regional input/management on the identification of permit compliance projects, such that funding can be directed to implementation of high priority stewardship activities.

***Task 2: Cross-Program Coordination***

**Summary:** On an ongoing basis, manage and guide the work of the watershed stewards, coordinate the activities of the specialists, and mentor the Americorps Watershed Stewardship Participants (WSP). Establish regular coordination meetings. Provide technical support, as necessary.

**Key Issues to Resolve:** None

**1.b Watershed Stewardship – Scott and Shasta TMDL Action Plans/WDR Waivers Implementation**

The Scott and Shasta Watershed Steward (1.0 PY) is responsible for developing and implementing a strategy for returning the Scott and Shasta Rivers to a trajectory of recovery, as defined by the TMDL Action Plans. Tools used to accomplish this goal, include WDR Waivers, grants, ambient water quality monitoring, and partnerships.

***Task 1: Implement WDR Waivers***

**Summary:** Conduct ranch assessments, determine Waiver compliance, request the development of Management Plans and Monitoring Plans to address water quality protection needs, as necessary. For FY 2019-20 conduct at least 3 ranch assessments in each watershed. Follow up on ranch assessments from FY 2018-19 to ensure development of necessary ranch plans.

**Key Issues to Resolve:** Provide support the State Water Board, as necessary and warranted, in their response to the Karuk petition on WDR Waivers.

<b>Milestones</b>	<b>Target Date</b>
Conduct three Shasta Watershed Ranch Assessments	June 2020
Conduct three Scott Watershed Ranch Assessments	June 2020

***Task 2: Coordinate with Partners on Restoration***

**Summary:** 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. Manage 319(h) and Timber Fund grant projects, as necessary.

**Key Issues to Resolve:** The payment of grantee invoices has been delayed due to the State's transition to Fi\$Cal. This has caused some grantees significant financial hardship. Some grantees find the requirements associated with the 319(h) program overly burdensome, declaring they are unlikely to be applying for these funds in the future. Where one or both issues have affected otherwise successful and dependable grantees who conduct valuable nonpoint source pollution control and abatement work, the mission of the agency significantly suffers.

### ***Task 3: Monitoring and Assessment***

**Summary:** Conduct monitoring activities in coordination with landowners, grantees, and other partners. Assess data to establish the status and trends associated with water quality conditions.

**Key Issues to Resolve:** Monitoring resources generally include a combination of those available from landowners, grantees, agency/NGO/Tribal partners, and the SWAMP Program. Need to identify effective and efficient ways to utilize very limited monitoring resources to the greatest benefit for decision-making.

### ***Task 4: Build Partnerships***

**Summary:** Coordinate with other agency/NGO/Tribal partners in overlapping regulatory and non-regulatory processes to maximize environmental benefits. Key initiatives include: USFS grazing allotment management, safe harbor agreements, groundwater resource management, road maintenance, 401 certification, water rights, and others.

**Key Issues to Resolve:** None

## **1.c Watershed Stewardship – Elk River TMDL Action Plan Implementation**

The Elk River Watershed Steward (1.0 PY) is responsible for developing and implementing a strategy for returning the Elk River to a trajectory of recovery, as defined by the TMDL Action Plan. Tools used to accomplish this goal include development and implementation of an Elk River Watershed Stewardship Program, WDR implementation, management of grants, and building partnerships.

### ***Task 1: Develop and Implement an Elk River Watershed Stewardship Program***

**Summary:** Implement the Elk River Watershed Stewardship Program through contract development and management, landowner outreach and coordination, interagency coordination, and coordination with Timber Program staff. Fully 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, wastewater treatment, and flood protection), development of a strategy

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to improve stream channel form and function, and coordination with the larger Humboldt Bay restoration activities.

Continue to facilitate permitting and implementation of pilot projects at 1) the Flood Curve and 2) the Wrigley Orchard.

**Key Issues to Resolve:** Coordination with resource agencies is important to the success of Elk River restoration. 1) Need to develop a shared remediation/restoration vision with resource agencies. 2) Using the framework established for permitting the pilot projects, need to refine approach to permitting larger-scale projects in concert with partner resource agencies and consultants.

<b>Milestones</b>	<b>Target Date</b>
List of Potential Strategies and/or Projects	September 2019
List of Project Types, Individual Projects, and Criteria	September 2019
Draft Remediation Strategy and Monitoring Framework	March 2020
Final Stewardship project report	June 2020

**Task 2: WDR Implementation**

**Summary:** The Regional Water Board adopted in June 2019 a revised WDR for HRC to implement sediment source control requirements. A revised WDR for Green Diamond Resources Company is planned for Board consideration in FY 2019-20 Q2. The Elk River Steward will coordinate with Timber staff to ensure implementation of the WDRs in a manner consistent with the TMDL Action Plan.

**Key Issues to Resolve:** None

**Task 3: Manage Grants and Contracts**

**Summary:** The Elk River Steward manages grants and contracts to support the development and implementation of the Elk River Watershed Stewardship framework. See Section 3.0, Grants Administration and Management for relevant Elk River grants. Discretionary contract money has been approved for a contract to support additional modeling work in the Elk River Watershed, including consideration of climate change.

<b>Milestones</b>	<b>Target Date</b>
Implement contract to support watershed modeling and climate change assessment	September 2019

#### **Task 4: Build Partnerships**

**Summary:** The Elk River Watershed is the confluence of many interests including ranching, farming, rural residential, timber, public infrastructure, public land conservation, and fisheries conservation, to name a few. As an ongoing activity, the Elk River Steward builds partnerships, finds overlapping areas of interest, explores the various regulatory authorities and funding potentials, and seeks to build a long-lasting stewardship structure.

**Key Issues to Resolve:** The Elk River community is unusually fractured. Building a cohesive, lasting stewardship structure is a long-term goal, requiring skill, dedication, and patience.

#### **1.d Watershed Stewardship – Smith River Watershed**

Adaptive Management Unit staff has been working under the technical guidance of the Watershed Stewardship Coordinator to establish a watershed stewardship framework with stakeholders in the lower Smith River to address copper toxicity and runoff from lily bulb operations. Recent activities include: stakeholder meetings, lily bulb tours and inspections, two 13267 letters asking for information, monitoring, and monitoring training. This fiscal year will result in a collaboratively developed Water Quality Management Plan for the Smith River Plain from which to guide monitoring and adaptive management activities.

#### **Task 1: Develop Smith River Water Quality Management Plan**

**Summary:** The Regional Water Board, with input from lily bulb growers, resource agencies, Tolowa Dee-ni' Nation, , and environmental groups are working to develop a Water Quality Management Plan for the Smith River Plain, which establishes a coordinated approach to control waste discharges from lily bulb agricultural operations.

**Key Issues to Resolve:** None.

<b>Milestones</b>	<b>Target Date</b>
Final Water Quality Management Plan	December 2019
Draft Schedule to develop a waste discharge permit for lily bulb operations	December 2019

#### **1.e Watershed Stewardship – Klamath River**

The Watershed Stewardship Coordinator is primarily responsible for managing the watershed stewardship efforts in the Klamath River Basin, with assistance from internal program staff and collaboration with external partners. Stakeholders in the Klamath River have been involved in an effort to: 1) manage water quality issues across state boundaries and Tribal boundaries and 2) decommission four dams.

**Task 1: Upper Klamath Watershed Action Team**

**Summary:** Develop a plan to address water quality issues in the Upper Klamath watershed with other key upper basin TMDL implementation partners. Oversee discretionary contract project to build diffuse source treatment wetlands (DSTW) in the Wood River watershed.

**Key Issues to Resolve:** The building a diffuse source treatment wetlands (DSTW) in the Sprague River watershed has been cancelled due to the lack of water delivery to the project landowners.

Milestones	Target Date
Upper Klamath Watershed Action Plan	September 2019

**Task 2: Klamath Project Area Watershed Stewardship**

**Summary:** The Watershed Stewardship Coordinator manages on an ongoing basis the development of the watershed stewardship framework within the Klamath River Watershed. In FY 2019-20, an effort will be underway to develop a Watershed Stewardship Charter with Lower Klamath Lake partners, including Reclamation, Oregon Department of Environmental Quality, US Fish and Wildlife Service, Klamath Water Users Association, irrigation districts, and private landowners.

**Key Issues to Resolve:** None

Milestones	Target Date
Initiate Lower Klamath Project Area Watershed Stewardship Charter	December 2019

**Task 3: Klamath Hydroelectric Settlement Agreement**

**Summary:** Funds from Pacific Corps are due to be transferred to the Oregon Watershed Enhancement Board to implement a list of preferred projects in the Upper Klamath Basin. The Preferred List of Projects Governance Document was completed in May 2019. A Steering Committee is meant to be initiated in October 2019, to help direct project funding. The Watershed Stewardship Coordinator participates in all relevant activities related to the Klamath Hydroelectric Settlement Agreement, on an ongoing basis.

**Key Issues to Resolve:** None.

**Task 4: Klamath Basin Monitoring and Restoration Activities**

**Summary:** The Watershed Stewardship Coordinator participates on the steering committees 1) to develop a fish restoration plan for several focal species in the Klamath

Basin and 2) to implement and continue to fund the Klamath Basin Monitoring Program (KBMP). This participation is ongoing. In FY 2019-20, the Klamath Basin Integrated Fish Restoration and Monitoring Plan Phase 2 Report will be completed, expected in August 2019.

**Key Issues to Resolve:** KBMP is currently unfunded and continued function of the organization is uncertain. Regional Water Board staff has been pursuing funding through an alternative monitoring requirement provided in the Caltrans Statewide NPDES Stormwater Permit. Administrative delays in approval of the alternate approach put KBMP's existence at risk.

## **2.a Watershed Stewardship – Russian River Watershed Stewardship**

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 and/or its tributaries are impaired due to pathogens, sediment, temperature, low dissolved oxygen, nutrients, mercury, aluminum, and diazinon. 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:

- Russian River Regional Monitoring Program (R3MP)
- 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

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:** In FY 2018-19, a charter, governance structure and funding framework were completed using contract support for the Russian River Regional Monitoring Program (R3MP). In FY 2019-20, staff will support the ongoing work of the R3MP Steering Committee. Specifically, staff will be seeking additional funding to continue development of the program, including the formation of a Technical Advisory Committee to evaluate the monitoring questions of the Steering Committee.

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**Key Issues to Resolve:** Identify funding to establish a Russian River Watershed Steward position.