

Appendix B

Triennial Review Staff Report

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**SAN FRANCISCO BAY BASIN
WATER QUALITY CONTROL PLAN
2015 TRIENNIAL REVIEW**

STAFF REPORT



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

December 2015

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Appendix A – Public Notice and Summary of Public Workshop

Appendix B – Rank-Ordered Descriptions of Projects Considered in the 2015 Basin Plan
Triennial Review

1. Introduction

This Staff Report presents the results of the 2015 Triennial Review of the Water Quality Control Plan for the San Francisco Bay Basin (Region 2) (Basin Plan). The report includes a listing of proposed Basin Planning projects that may be investigated and addressed through Basin Plan amendments over the next few years.

The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region, including water quality standards. The Water Board first adopted a plan for waters inland from the Golden Gate in 1968. After several revisions, the first comprehensive Basin Plan for the Region was adopted by the Water Board, and then approved by the State Water Board, in April 1975. Major revisions have been adopted since 1975 to address changing water quality conditions, priorities, and programs. Because Total Maximum Daily Load (TMDL) Basin Plan amendments are now being adopted on an on-going basis, the Basin Plan is subject to more frequent revisions than in the past. The most current version of the Basin Plan is available on the Water Board's website at this location (http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml).

The Basin Plan establishes water quality standards for the San Francisco Bay Region. Water quality standards include designated beneficial uses for surface and ground waters; narrative or numeric water quality objectives to protect those beneficial uses; and a provision to protect high quality waters from degrading to the level allowed by the objectives (i.e., antidegradation). The Basin Plan also includes implementation plans for water quality objectives, consisting of various regulatory programs.

The Triennial Review of the Basin Plan provides an opportunity to review and receive public input on water quality standards, implementation plans, and plans and policies. The review results in a work plan for future Basin Plan amendments, but Basin Plan amendment projects to develop TMDLs are not included in the work plan. The review is required under section 303, subdivision (e)(1) of the Clean Water Act and section 13240 of the California Water Code.

During the Triennial Review process, Water Board staff: 1) considers public comments on water quality issues that may require investigation; 2) develops a prioritized list of Basin Planning projects that may be pursued by the Water Board staff over the next three years; and 3) presents the list in the form of a resolution for Water Board consideration. The inclusion of a candidate project on the prioritized Triennial Review list does not necessarily mean that the project will be fully pursued and a Basin Plan amendment will be accomplished. Rather, Water Board staff first reviews the technical and legal dimensions of each priority project and then determines whether to proceed with a Basin Plan amendment project. If Water Board staff does not pursue a project on the priority list, it will inform the Board regarding the results of such review.

This staff report includes: a description of the Triennial Review process, a summary of the public's participation, a description of the methodology used to evaluate and rank each candidate project, estimates of the time and staff resources needed to execute each project and to prepare a Basin Plan amendment, a generalized ranking of the candidate projects by priority, and a brief description of each candidate project.

2. Triennial Review Process

In early 2015, Water Board staff began the Triennial Review process by soliciting input from all divisions of the Water Board and reviewed available information to determine where updates may be needed to beneficial uses, water quality objectives, implementation plans, plans or policies, or where editorial changes may be needed. Water Board staff developed for public review a tentative list of candidate Basin Planning projects. This effort included: review and update of the list of priority Basin Planning projects identified in the last Triennial Review, coordination with the statewide Basin Plan roundtable, and an internal review of the Water Board’s regulatory program needs. Based on this effort, Water Board staff produced a “Brief Issue Descriptions” paper, describing candidate projects. The 24 projects included in this paper are shown in Table 1. Based on public input, we updated some of these projects, which are described in more detail in Appendix B.

Table 1. Basin Plan Projects Proposed by Board Staff at August 2015 Workshop

Update Beneficial Uses
2.1 Add Unnamed Water Bodies That Receive Discharges
2.2 Review for Presence of the Commercial and Sportfishing Use (COMM)
2.3 Alignment of Ocean Plan and Basin Plan relative to REC1 Use
2.4 Complete Stream and Wetland Systems Protection Policy
Update Water Quality Objectives
3.1 Consider and Refine Dissolved Oxygen Objectives in San Francisco Bay
3.2 Update the Basin Plan’s Toxicity Testing Requirements
3.3 Revise Pentachlorophenol (PCP) Water Quality Objectives
3.4 Develop Nutrient Water Quality Objectives for San Francisco Bay
3.5 Develop Numeric Nutrient Endpoints (NNEs) in Estuaries and Freshwater
3.6 Development and Implementation of Biological Objectives
3.7 Incorporate Revised 2012 U.S. EPA Recreational Water Quality Criteria (RWQC) for Bacteria
3.8 Review Un-ionized Ammonia Water Quality Objective
3.9 Lake Merced Dissolved Oxygen and pH Objectives
Update Implementation Plans
4.1 Environmental Screening Levels (ESLs) for Groundwater Cleanups
4.2 Low Threat Site Closure Requirements
4.3 Using Wastewater to Create, Restore, and Enhance Wetlands
4.4 Update Conditions for Exemption to Discharge Prohibitions
4.5 Develop Regulatory Strategy for Contaminants of Emerging Concern (CECs)
4.6 Update Cyanide Dilution Credits
4.7 Salt and Nutrient Management Plans
Update Plans and Policies
5.2 Climate Change and Water Resources Policy
5.3 Develop Policy for Managing Mercury in Restored Wetlands
Editorial Revisions and Minor Clarifications or Corrections
6.1 Clarify Turbidity Water Quality Objective
6.2 Project to make a variety of editorial revision

On July 3, 2015, the public process for the Triennial Review was formally initiated by distributing the “Brief Issue Descriptions” paper to interested parties, posting it on the Water Board’s website, and requesting interested parties to comment on the candidate projects and/or suggest additional projects. The notice provided a public comment period (July 3 – August 18, 2015) for written comments, and announced a Triennial Review public workshop on August 4, 2015. Appendix A includes a copy of the “Notice of Public Solicitation Period and Public Workshop for Basin Plan Triennial Review” and the summary of the discussion from the public workshop.

Following a review of all comments submitted by the public and a systematic ranking of all the candidate projects, Water Board staff developed a prioritized list (see Section 8 below) of candidate Basin Planning projects to pursue during the upcoming three-year period.

To formally complete the Triennial Review, the Water Board must adopt a resolution approving the Triennial Review of the Basin Plan and adopting a Prioritized List of Basin Planning Projects. Staff will provide a formal response to comments received on this staff report as part of the Board package supporting the resolution.

3. Summary of Public Participation Process

The public, both in written comments and those provided during the public workshop, voiced both support for projects identified by staff and/or suggested new potential projects for staff to consider. Many of the public comments encouraged the Water Board to continue working on candidate projects already underway. These comments are summarized below.

Workshop attendees and commenters included private citizens and representatives of a wide-range of different entities. Parties who participated in the workshop or who provided comments during the solicitation process are listed in Table 2.

Table 2. Triennial Review Public Participants

Organization/Participant	Written Comments	Attended Workshop
Alameda County Water District (ACWD): Tom Berkins, Michelle Myers		✓
Bay Area Clean Water Agencies (BACWA): David Williams, Lorien Fono	✓	✓
Bay Area Stormwater Management Agencies Association (BASMAA): Geoff Brosseau	✓	
Bay Planning Coalition (BPC): John Coleman	✓	
Building Industry Association (BIA): Paul Campos	✓	
Cargill Salt: Barbara Ransom, Mariza Sibal, Avinash Hanel		✓
Central Contra Costa Sanitary District (CCCSD): Roger Bailey, Tim Potter	✓	✓
City and County of San Francisco: Diane O’Donohue		✓
City of Daly City (Daly City): Patrick Sweetland	✓	✓

Organization/Participant	Written Comments	Attended Workshop
City of Palo Alto (Palo Alto): Karin North, Phil Bobel	✓	✓
East Bay Municipal Utilities District: Greg Buncab		✓
Fred Krieger, citizen and representative of SFPUC	✓	✓
GEI Consultants (on behalf of Copper Development Association): Robert Gensemer	✓	
Golden Gate Audubon Society: Cindy Margulis	✓	
Lake Merced “Cowboys” citizen group: Dick Morten, Dan Murphy, Dick Allen	✓	
Marin Resource Conservation District: Sarah Phillips		✓
North Marin Water District: Pablo Ramudo		✓
San Francisco Estuary Institute: Warner Chabot	✓	
San Francisco Public Utility Commission (SFPUC): Anna Fedman, Amy Chastain, Michael P. Carlin	✓	✓
Santa Clara Valley Water District (SCVWD): John McHugh, Garth Hall	✓	✓
U.S. Environmental Protection Agency (U.S. EPA): Diane Fleck	✓	
Valero Benicia Refinery: Kimberly Ronan		✓
Wil Bruhns, citizen	✓	✓
Joint Letter: Association of California Water Agencies, BPC, BIA Bay Area, California Building Industry Association, California Business Properties Association, California Forestry Association, California Manufacturers & Technology Association, California State Association of Counties, Construction Industry Coalition on Water Quality, Pacific Legal Foundation, Rural County Representatives of California, Western States Petroleum Association, and the Wine Institute.	✓	

3.1. Public Input in Support of Candidate Projects

Many comments were supportive of various projects presented by Water Board staff in the “Brief Issue Descriptions” paper. Those projects that had more than one supporting comment are discussed below. If we received concerns about these projects, we included those comments.

2.1 Add Unnamed Water Bodies that Receive Discharges. Palo Alto, U.S. EPA, and SCVWD support this candidate project to add a small number of unnamed water bodies that are currently receiving NPDES wastewater discharges and designating their beneficial uses. SCVWD would like unnamed water bodies for non-point sources to also be included.

3.1 Review and Refinement of Dissolved Oxygen Objectives in San Francisco Bay.

BACWA, CCCSD, Palo Alto, SCVWD, U.S. EPA, and SFPUC support this candidate project to continue the work that is underway to review and refine our Dissolved Oxygen Objectives.

3.5 Develop Numeric Nutrient Endpoints in Estuaries and Freshwater Streams.

BASMAA and U.S. EPA support this project which would have staff continue to participate in an advisory capacity in a State Water Board effort to develop nutrient objectives and a program of implementation. BASMAA supports the approach presented of relying on State Water Board's effort for nutrients in freshwater streams.

3.6 Development and Implementation of Biological Assessment Tools. BASMAA, SFPUC, and SCVWD support this project to develop tools to assess instream ecological condition based macroinvertebrate community integrity. BASMAA supports relying on State Water Board's effort rather than taking an independent regional approach.

3.7 Incorporate Revised 2012 U.S. EPA Recreational Water Quality Criteria for Bacteria. SCVWD and SFPUC (including suggestions on project scope) support this project to revise the Basin Plan (as necessary) after the State Water Board updates the Inland Surface Water, Enclosed Bays and Estuaries Plan based on U.S. EPA's revised criteria.

3.9 Lake Merced Dissolved Oxygen and pH Objectives. Daly City, the Golden Gate Audubon Society, SFPUC, and the Lake Merced Cowboys support this candidate project to review and revise water quality objectives specific to Lake Merced.

4.3 Using Wastewater to Create, Restore, and Enhance Wetlands. BACWA, Palo Alto, and U.S. EPA support this project aimed at evaluating and addressing policy issue associated with use of wastewater to create, restore, and enhance wetlands. This policy would revisit existing policies regarding the use of treated wastewater for wetland creation, restoration and enhancement.

4.4 Update Conditions for Exemption to Discharge Prohibitions. BACWA, Palo Alto, and U.S. EPA support this project to evaluate the exemption, based on treatment reliability, to the Basin Plan's discharge prohibition. SFPUC opposes removal of "improved treatment reliability" as a criterion for an exemption to discharge prohibitions, and BACWA suggests the focus should be candidate project 4.3.

4.6 Update Cyanide Dilution Credits. Palo Alto and U.S. EPA support this candidate project to update cyanide dilution credits for discharges that were not included in the 2007 cyanide Basin Plan amendment.

5.2 Climate Change and Water Resources Policy. The San Francisco Estuary Institute and SFPUC support this candidate project to include a discussion of climate change in the Basin Plan and evaluate Water Board regulatory policies in light of climate change and the need for adaptation to ensure protection of baylands beneficial uses. BIA and BPC raised concerns about relying on the Baylands Ecosystem Habitat Goals Science Update 2015 to develop this candidate project.

In addition, the following projects from the “Brief Issue Descriptions” paper also received at least one supporting comment. Where we received concerns about a project they are also provided below:

2.2 Addition of Recreational Fishing Beneficial Use to Lakes. This candidate project to designate the recreational fishing beneficial use (COMM) for three reservoirs listed for mercury impairment is supported by U.S. EPA.

2.3 Align Ocean Plan and Basin Plan for Recreational Contact. SFPUC strongly supported this project to align the Basin Plan and Ocean Plan.

2.4 Complete Stream and Wetland Systems Protection Policy. One commenter (Wil Bruhns) supported this project. We also received a letter from several signatories¹ that take the position that the policy should be deferred until the State Water Board completes its Wetlands and Riparian Area Protection Policy.

3.2 Update the Basin Plan’s Toxicity Testing Requirements (CCCSD)

3.4 Develop Nutrient Water Quality Objectives for SF Bay (U.S. EPA)

3.8 Review Un-ionized Ammonia Objective. One commenter supports (Palo Alto), and another suggests this should not be a high priority (SFPUC).

4.2 Low Threat Site Closure Requirements (SCVWD)

4.5 Develop Regulatory Strategy for Contaminants of Emerging Concern (CEC). BACWA, CCCSD, and Palo Alto raise concerns about incorporating a CEC regulatory strategy into the Basin Plan because of the difficulty of changing the strategy as new information becomes available. In addition, efforts are underway to limit the discharge of some of these contaminants.

6.1 Clarify Turbidity Water Quality Objective (SFPUC)

3.2. Other Potential Projects Proposed by Commenters

Public comments covered a wide range of potential new projects and Basin Plan updates. Water Board staff considered these comments and determined whether to evaluate a newly proposed project as a candidate Basin Plan project.

In summary, the solicitation process, public input, and State Water Board staff input resulted in the addition of seven new projects (see Table 3 below) to the 24 projects initially identified in Table 1 above. Two of the original 24 projects “using wastewater to create and restore wetlands” and “update conditions for discharge prohibition exemptions” were merged because they are closely interrelated. Thus, a total of 30 candidate Basin Planning projects were ranked in the 2015 Triennial Review. The ranking process is described in section 4 below, and all the ranked projects are more fully described in Appendix B. In some cases, projects requested by

¹ Association of California Water Agencies, Bay Planning Coalition, Building Industry Association, California Building Industry Association, California Business Properties Association, California Forestry Association, California Manufacturers and Technology Association, California State Association of Counties, Construction Industry Coalition on Water Quality, Pacific Legal Foundation, Rural County Representatives of California, Western States Petroleum Association, Wine Institute

commenters were not included in the Triennial Review ranking exercise. For example: a commenter suggested a project to modify how the Board regulates certain contaminants to protect the municipal supply beneficial use; another commenter suggested that the Board engage in a long-range planning effort with a defined time horizon to address impacts stemming from population growth and climate change. Staff did not include these suggestions as candidate projects, because the suggested project conflicts with or duplicates projects already underway or the suggestion may have recommended a Basin Plan amendment that staff deemed unnecessary or in conflict with existing plans and policies. Several commenters suggested useful editorial changes to the Basin Plan, and these ideas have been incorporated into the project description for editorial changes shown in Appendix B.

Table 3. Additional Candidate Projects Suggested by Commenters

Entity	Topic	Resolution
BACWA, SFPUC	<p>Revise instantaneous chlorine limit. In Basin Plan Table 4-2, chlorine is given an instantaneous limit of 0.0 mg/L in effluent, which is an interpretation of the Basin Plan’s narrative toxicity objective. POTWs that use chlorine for disinfection use sodium bisulfite (SBS) to remove the chlorine. Concern about potential violations, cause operators to routinely overdose the effluent with SBS, costing agencies millions of dollars per year in aggregate, and the sodium bisulfite may be exerting oxygen demand in the receiving water, with no water quality benefit. This candidate project would explore options to address chlorine residual limits and avoid resultant problems.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>
BACWA	<p>Develop policy for the discharge of reverse osmosis (RO) concentrate from recycled water production. Recycled water programs are expanding in response to the ongoing drought as well as anticipated long-term water shortages in the Region. These projects treat wastewater effluent with reverse osmosis, which results in a concentrate composed of approximately 15 percent of the reverse osmosis influent flow but almost all of its dissolved and suspended pollutants. When the concentrate is discharged to receiving waters, it has the same loads but higher concentrations of pollutants compared to the original effluent. This candidate project would explore implementation policies that would address the water quality issues associated with discharges of RO concentrate.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>

Entity	Topic	Resolution
GEI Consultants (for the Copper Development Association) and Fred Krieger (consultant to SFPUC)	<p>Update freshwater copper standards to allow use of the biotic ligand model to calculate aquatic life criteria. Copper toxicity is a function of its bioavailability, which in addition to being controlled by hardness, is also strongly related to other important factors such as dissolved organic carbon, alkalinity, pH, and temperature. A model called the biotic ligand model has been adopted by U.S. EPA in 2007 as an acceptable means of accounting for these multiple factors when calculating aquatic life criteria for copper in freshwater. This candidate project would update the freshwater aquatic life criteria for copper to allow the use of this model in their calculation.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>
SFPUC	<p>Alternative compliance for wet weather flows. Flows that are primarily stormwater (such as combined sewer discharges) typically contain concentrations of pollutants exceeding water quality criteria and cannot be effectively disinfected. These factors present compliance challenges statewide. This candidate project would explore alternative regulatory approaches to the challenge posed by wet weather flows, possibly in coordination with the statewide stormwater initiative that is currently considering a variety of approaches to this problem.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>
SFPUC	<p>Modification of groundwater sub-basin boundaries. This candidate project would involve revising the boundaries of two groundwater basins located in San Francisco and San Mateo counties to be consistent with the California Department of Water Resources Bulletin 118.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>
U.S. EPA	<p>Consider incorporating Clean Water Act section 304(a) criteria into the Basin Plan. The U.S. EPA has recently issued revised Clean Water Act 304(a) guidance for freshwater ammonia criteria for protection of aquatic life as well as new human health criteria for 94 additional pollutants.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>

Entity	Topic	Resolution
U.S. EPA	<p>Temperature Limits for the Protection of Salmonids. This candidate project would aim to understand the multiple stressors to steelhead in Bay Area creeks and whether local steelhead populations are adapted to local climate conditions. The U.S. EPA recommends that this effort include consideration of the National Marine Fisheries Service (NMFS) “Intrinsic Potential” model to help define stream reaches to which temperature criteria should apply.</p>	<p>This project is included in the ranking, and a new project description is included in Appendix B.</p>

4. Project Ranking Criteria

For every Triennial Review, there are more candidate projects than can be accomplished with the available resources — two full-time staff positions funded for Basin Planning efforts, other than TMDLs. The ranking criteria and scoring are straightforward. Each candidate project receives an overall score, which sums the project’s individual scores for a number of ranking criteria. The highest score possible for a candidate project is 100 points, and the highest scoring projects will be given priority for staff action in the following three-year period. It is important to emphasize that the score assigned to a project for each ranking criterion is intended merely to reflect how this project compares to other candidate projects in this scoring category. This is not intended as a judgment of the absolute importance of the project with respect to this scoring category. The ranking criteria and scoring are described below.

4.1. Water Board Mission (Protect Beneficial Uses)

Projects that improve protection of beneficial uses were given higher scores (15 is the highest score possible), while projects that would result in little or no direct improvement of beneficial uses were given lower scores. A score of zero was given for projects judged not to include some strengthening of beneficial use protection. No projects that would weaken protection of beneficial uses were considered.

4.2. Staff Resources Already Invested

This criterion recognizes and gives higher priority to projects that already have expended substantial Water Board staff resources. Projects already underway for a year or more received a score of ten. Projects for which no work has been undertaken received a score of zero. Projects for which some staff resources have been expended, but are still at the early stages of development were assigned a score in proportion to the amount of resources expended to date.

4.3. External Resources Already Invested

This criterion recognizes and gives higher priority to projects for which external resources have already been expended. External resources may include grant funding or funding provided by affected parties to assist the Water Board in coordinating technical information and stakeholder outreach for Basin Plan amendments. Projects that have received substantial external investment

received a score of five; other projects received a score in proportion to the amount of external resources invested to date.

4.4. External Resources Likely Available

Similarly, where external resources will be (or will continue to be) dedicated to a project, higher priority is given. Such resources would augment Water Board staffing, helping to complete controversial or complex projects that otherwise might not have adequate staffing. Scores were assigned based on experience with projects where external resources have been invested, as described above, with a maximum possible score of ten. Other projects received a score in proportion to the amount of likely external resources available.

4.5. Public Interest

Water Board staff solicited input from the public, including the regulated community, citizens, and environmental groups. Projects suggested by multiple members of the public or other stakeholders received the highest score of ten in this category.

4.6. Input from Internal Divisions

Staffs from the Water Board's Groundwater, Watershed, NPDES, and Planning divisions were tasked with identifying Basin Planning projects that would facilitate program implementation, clarify the Basin Plan, and provide better customer service. Five points were given to projects identified as a top division priority.

4.7. Implement State Water Board Policy

In all Triennial Reviews conducted by Regional Water Boards, one of the first items reviewed is whether there have been changes in statewide policies or plans that are inconsistent with specific Basin Plan language. A highest score of fifteen was given to projects that would bring the Basin Plan into conformance with statewide plans or policies.

4.8. U.S. EPA Priority

Projects that address comments in a U.S. EPA Basin Plan approval letter or other input from U.S. EPA, such as the comment letters on previous Basin Plan amendments or the comment letter on past or current Triennial Reviews, where U.S. EPA stated strong support for a project were given a score of fifteen, and candidate projects that did not relate to known or stated U.S. EPA interests received a score of zero. In some cases, projects were given a score between zero and fifteen if U.S. EPA expressed an interest in the topic area.

4.9. Geographic Scope

Projects that address multiple water bodies and regulated entities throughout the Region received higher scores (maximum of five) than projects that were more site-specific or discharger-specific.

4.10. Low Controversy and Low Technical Complexity

These two ranking criteria recognize that projects with lower controversy and lower technical complexity could be completed efficiently, with fewer staff resources. Higher scores (maximum

of five) were assigned for non-controversial projects and for those that are considered to be straightforward from a technical perspective.

5. Project Ranking Results

Using the criteria described in section 4, a score was assigned for each criterion for every potential Basin Plan project. Points across all ranking criteria were summed for every project to determine its overall score.

With the large number of projects under consideration, it is useful to focus further analyses on the highest priority projects. Thus, the projects were further ranked as high, medium, or low priority. The resulting point ranges are:

Table 4. Point Ranges for Generalized Rank Categories

Point Range	Generalized Rank
≥ 60	High
45-59	Medium
< 45	Low

The overall score and generalized ranking for each project are graphically displayed in Figure 1. Criteria scores for individual projects are shown in Table 5.

6. Priority Ranking for TMDL Development

The Water Board is working on a range of TMDL projects throughout the region. TMDLs often include water quality standards issues, and most will be adopted as Basin Plan amendments. For these reasons, we include our TMDL priorities in the Triennial Review. Staff has identified the following TMDL projects as the highest priority for development and completion as Basin Plan amendments over the next three years:

- Butano and Pescadero Creeks (sediment)
- Pacific Dry Dock II (sediment toxicity)
- Permanente Creek (selenium)
- Petaluma River (nutrients and pathogens)
- San Francisco Bay Beaches (pathogens)
- San Gregorio Creek (sediment)
- Fitzgerald Marine Reserve/San Vicente Creek (pathogens)
- Stevens Creek (water column toxicity)
- Statewide Policy for Mercury in Reservoirs
- Suisun Marsh (dissolved oxygen)

During this Triennial Review cycle, we received initial feedback on our priority ranking for TMDL development. BASMAA and SFPUC recommend deferring the SF Bay Beaches Bacteria TMDL, which is a 2015-2016 priority, until the State Water Board amends the Inland Surface Water, Enclosed Bays and Estuaries Plan and the Ocean Plan to revise the bacteria water quality objectives. BASMAA suggests prioritizing the adaptive implementation of the SF Bay PCBs TMDL. It cites the adaptive implementation section of the Basin Plan, and acknowledges the current timeline for reconsideration is outside this Triennial Review workplan period, but feels there is enough information to revisit the TMDL sooner.

Figure 1 – Basin Plan Project Ranking Scores and Generalized Rankings

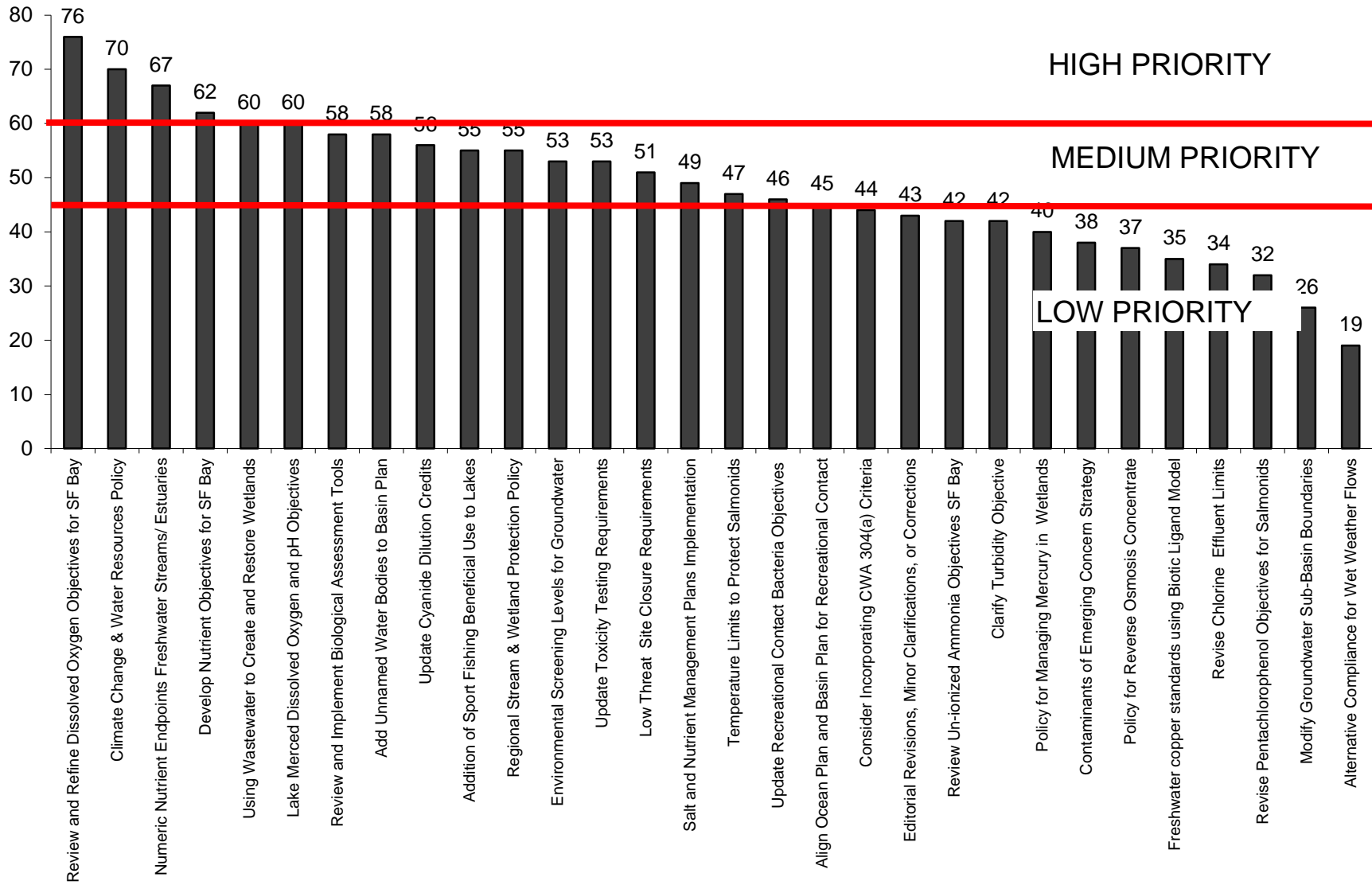


Table 5 Rank-Ordered Scoring for Individual Projects

Rank	Project Title	Protects Beneficial Uses	Staff Resources Already Expended	External Resources Already Expended	External Resources Likely Available	Public Interest	Input from Internal Divisions	Implement State Board Policy	U.S. EPA Priority	Geo-graphic Scope	Low Con-troversy	Low Technical Complexity	SCORE
1	Review and Refine Dissolved Oxygen Objectives for SF Bay	15	8	5	10	10	5	0	15	5	2	1	76
2	Climate Change & Water Resources Policy	15	5	2	10	10	5	10	5	5	2	1	70
3	Numeric Nutrient Endpoints Freshwater Streams/ Estuaries	15	10	3	1	10	3	0	15	5	2	3	67
4	Develop Nutrient Objectives for SF Bay	15	10	5	2	5	3	0	15	5	1	1	62
5	Using Wastewater to Create and Restore Wetlands	5	5	1	10	10	5	0	15	5	3	1	60
6	Lake Merced Dissolved Oxygen and pH Objectives	10	10	5	10	10	3	0	5	1	3	3	60
7	Review and Implement Biological Assessment Tools	15	10	5	1	10	5	0	5	5	1	1	58
8	Add Unnamed Water bodies to Basin Plan	5	5	2	1	10	5	0	15	5	5	5	58
9	Addition of Sport Fishing Beneficial Use to Lakes	15	2	2	1	5	2	0	15	5	5	3	55
10	Update Cyanide Dilution Credits	0	8	2	1	10	5	0	15	5	5	5	56
11	Regional Stream & Wetland Protection Policy	15	10	5	1	5	5	0	5	5	1	3	55
12	Environmental Screening Levels for Groundwater	15	8	5	1	1	5	0	5	5	4	4	53
13	Update Toxicity Testing Requirements	10	10	5	1	5	0	5	5	5	3	4	53
14	Low Threat Site Closure Requirements	5	10	5	1	5	5	0	5	5	5	5	51

Rank	Project Title	Protects Beneficial Uses	Staff Resources Already Expended	External Resources Already Expended	External Resources Likely Available	Public Interest	Input from Internal Divisions	Implement State Board Policy	U.S. EPA Priority	Geo-graphic Scope	Low Con-troversy	Low Technical Complexity	SCORE
15	Salt and Nutrient Management Plans Implementation	5	2	5	1	1	3	15	5	5	5	2	49
16	Temperature Limits to Protect Salmonids	15	0	0	1	5	2	0	15	5	3	1	47
17	Update Recreational Contact Bacteria Objectives	10	0	0	1	10	0	5	5	5	5	5	46
18	Align Ocean Plan and Basin Plan for Recreational Contact	5	5	2	10	5	5	0	0	3	5	5	45
19	Consider Incorporating CWA 304(a) Criteria	10	0	0	1	5	0	0	15	5	3	5	44
20	Editorial Revisions, Minor Clarifications, or Corrections	5	2	5	1	5	5	5	0	5	5	5	43
21	Review Un-ionized Ammonia Objectives SF Bay	15	3	0	1	5	0	0	5	5	5	3	42
22	Clarify Turbidity Objective	10	5	1	1	5	5	0	0	5	5	5	42
23	Policy for Managing Mercury in Wetlands	10	5	1	1	5	5	0	5	5	2	1	40
24	Contaminants of Emerging Concern Strategy	10	5	5	1	1	0	0	5	5	3	3	38
25	Policy for Reverse Osmosis Concentrate	10	0	3	10	5	0	0	0	5	2	2	37
26	Revise Chlorine Effluent Limits	5	0	3	10	5	0	0	0	5	3	3	34
27	Freshwater copper standards using Biotic Ligand Model	5	0	3	10	5	0	0	0	5	4	3	35
28	Revise Pentachlorophenol Objectives for Salmonids	10	5	0	1	1	0	0	5	5	3	2	32

Rank	Project Title	Protects Beneficial Uses	Staff Resources Already Expended	External Resources Already Expended	External Resources Likely Available	Public Interest	Input from Internal Divisions	Implement State Board Policy	U.S. EPA Priority	Geo-graphic Scope	Low Con-troversy	Low Technical Complexity	SCORE
29	Modify Groundwater Sub-Basin Boundaries	5	0	3	1	5	0	0	0	2	5	5	26
30	Alternative Compliance for Wet Weather Flows	5	0	3	1	5	0	0	0	3	1	1	19

7. Available Resources

Non-TMDL Basin Planning resources for the San Francisco Bay Regional Water Board consist of 2 personnel-years (PY). Available Planning Division staff over the next three years is thus estimated at 6 PY, pending any future budget changes.

For work planning purposes, Basin Plan amendments of low complexity are assumed to require 0.3 PY. This is the minimum amount of resources required by a Basin Plan project due to the substantial process required, even after Basin Plan amendments are adopted at the Regional Water Board level. Medium complexity amendments are assumed require between 0.6 and 1.2 PY, depending on whether substantial investigation work has already occurred on a project, including dedication of resources external to the Water Board. High complexity projects are assumed to require from 1.5 to 3.0 PY, depending on staff's judgment of the specific level of controversy and complexity that could be anticipated.

Planning Division staff believes that all candidate projects identified in this Triennial Review warrant at least an initial assessment and investigation to determine if the project should be fully executed. Likewise, just because a project received lower ranking does not imply that staff concludes that it should not, at some point, be pursued. The work planning exercise of the Triennial Review highlights the fact that, while numerous outstanding Basin Planning actions are warranted at this and other Water Boards, the allocated staff resources are not sufficient to accomplish every project.

The final Triennial Review Basin Plan project list was developed based on the top priority projects and available staffing, described above. The high priority projects will comprise the Basin Plan work plan for the San Francisco Bay Region for the next three years. It was based on ranking the projects, and considering the current availability of staff resources, including the 6.0 PY allocated to the Water Board for Basin Planning. In the San Francisco Bay Region, staffing for planning has historically been augmented by other sections or divisions in order to address outstanding issues that affect the particular part of the agency. In addition, other resources from external sources, for example U.S. EPA, help augment basin planning activities. Other resources, external and from other divisions of the Water Board, are assumed to augment the 6.0 PY by an additional 2.0 PY; thus 8.0 PY are currently estimated to be available to work on Basin Planning projects within a three year cycle.

Basin Plan projects that ranked below the level for which resources are available have not been eliminated from further consideration. For instance, in the event that projects take less staff time than estimated, more projects may be addressed in the next three years. Affected parties may also provide resources to address specific planning issues in partnership with the Water Board, recognizing that at least some Water Board staff time is necessary to accomplish such Basin Planning. Each year, Water Board staff will develop an annual work plan for non-TMDL basin planning projects, coordinated with the statewide Basin Planning Roundtable, and use this prioritized list as a starting point.

8. Proposed Basin Planning Projects

Based on the ranking criteria and available resources, as described in previous sections of this staff report, the proposed list of six projects to be included in the work plan in the next three years is shown in Table 6. This table shows all high priority projects (those with scores of at least 60 points) that can be accomplished with existing Basin Planning resources (6 PY) and those high priority projects that can be accomplished if various levels of resources are made available from other divisions of the Water Board or external sources.

Accomplishing all of the six high priority projects will require at least 7.8 PY. As internal or external resources are identified and targeted to Basin Planning over the next three years, the prioritized list reflected in Figure 1 and the project descriptions in Appendix B will provide guidance as to where to direct those resources. In addition, Appendix B includes a project submitted late in the process (Project no. 31) that was not included in the ranking for this Triennial Review cycle but we think should be considered in the next cycle.

Table 6 High Priority Basin Planning Projects Versus Available Resources

Project	Required PY	Cumulative PY	Resource Considerations
Review and Refine Dissolved Oxygen Objectives for San Francisco Bay	1.5	1.5	These projects can be accomplished with available Basin Planning Resources (6.0 PY).
Climate Change and Water Resources Policy	1.5	3	
Develop Numeric Nutrient Endpoints (NNEs) in Freshwater Streams and Estuaries	0.3	3.3	
Develop Nutrient Water Quality Objectives for San Francisco Bay Estuary	1.5	4.8	
Using Wastewater to Create, Restore, and Enhance Wetlands	1	5.8	
Lake Merced Dissolved Oxygen and pH Objectives	2	7.8	This project can be accomplished if an additional 1.8 PY are available from external sources.

APPENDIX A

PUBLIC NOTICE

AND

MEETING SUMMARY OF PUBLIC WORKSHOP

**NOTICE OF PUBLIC SOLICITATION PERIOD
AND PUBLIC WORKSHOP**

TRIENNIAL REVIEW

WATER QUALITY CONTROL PLAN, SAN FRANCISCO BAY BASIN

The California Regional Water Quality Control Board, San Francisco Bay Region (Water Board) is initiating the triennial review process for the Water Quality Control Plan, San Francisco Bay Basin (Basin Plan). The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region, including water quality standards.

The purpose of the triennial review is to examine and update the focus of Water Board planning efforts, including TMDL projects. Section 13240 of the Porter-Cologne Water Quality Control Act and Section 303(c)(1) of the federal Clean Water Act require a review of basin plans at least once each three-year period to keep pace with changes in regulation, new technologies, policies, and physical changes within the region.

A public workshop on the Basin Plan Triennial Review will be held:

DATE: **Tuesday August 4, 2015**
TIME: 10 a.m. to 12 noon
LOCATION: Elihu M. Harris State Building
2nd Floor, Room 11
1515 Clay Street
Oakland, California 94612

STAFF CONTACT: Richard Looker
1515 Clay Street, Suite 1400
Oakland, CA 94612
(510) 622-2451 (ph)
email: rlooker@waterboards.ca.gov

This notice solicits public input for the preparation of the Water Board's triennial review workplan. Written comments can be submitted via regular or electronic mail and are due by **August 18, 2015**.

The Water Board is responsible for reviewing the Basin Plan and is required to identify those portions of the Basin Plan that are in need of modification or new additions, and adopt standards as appropriate. The review includes a public workshop and a public hearing to allow the public to identify issues for the Water Board to consider for incorporation into its Basin Plan.

Water Board staff has prepared an initial list of candidate issues for inclusion in the Water Board's triennial review workplan. These candidate issues include updates to beneficial uses, water quality objectives, implementation plans, and policies. We encourage input from interested parties to assist staff to identify and prioritize Basin Plan amendment projects that will best address the water quality planning needs of our region. It is important to identify the scope, timing and critical nature of potential projects, as the Water Board is limited in terms of the staff

resources that are available to complete the projects. A brief description of all the issues being considered by Water Board staff can be found at:

http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#triennialreview

After public input is received, the Water Board will adopt, by resolution, a priority list of Basin Planning projects to be pursued. The public hearing on the resolution is anticipated to occur in the winter of 2015.

Triennial Review Workshop Solicitation Period:

Solicitation Period Opens	Friday July 3, 2015
Public Workshop	Tuesday August 4, 2015
Final date for Submitting Comments	Tuesday August 18, 2015
Public Hearing	Late 2015

AGENDA
BASIN PLAN TRIENNIAL REVIEW
SAN FRANCISCO BAY REGION

PUBLIC WORKSHOP

Room 11, 2nd Floor
California State Building, 1515 Clay St., Oakland, CA

10:00 a.m. to 12:00 noon

August 4, 2015

- | | |
|--|----------------|
| 1. Introductions | All |
| 2. What is a triennial review? | Richard Looker |
| 3. Priority projects from last triennial review | Richard Looker |
| 3. Water Board staff review of issue areas | Richard Looker |
| a. Update of beneficial uses | |
| b. Update of water quality objectives | |
| c. Updates to implementation plan | |
| d. Updates to plans and policies | |
| e. Minor editorial revisions | |
| 4. Comments from workshop attendees and discussion | All |

Basin Plan Triennial Review Workshop Meeting Summary August 4, 2015

NB: *Water Board responses throughout the document are in italics*

Fred Krieger, SFPUC consultant (Berkeley): The NNE project for the SF Estuary. How does this project differ from the project in SF Bay?

They are the same project. For clarification, there are 3 NNE projects in progress: freshwater wadeable streams; all estuaries except SF Bay; and SF Bay.

Lorien Fono, BACWA: Please explain screening and ranking process for the Triennial Review.

We have various ranking criteria, e.g., available resources, have we already started work, WQ benefit, EPA/Stakeholder/State Board interest; technical complexity, etc. Not all criteria are worth the same number of points. We do our best to be as objective as possible in applying these criteria. The Staff Report supporting the recommended projects will explain this in more detail.

Karin North, City of Palo Alto: How many PYs do you have for this over the 3 years?

We have 2 PYs (person years) per year working on basin plan amendments, other than TMDLs so that is about 6 PYs over the next three years. We also have other resources, internal to the Boards and some external support which can augment our available resources.

Patrick Sweetland, Daly City: He is supportive of the Lake Merced water quality objective review project that is on the candidate list.

Tim Potter, CCCSD: Voiced interest in the issue of establishing a policy for managing Hg in restored wetlands that includes consideration of the use of treated wastewater.

The proposed candidate project is about managing wetlands in areas where the sediment is already Hg-contaminated, and wetlands may create a condition that transforms Hg to MeHg. This project is about managing the restored wetland areas despite the presence of mercury. How can we best do this but still protect wildlife.

Tim Potter: Expressed concern that Hg will also be in POTW effluents, and that the re-use of POTW discharges in wetlands is a benefit that should be considered given that there is a lot of interest in reusing POTW effluent. He expressed concerns that there would be more stringent discharge requirements because of Hg, even though atmospheric deposition of Hg will continue and should be addressed.

The issue of POTW effluents in restoring marshes is actually the topic for a separate project. We have one project that is about managing mercury in wetlands, and we have a second project looking into the issues of using wastewater to restore marshes. The permitting challenges you mention are associated more with the former.

Tim Potter: Comments that we should also be comparing wastewater to dredge materials for use in wetlands.

We have some experience – for example at Hayward Marsh – where we successfully navigated the regulatory challenges, including issues associated with mercury, with using wastewater in a restored marsh. This project (wastewater used for marsh restoration) will look at a broader scope, including climate change adaptation.

Wil Bruhns: Would like to see a project that creates goals with a longer planning horizon in mind. His analogy was the California Water Plan from DWR, which has very long term planning horizons. He suggests that the Basin Plan have a section that looks out 35 years from now to the 100th anniversary of the Water Board. He thinks we should describe challenges that will happen over this time period– population increase (do we have infrastructure to cope?) and climate change (include and reference BCDC maps of sea level rise – will our infrastructure be flooded?). We should be setting goals to solve problems by that date. Focus on habitat, infrastructure, and water supply. Here are some possible examples to include for goals (a) double the no. of urban creeks that support steelhead; (b) how do we maintain tidal wetlands in the face of sea level rise? Advance planning.

We have an ongoing tension between how much of our resources do we devote to pressing immediate problems vs. devoting resource for long-term thinking. We do have elements of long-term planning in many of the candidate projects though – but around a particular topic – like climate change or managing wetlands.

Amy Chastain, SFPUC: What will happen when the 2012 EPA REC bacteria standards are adopted in terms of the SF Bay Beaches pathogens TMDL?

We're looking at this very issue as we work on the TMDL. If the TMDL is adopted before the State Board takes an action relative to the 2012 EPA criteria, then the TMDL wouldn't change. The new objectives include a different definition of gastro-intestinal illness. The definition is broader so the number of incidents of disease per 1000 exposure incidents is greater. State Board is considering both sets of numbers proposed by USEPA, including a more stringent objective that would lower the numeric objectives (from current values) slightly, but no decisions have been made yet. We have additional information from EPA Region 9, since the meeting, that the additional proposed standards are not more protective than the 1986 values.

Another commenter stated that stakeholders (discharger community) would prefer a higher number, i.e. the current incidence rate.

Amy Chastain, SFPUC: Would you please tell us more about un-ionized ammonia objectives.

This project was on the last triennial review. U.S. EPA has some new numbers for this objective; the current Basin Plan objective is expressed as an annual median so it does make sense to evaluate the shorter averaging periods of the U.S. EPA criteria.

Amy Chastain, SFPUC: very interested in the specifics of how the new REC-1 bacteria objectives will be applied – we are willing to work collaboratively.

Fred Krieger, SFPUC consultant (Berkeley): How will the RB2 REC bacteria project follow on State Board's work?

Whatever action State Board takes, they would take some of the actions to amend our Basin Plans at the State level. We think that State Board action will only affect WQOs. It is unclear if implementation (e.g., effluent limits) in the SF Bay Basin Plan would need later revision.

General discussion about the need for reopening TMDLs to update them.

Reopening TMDLs is not a high priority at this time. If you think a TMDL needs to be revised, you are welcome to provide that input as part of the project to establish priorities for TMDL development.

Anna Fedman, SFPUC: About the 4 TMDLs closer to adoption – how do we find out more about these? She also inquired about the statewide mercury program and its current status.

Explained that the statewide mercury program has a separate website, as do the regional TMDLs under development and the public can sign up for notification via e-mail.

Karin North, City of Palo Alto: She inquired into the project involving the naming of unnamed water bodies. Are we able to name it ourselves? If so, they would like to nominate one to be Bobel Slough.

There are about 6 of these water bodies that we know about at the moment. I think we have names for some of these but perhaps not for all. They just are not in the Basin Plan. Naming conventions are not something the Water Board can establish.

John McHugh, SCVWD: It would be really nice if the TMDL names all of the tributaries subject to a TMDL rather than using non-specific "all tributaries."

Karin North, City of Palo Alto: She noted that several South Bay POTWs (especially Palo Alto) have already done extensive research on un-ionized ammonia in compliance with our NPDES permit requirements. She also encouraged us to look at water recycling and discharge into lower SF Bay as a beneficial re-use. She also thinks it will be good for the Water Board to explain in the Basin Plan how the Board will address reverse osmosis concentrate discharges into lower SF Bay? Karin also asked about the timing and content for the NNE (Nutrient Objectives) project–

Board staff responded by saying that we are looking at a 10-year timeframe, starting last year for development of nutrient objectives. We would like to bring the current technical framework to a stakeholder group in the fall.

Pablo Ramudo, MMWD: How will the NNE project in freshwater affect surface waters? There are several dairies in the vicinity of drinking water reservoirs that have no numeric discharge limits. Will the NNE project affect dairies' ability to get permits w/o requirements? MMWD cares about this because of high nutrient loads into reservoirs.

The waiver of waste discharge requirements for dairies (“dairy waiver”) was just renewed; all dairies will need to re-enroll, and the waiver requires monitoring of nutrients in discharges. We agreed to send him the link to the dairy waiver, and gave him the Program Manager, Laurie Taul’s, contact info. Dairies are not supposed to be discharging.

Tim Potter, CCCSD: Regarding the DO objectives in SF Bay, Richard Looker mentioned in his presentation that: applicability to margins and other shallow areas was questionable. Is there a way to clarify applicability?

There are factors we need to consider involving natural conditions, like diurnal dissolved oxygen fluctuation in shallows, and the fact that biota in shallow water habitats may be in these locations because they have capacity to deal with fluctuations. We also need to consider the superimposed stress from anthropogenic factors – in other words, anthropogenic factors may be exacerbating the natural fluctuations.

For Suisun Marsh we are looking at developing numeric DO targets for the marsh, as we don’t think the objectives in the Basin Plan of 7 mg/L above the Carquinez Strait should apply to the back slough channels. We are looking to apply an approach that was taken in the Chesapeake Bay, the Virginia Province approach. Those, objectives take into consideration the duration and frequency of excursions below thresholds, which the current objectives in the Basin Plan do not. We have some contract resources to look into this for lower South SF Bay. We would look into how to build in consideration of frequency and duration in interpreting data relative to the standards. This could be done in several ways - either as an explicit part of standard or as implementation directions for a standard.

Anna Fedman, SFPUC: Could you explain more about the project about clarifying the turbidity objective? Would this be about the number or something else?

The wording of the turbidity objective can be difficult to interpret – particularly in the realm of permitting dredging and disposal operations. Also, it is not exactly consistent (in wording) compared to other similar objectives from other basin plans around the state. This candidate project would not be about changing the number but rather making the wording more intelligible and consistent with other similar objectives.

Fred Krieger, SFPUC consultant (Berkeley): U.S. EPA in the new REC bacteria standards said that enterococcus is the only useful indicator for marine waters. Does this mean that when adopted by the State that the monitoring requirements for other bacteria indicators (like total coliform and fecal coliform) goes away?

We’re hoping that monitoring requirements for other bacteria indicators for rec uses will not be necessary but changes made by the Water Boards won’t impact requirements adopted by legislation for beach monitoring and in the Department of Public Health’s regulations.

Diane O’Donahue, SFPUC: I think that local agencies will still use the other bacteria indicators in monitoring beaches and posting notifications about whether it is safe to swim.

Fred Krieger, SFPUC consultant (Berkeley): I have a question regarding the definition of waters of US. Ornamental and artificial lakes created on dry land are not waters of the US so federal water quality criteria and NPDES permits do not apply.

State Water Board is looking at this issue. There are many cases in which waters that we regulate may be a water of the state but not a water of the US. We regulate both categories.

Tim Potter, CCCSD: We haven't talked about toxicity yet. Tim knows about where State Water Board is going. Is there a way to write into SF Bay Basin Plan that recycled water used to restore wetlands is a good thing? We might not be able to do this because there is little or no dilution so these discharges might not be acceptable for use in wetlands because of the toxicity policy.

This is another example of the challenges we would address if we do the candidate project on the use of wastewater in restoring wetlands. We would need to look at all of the possible permitting and regulatory challenges that might inhibit such use and develop a sensible approach to make sure that beneficial uses are protected but also that we did foreclose the use of good quality water to enhance and restore wetlands that need this water. We expect that concern about wetlands receiving discharges is a minor consideration in the State Water Board's toxicity policy.

Potter: It would be great for Basin Plan to not create a disincentive for use of wastewater in restoring wetlands.

Karin North, City of Palo Alto: For the candidate CECs project. What are you planning on for inclusion in the Basin Plan? Would this project be about incorporating the work conducted through RMP, or would it also include more recent work related to pollution prevention on the topic?

We are open-minded about this. We do not have a detailed project scope for this project so we are seeking your comments and suggestions. We're currently bay-focused so we would definitely consider the risk tier-based framework developed through the RMP.

Tim Potter, CCCSD: I would like to make a clarification on the statewide mercury TMDL. There are actually 2 projects underway. The first is a project for mercury-impaired reservoirs, and this includes NPDES discharges to waters upstream of these reservoirs. The second project is to develop statewide mercury objectives so this second project would impact virtually all NPDES discharges except those already regulated by Hg TMDLs.

Closing comments – Water Board staff look forward to receiving your written comments. We'll combine the notes from this workshop with your written comments and make them available on the website. Thank you for your attendance, discussion, and please stay involved.

APPENDIX B

**RANK-ORDERED DESCRIPTIONS OF PROJECTS CONSIDERED IN THE 2015
BASIN PLAN TRIENNIAL REVIEW**

PROJECT TITLE	1. Review and Refine Dissolved Oxygen Objectives for San Francisco Bay	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>The Basin Plan includes a minimum water quality objective of 5.0 mg/L for dissolved oxygen in all tidal waters downstream of the Carquinez Bridge and 7.0 mg/L upstream of the Carquinez Bridge. It also includes a requirement that the median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. These objectives were adopted in the 1975 Basin Plan and are generally being attained in most of the Bay’s subtidal waters. Concerns exist about the applicability of these objectives to certain habitats in the Bay (e.g., marsh tidal sloughs and managed ponds) where the objectives may not be attainable or applicable.</p> <p>Updating the dissolved oxygen objectives is especially important in view of the dramatic increase in opportunities for restoration of unique habitats around the Bay margins. These unique habitats include extensive tidal wetlands and slough networks as well as pans and other ponded areas. However, dissolved oxygen concentrations in shallow water habitats, such as tidal wetlands and slough networks, vary much more compared to the main water mass of San Francisco Bay and frequently exhibit concentrations less than 5.0 mg/L and certainly less than 7.0 mg/L. Because restoration efforts of habitats around Bay margins cannot consistently demonstrate compliance with permit conditions derived from the Basin Plan’s dissolved oxygen objective of 5.0 mg/L, it is appropriate to explore the possibility of refining the existing objectives by providing more specifics about allowable exceedances within a temporal or spatial nature. This effort may involve developing site-specific dissolved oxygen objectives in tidal wetlands, slough channels, managed ponds, shallow subtidal habitats, or other shoreline habitats.</p> <p>Consideration and refinement of dissolved oxygen objectives will occur in phases. In the first phase, the TMDL for Suisun Marsh is developing an approach for site-specific dissolved oxygen objectives that may provide a blueprint for other shallow-water habitats around the Bay. Consideration and refinement of dissolved oxygen objectives in other Bay marshes could follow. In regards to the open Bay, Board staff is working on the development of a nutrient assessment framework for the Bay, and dissolved oxygen is proposed as a primary indicator of nutrient-related impacts. As such, refinement of the existing dissolved oxygen objectives could be evaluated for subtidal habitats in San Francisco Bay.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	U.S. Environmental Protection Agency San Francisco Public Utilities Commission, Bay Area Clean Water Agencies City of Palo Alto, Central Contra Costa Sanitary District	
PRIORITIZED RANK: 1	GENERALIZED RANK: HIGH	
SCORE: 76	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.5	PY RUNNING TOTAL: 1.5	
IMPLEMENTING DIVISION: NPDES, WATERSHED, PLANNING		

PROJECT TITLE	2. Climate Change and Water Resources Policy	
CATEGORY	Plans and Policies	
SUMMARY	<p>Climate scientists agree that the earth’s climate is changing and sea levels are rising as a result. As the earth’s climate changes, California will likely experience: rising sea levels; warmer temperatures; more extreme weather, including droughts and flooding; and changes in the seasonal patterns of rainfall and snowmelt runoff. California’s changing climate can present challenges for every Water Board program, but the Basin Plan does not currently mention climate change or how climate change may affect the Water Board’s mission to protect water quality.</p> <p>This candidate project is to update the Basin Plan to reflect the relationship between climate change and water quality regulation and would consist of two elements. First, a narrative description would be added to Chapter 1 to explain how climate change could lead to physical and biological impacts like severe drought, inundation of low-lying areas from sea level rise, threats to water and wastewater system infrastructure and water quality from flooding, threats to wetlands, changes in aquatic species composition, impediments to drainage from low gradient streams, and desiccation of first-order streams.</p> <p>The second, and more challenging, project element would be to identify specific ways that Water Board programs might integrate consideration of climate change into permitting and other implementation actions. This second element could take the form of a Climate Change Policy to be included in Chapter 5 of the Basin Plan or modifications to Chapter 4, Implementation Plan. The policy may include the following:</p> <ul style="list-style-type: none"> • describe existing efforts to address climate change impacts on Water Board programs, including efforts being led by the Water Board, permittees, other agencies, and others generally; • describe the Board’s efforts to plan for and address climate change impacts; and • present a regulatory framework to apply to permitting of climate adaptation projects, including multi-benefit projects, such as horizontal levees. <p>Marshes and other types of wetland areas provide a range of important ecosystem services, including buffering against sea level rise. The State Coastal Conservancy has proposed a set of specific recommendations for the protection and enhancement of baylands in the <i>Baylands Ecosystem Habitat Goals Science Update 2015</i>. This project would consider these recommendations, which focus on restoring estuary-watershed connections and ensuring complexity and connectivity when restoring wetland systems. Response strategies such as adapting existing wetlands to keep up with the pace of sea level rise challenge our wetland policies and regulatory approach. This Basin Planning project would explore ways of accomplishing a variety of climate change response strategies, including maximizing beneficial reuse of watershed and bay sources of sediments and implementing alternative permitting strategies.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	San Francisco Estuary Institute, Wil Bruhns, San Francisco Public Utilities Commission, Water Board	
PRIORITIZED RANK: 2	GENERALIZED RANK: HIGH	
SCORE: 70	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.5	PY RUNNING TOTAL: 3	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	3. Develop Numeric Nutrient Endpoints (NNEs) in Freshwater Streams and Estuaries	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>The State Water Board is engaged in two separate efforts to develop a statewide NNE policy: one NNE effort for California estuaries, and a second effort for wadeable streams throughout the State.</p> <p>A Technical Advisory Group has been established by the State Water Board to support application of the NNE framework to all California estuaries. The State Water Board has contracted with the Southern California Coastal Water Research Project to develop an estuarine classification system, review candidate nutrient-related indicators for all estuaries, explore revision of dissolved oxygen objectives, and review studies supporting a numeric endpoint for macroalgae on estuarine tidal flats.</p> <p>The State Water Board is also developing a freshwater nutrient policy for wadeable streams that includes narrative nutrient objectives along with numeric guidance to translate the narrative objectives into numeric water quality endpoints as well as an implementation plan to define how nutrient objectives will be used in regulatory programs such as 303(d) listing, NPDES compliance, 401 certification, etc. The NNE framework will be used to establish numeric endpoints based on the response (e.g., algal biomass, dissolved oxygen) of a water body to excessive nutrient concentrations. The project schedule anticipates rulemaking in 2017.</p> <p>This Basin Planning project would consist of Water Board staff's active participation in both efforts, and the estimated PYs are limited to that effort. As each nears completion, staff will evaluate the applicability to the Region's water bodies and the need for changes to the Basin Plan's narrative nutrient objective (section 3.3.3) and its implementation.</p>	
PROPOSED BY	State Water Board	
SUPPORTED BY	BASMAA, U.S. Environmental Protection Agency	
PRIORITIZED RANK: 3	GENERALIZED RANK: HIGH	
SCORE: 67	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 3.3	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	4. Develop Nutrient Water Quality Objectives for San Francisco Bay Estuary – Support Implementation of the Nutrient Management Strategy	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>The Basin Plan does not currently include numeric water quality objectives protective of nutrient-related impairments, such as excessive algae growth, unnatural foam, odor, and other impacts associated with excessive nitrogen and phosphorous. The Basin Plan does contain a narrative water quality objective. Development of nutrient water quality objectives is a key element of the Water Board’s Regional Nutrient Management Strategy (NMS).</p> <p>Water Board staff has been working with stakeholders and scientists including the San Francisco Estuary Institute (SFEI) and the Southern California Coastal Water Research Program (SCCWRP) to better understand the role nutrients play in water quality in the San Francisco Bay Estuary. The NMS calls for a collaborative effort to conduct scientific studies to support regulatory management decisions. Key goals of this effort include synthesis of the available scientific information and development of a science plan, continued development of numeric nutrient objectives, development of a monitoring program to gather the observations necessary to support modeling of the Bay ecosystem’s response to nutrients, and development of implementation strategies. The first product of the effort to develop nutrient water quality objectives has been the development of a draft Assessment Framework that would be used to assess the Bay’s condition with respect to nutrients.</p> <p>For this project, Water Board staff would continue to participate in the governance structure that has been established to implement the NMS, which includes a steering committee and technical and stakeholder workgroups, and would continue to support refinement of the Assessment Framework and future development of water quality objectives. The level of PYs estimated for this project provide for a minimum level of engagement in this effort over three years. The majority of the work being conducted to implement the NMS is based on outside resources.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	U.S. Environmental Protection Agency	
PRIORITIZED RANK: 4	GENERALIZED RANK: HIGH	
SCORE: 62	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.5	PY RUNNING TOTAL: 4.8	
IMPLEMENTING DIVISION: PLANNING; NPDES		

PROJECT TITLE	5. Using Wastewater to Create, Restore, and Enhance Wetlands	
CATEGORY	Plans and Policies and Implementation Plans	
SUMMARY	<p>The receiving waters downstream of many Bay Area wastewater treatment plants include recently restored wetlands or areas that will be restored to wetland habitat in coming years. In many circumstances, using the treated wastewater as a source of freshwater for restored wetlands could provide an environmental benefit by increasing the amount of freshwater and brackish wetlands available to birds and wildlife dependent on such habitats. Using treated wastewater in this fashion as a source of freshwater was identified as an important climate change response strategy in the <i>Baylands Ecosystem Habitat Goals Science Update 2015</i> to “restore estuary-watershed connections that nourish the Baylands with sediment and freshwater” (see also the project above on Climate Change and Water Resources Policy).</p> <p>This Basin Planning project would entail several elements. First, the project would explore updating Water Board Resolution No. 94-086 “Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands.” The Resolution 94-086 policy is now over 20 years old. Much has been learned about wetland restoration over the intervening years, and the hydrology and topography of the Bay has been changing as vast areas of former salt evaporating ponds are being restored to marsh under the South Bay Salt Pond Restoration Project and similar projects throughout the region. Moreover, the anticipated accelerated pace of sea level rise makes it important to explore policies that facilitate more rapid marsh accretion (or “build up”).</p> <p>The project would also clarify permitting requirements for wastewater discharges into wetlands and develop near-shore permitting strategies for discharges to wetlands and sloughs. This project would also evaluate and provide guidance about what level of treatment is appropriate for effluent discharged into wetland habitats, including consideration of contaminants of emerging concern (e.g., flame retardants, personal care products, microbeads, and nano particles). The project would also recognize that the San Francisco Bay Estuary represents a unique California environment that is being enhanced as wetlands are being restored around the fringes of the Bay.</p> <p>Establishing NPDES permits for discharging wastewater in wetlands is complicated by a variety of regulatory issues; this project would explore those regulatory issues and identify policy options. This project would also potentially evaluate issues associated with discharge prohibition exemptions in the Basin Plan and could address Beneficial Use designation associated with creation of new wetlands.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, U.S. Environmental Protection Agency, Bay Area Clean Water Agencies, Palo Alto	
PRIORITIZED RANK: 5	GENERALIZED RANK: HIGH	
SCORE: 60	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 5.8	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	6. Lake Merced Dissolved Oxygen and pH Objectives	
CATEGORY	Update Water Quality Objectives	
ISSUE SUMMARY	<p>Lake Merced is a small, eutrophic (nutrient-enriched) urban lake in San Francisco that is currently listed as impaired by low dissolved oxygen and high pH. Daly City is developing a capital project to address storm-related flooding that currently occurs in the Vista Grande Drainage Basin. Daly City’s project would capture existing stormwater and authorized non-stormwater runoff, which is currently conveyed to the Pacific Ocean via the Vista Grande Canal, and use the water to augment water levels in Lake Merced. These flows would pass through a debris screening device and enter a diversion structure, which would enable all or only portions of the Canal flow to be directed through a constructed treatment wetland and then to the Lake, be routed directly to the Lake from the Canal, or be allowed to continue through the Canal to the ocean outlet.</p> <p>Some stakeholders expect that the augmentation of the water levels will support lake fisheries. The increased water levels and other associated lake management efforts (e.g., routing water into a treatment wetland prior to discharge into Lake Merced) may offer some water quality improvements but not enough to remedy the impairments based on existing water quality objectives. This Basin Planning project would explore creating site-specific water quality objectives (Chapter 3) for dissolved oxygen and pH. The project will likely employ approaches used in other states to define depths within the lake where evaluation of the water quality objective is most appropriate to assess beneficial use support. The amendment would also memorialize Lake Merced water quality management efforts in Chapter 4 of the Basin Plan.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	San Francisco Public Utilities Commission, Daly City, Golden Gate Audubon Society, Lake Merced Cowboys (citizen group)	
PRIORITIZED RANK: 6	GENERALIZED RANK: HIGH	
SCORE: 60	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 2.0	PY RUNNING TOTAL: 7.8	
IMPLEMENTING DIVISION: PLANNING, WATERSHED		

PROJECT TITLE	7. Review and Implement Biological Assessment Tools	
CATEGORY	Plans and Policies and Implementation Plans	
SUMMARY	<p>Biological assessments provide direct measures of the cumulative response of the biological community to all sources of stress; they measure the condition of the aquatic resource to be protected, by assessing the benthic macroinvertebrate community. Biological indicators are tools that directly assess if beneficial uses such as warm or cold freshwater habitat are supported. Therefore, biological assessment methods are more integrative and environmentally relevant goals for the protection of aquatic life than the objectives based on pollutants that are currently in the Basin Plan. U.S. EPA is encouraging states to use biological assessment data.</p> <p>In the Bay Area, many entities, including our SWAMP program, have been collecting bioassessment samples needed to develop regionally-based biological indicators. Biological indicators are based on suitable reference sites, sites that have minimal human disturbance in the watershed or around the sampling area. The current Region 2 narrative objective for population and community ecology (Basin Plan section 3.3.8) can serve as the objective to pair with a Bay-Specific or state-wide biological indicator. Narrative biological objectives are coupled with numeric biological indicators (e.g., Index of Biological Integrity, observed vs. expected ratio scores) to provide a quantitative measure of the beneficial use status.</p> <p>Since 2011, the State Water Board has been developing a statewide implementation plan to utilize bioassessment data (including Region 2's data) in perennial streams and rivers. Regional staff actively participates in the scientific technical team and Regulatory Advisory Group. Depending on the ultimate result of the statewide policy, such as whether it applies to perennial and non-perennial, wadeable streams, Region 2 may undertake a Basin Plan amendment to describe a regional approach to using benthic macroinvertebrate bioassessment data to minimize degradation of biological condition in streams and to improve biological conditions where feasible.</p>	
PROPOSED BY	State Water Board	
SUPPORTED BY	U.S. Environmental Protection Agency BASMAA San Francisco Public Utilities Commission	
PRIORITIZED RANK: 7	GENERALIZED RANK: MEDIUM	
SCORE: 58	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 0.6	PY RUNNING TOTAL: 8.4	
IMPLEMENTING DIVISION: PLANNING, WATERSHED		

PROJECT TITLE	8. Add Unnamed Water Bodies That Receive Permitted Discharges to Basin Plan	
CATEGORY	Update Beneficial Uses	
ISSUE SUMMARY	A small number of NPDES wastewater permits cover discharges to water bodies not named in the Basin Plan. Mostly, these are new discharge points subsequent to the water body Basin Plan update accomplished in 2010. As of 2015, there are approximately six additional water bodies that should be added to the Basin Plan because they receive an NPDES-permitted discharge. This candidate project would add water bodies receiving discharges which are not currently named in the Basin Plan.	
PROPOSED BY:	Water Board	
SUPPORTED BY:	U.S. Environmental Protection Agency, Palo Alto, Santa Clara Valley Water District, Water Board	
PRIORITIZED RANK: 8	GENERALIZED RANK: MEDIUM	
SCORE: 58	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 8.7	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	9. Update Cyanide Dilution Credits	
CATEGORY	Update Implementation Plans	
ISSUE SUMMARY	<p>The project would be to update Table 4-6 to add cyanide dilution credits for shallow water dischargers and discharge locations not already in the table. Some dischargers (e.g., Fairfield-Suisun and City of Palo Alto) discharge to waters not listed in the table. Therefore, with each permit reissuance, the Water Board must consider appropriate mixing zones and dilution credits for the discharges not listed Table 4-6. Often, the same effluent is discharged to two or more receiving waters. In these cases, compliance with the effluent limitations is typically measured at just one location; however, different effluent limits may apply. Cyanide effluent limitations may differ for no reason other than that the mixing zones (or lack thereof) result in different dilution credits. As a result, the effective effluent limitations may be more stringent than the Water Board intended when it adopted Table 4-6. This project would ensure consistency and reduce the effort needed to resolve these challenges during permit preparation.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, Palo Alto, U.S. Environmental Protection Agency	
PRIORITIZED RANK: 9	GENERALIZED RANK: MEDIUM	
SCORE: 56	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 9.0	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	10. Addition of Sport Fishing Beneficial Use to Lakes	
CATEGORY	Update Beneficial Uses	
ISSUE SUMMARY	This project entails adding Commercial and Sport Fishing (COMM) to certain lakes and reservoirs that are listed as impaired on the Clean Water Act 303(d) impaired water bodies list due to mercury concentrations in sportfish or are potentially of concern. The need for designating the COMM use for these water bodies was identified as part of the ongoing work on the Statewide Mercury in Reservoirs TMDL. The COMM beneficial use is considered impaired when high contaminant concentrations make fish unsafe for human consumption. Other water bodies may also be reviewed for the COMM beneficial use as part of this project.	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, U.S. Environmental Protection Agency	
PRIORITIZED RANK: 10	GENERALIZED RANK: MEDIUM	
SCORE: 55	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 9.3	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	11. Regional Stream and Wetland Systems Protection Policy	
CATEGORY	Beneficial Uses and Implementation Plan	
ISSUE SUMMARY	<p>This project is to complete the Regional Stream and Wetland Policy currently under development. The resulting Basin Plan amendment would protect stream and wetland systems, which include stream channels, wetlands, floodplains, and riparian areas. The amendment is expected to help protect and restore the physical characteristics of these systems, including their connectivity and natural hydrologic regimes, in order to protect beneficial uses. The proposed stream protection policy would create two new beneficial uses of streams and wetlands: water quality enhancement and flood peak attenuation/flood water storage. These beneficial uses explicitly recognize that physical characteristics of water bodies contribute to better water quality, and need to be protected in the Board's permitting programs (e.g., 401 certifications) in order to achieve the Board's mission of protecting all beneficial uses of the Region's water bodies. The proposed amendment would also include additions to the implementation plan chapter to explain how the Water Board will regulate controllable water quality factors in a variety of permitting contexts in order to protect the new beneficial uses.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Wil Bruhns, Water Board	
PRIORITIZED RANK: 11	GENERALIZED RANK: MEDIUM	
SCORE: 55	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 10.3	
IMPLEMENTING DIVISION: WATERSHED		

PROJECT TITLE	12. Environmental Screening Levels (ESLs) for Groundwater Cleanups	
CATEGORY	Implementation Plans	
SUMMARY	<p>Staff would update the Basin Plan with a description of the tiered decision process used to determine relevant exposure pathways and appropriate site cleanup levels using environmental screening levels (ESLs). ESLs are conservative contaminant concentrations in a particular media (soil, soil gas, or groundwater) below which the contaminant can be assumed not to pose a significant, long-term (chronic) threat to human health and the environment. The decision process expands the existing protection of groundwater beneficial uses to include potential risk to human health from indoor air exposure and protection of aquatic receptors.</p> <p>Accomplishing this project would both promote consistency and optimal resource allocation in groundwater cleanup projects because ESLs are a powerful tool to focus regulatory attention on the most significant contaminant concerns during site assessment and cleanup. This update would not incorporate the current ESL criteria as fixed numbers, but rather memorialize the approach for deriving and applying ESLs to cleanup sites. This project would document our current process for screening sites using a multiple pathway conceptual model, which includes groundwater and surface water interactions.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	Water Board	
PRIORITIZED RANK: 12	GENERALIZED RANK: MEDIUM	
SCORE: 53	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 10.6	
IMPLEMENTING DIVISION: TOXICS, GROUNDWATER PROTECTION		

PROJECT TITLE	13. Update the Basin Plan's Toxicity Testing Requirements	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>The State Water Board is developing an amendment to the Toxicity Control Provisions of the Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. This toxicity amendment has been delayed by legal challenges and is projected to be finalized in summer 2016. The toxicity amendment would update procedures for assessing the potential for chemicals to cause toxicity to aquatic life in surface waters.</p> <p>Currently, there are inconsistencies between different State and Regional Water Boards' toxicity testing requirements that result in uneven protections for aquatic life and an unequal playing field for waste dischargers. By adopting numeric toxicity objectives, the State Water Board would establish a clear, consistent definition of toxicity. By contrast, existing narrative toxicity objectives can be subject to a range of interpretations.</p> <p>The State Water Board toxicity amendment would require a new statistical approach, endorsed by U.S. EPA, to be applied consistently throughout California. The new approach, called the Test of Significant Toxicity (TST), incorporates the latest statistical approach and benefits from extensive peer review. This amendment would supersede aspects of the Basin Plan's current toxicity policy, so the Water Board would likely need to edit the Basin Plan sections on toxicity (3.3.18 and 4.5.5.3) to conform to the policy. In addition, the policy allows for some Regional Water Board implementation discretion which could result in possible Basin Plan revisions or additions.</p>	
PROPOSED BY	State Water Board	
SUPPORTED BY	Central Contra Costa Sanitary District	
PRIORITIZED RANK: 13	GENERALIZED RANK: MEDIUM	
SCORE: 53	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 10.9	
IMPLEMENTING DIVISION: NPDES		

PROJECT TITLE	14. Low-threat Site Closure Requirements	
CATEGORY	Implementation Plans	
SUMMARY	<p>Staff would update the Basin Plan with a description of the criteria for low-threat closure included in the region’s Assessment Tool for Closure of Low-Threat Chlorinated Solvent Sites (Assessment Tool, developed in 2009) to complement to the State Water Board’s policy for Low-Threat Closure of Petroleum Underground Storage Tank (UST) sites (State Board Resolution No. 2012-0016). The State Water Board’s policy establishes criteria under which certain types of UST sites that present a low threat to human health, safety, and the environment can be closed, that is no longer subject to investigation and cleanup requirements. The Water Board’s Assessment Tool only applies to solvent-impacted sites so it does not overlap or conflict with the State Water Board’s policy for petroleum UST.</p> <p>The update would benefit staff in that they could focus their attention on sites that pose the most threat to human health and the environment. The update would also improve consistency in decision-making by providing guidance to Water Board staff, responsible parties, consultants, and other stakeholders on clarifying future requirements for these sites. For example, some sites may require no further action (i.e., site closure); others may require only monitoring but no further active remediation; other sites may require additional work (e.g., a higher degree of site characterization and/or remediation). This project has been a candidate project in several triennial reviews.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	Santa Clara Valley Water District, Water Board	
PRIORITIZED RANK: 14	GENERALIZED RANK: MEDIUM	
SCORE: 51	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 11.2	
IMPLEMENTING DIVISION: TOXICS, GROUNDWATER PROTECTION		

PROJECT TITLE	15. Salt and Nutrient Management Plans Implementation	
CATEGORY	Implementation Plans	
SUMMARY	<p>The State Water Board adopted a Recycled Water Policy in February 2009. The purpose of the Policy is to increase the use of recycled water in a manner consistent with state and federal water quality laws. The Recycled Water Policy requires that Salt and Nutrient Management Plans (SNMPs) be completed to facilitate basin-wide management of salts and nutrients from all sources in a manner that optimizes recycled water use while ensuring protection of groundwater supply and beneficial uses, agricultural beneficial uses, and human health.</p> <p>The Recycled Water Policy requires stakeholders to develop implementation plans to meet these management goals for salts and nutrients. All groundwater basins in the region will eventually be required to develop salt and nutrient management plans. Board staff has identified four priority groundwater basins – Niles Cone, and the Sonoma Valley, Livermore-Amador Valley and Santa Clara Valley. The SNMP for Sonoma Valley has already been adopted through a Water Board resolution No. R2-2014-0053. Draft SNMPs have been submitted for review and comment for Livermore-Amador and Santa Clara Valleys. The SNMPs will assess sources, identify linkages to water quality objectives and establish a plan to achieve and maintain water quality objectives.</p> <p>We are not anticipating as this time that any of the additional SNMPs that are in progress will need to be incorporated into the Basin Plan. However, this outlook may change, and this project puts forward a small amount of resources for Planning staff to provide Basin Planning regulatory and technical guidance, as needed.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	Water Board, State Water Board	
PRIORITIZED RANK: 15	GENERALIZED RANK: MEDIUM	
SCORE: 49	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 11.5	
IMPLEMENTING DIVISION: GROUNDWATER PROTECTION, TOXICS, PLANNING		

PROJECT TITLE	16. Temperature Limits to Protect Salmonids	
CATEGORY	Update Water Quality Objectives	
ISSUE SUMMARY	<p>This candidate project would involve reviewing the latest scientific information applicable to Bay Area streams to set an appropriate temperature thresholds and acceptable range of temperatures to protect salmonids. The material reviewed would include available information on the multiple stressors to steelhead in Bay Area creeks and whether local steelhead populations are adapted to local conditions.</p> <p>National Marine Fisheries Service (NMFS) has developed a technique to model, using digital elevation and climate data, the reach-scale stream attributes (gradient, stream size, and valley constraint) that influence availability of the fine-scale habitat features (e.g., pools, spawning gravel, and large wood) preferred by salmonids. This “Intrinsic Potential” model may be useful in this candidate project to help identify stream reaches that have good potential to serve as habitat for salmonids and to which temperature objectives should apply.</p>	
PROPOSED BY:	U.S. Environmental Protection Agency	
SUPPORTED BY:	U.S. Environmental Protection Agency	
PRIORITIZED RANK: 16	GENERALIZED RANK: MEDIUM	
SCORE: 47	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 2.0	PY RUNNING TOTAL: 13.5	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	17. Incorporate Revised U.S. EPA Recreational Water Quality Criteria for Bacteria	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>In 2012, U.S. EPA issued new recreational water quality criteria (RWQC) recommendations for protecting human health in all coastal and non-coastal waters designated for primary contact recreation use. The 2012 RWQC recommends the use of two bacteria indicators of fecal contamination, E. coli (fresh water only) and enterococci (marine and fresh water). The U.S. EPA also introduced a new concept, Statistical Threshold Value (STV), as a clarification and replacement for the term ‘single sample maximum’. The new U.S. EPA criteria no longer recommend different pathogen indicator values for beaches based on intensity of use.</p> <p>The 2012 Criteria include two options for numeric concentration thresholds based on two different gastrointestinal disease rates. According to the U.S. EPA both options would protect the public from exposure to harmful levels of pathogens. One option is largely consistent with current numeric values for enterococcus and E. Coli objectives. The second option would result in somewhat lower numeric objectives for these indicators. The State Water Board will recommend one of these two sets of indicators. In either case, the total and fecal coliform indicators are not recommended by U.S. EPA and will be eliminated. The State Water Board’s program implementing the new criteria may also contain other elements such as a reference beach/natural source exclusion process and exemptions to the new criteria under conditions of high flow.</p> <p>Upon the State Water Board’s adoption of the new criteria and other associated policies, the Water Board will likely need to make corresponding changes to our Basin Plan to be consistent with the State Water Board action.</p>	
PROPOSED BY	State Water Board	
SUPPORTED BY	Santa Clara Valley Water District, San Francisco Public Utilities Commission, State Water Board	
PRIORITIZED RANK: 17	GENERALIZED RANK: MEDIUM	
SCORE: 46	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 13.8	
IMPLEMENTING DIVISION: NPDES, PLANNING		

PROJECT TITLE	18. Align Ocean Plan and Basin Plan for Recreational Contact Use	
CATEGORY	Update Beneficial Uses	
ISSUE SUMMARY	<p>The applicability of the water contact recreation (REC1) beneficial use in the Pacific Ocean is defined in the California Ocean Plan. The Ocean Plan restricts effluent limits intended to protect REC1 to a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour and <i>areas designated with REC1 by a regional board</i>. Because the San Francisco Bay Region Basin Plan provides no specific details on where REC1 applies, by default it assigns REC1 to the entire Pacific Ocean, and therefore the Basin Plan’s effluent limits (e.g., for bacteria) must apply to the entirety of the ocean out to the edge of State waters which is three nautical miles away from shore. This may be considered an overly broad application of the REC1 use that provides no water quality benefit in State waters and unnecessarily complicates permitting the San Francisco Public Utilities Commission’s Oceanside outfall that discharges effluent well beyond three nautical miles. The project would clarify that the Basin Plan’s application of REC1 to the Pacific Ocean would be equivalent to the Ocean Plan’s distance and depth contour specification.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, San Francisco Public Utilities Commission	
PRIORITIZED RANK: 18	GENERALIZED RANK: MEDIUM	
SCORE: 45	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 14.1	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	19. Consider incorporating Clean Water Act section 304(a) criteria into the Basin Plan.	
CATEGORY	Update Water Quality Objectives	
ISSUE SUMMARY	<p>The U.S. EPA recently issued revised Clean Water Act section 304(a) guidance for freshwater ammonia criteria for the protection of aquatic life as well as new human health criteria for 94 additional toxic pollutants that would require an update to the criteria established as part of the California Toxics Rule.</p> <p>This candidate project would update the Basin Plan to incorporate, as necessary, the revised 304(a) criteria.</p>	
PROPOSED BY:	U.S. Environmental Protection Agency	
SUPPORTED BY:	U.S. Environmental Protection Agency, Fred Krieger	
PRIORITIZED RANK: 19	GENERALIZED RANK: LOW	
SCORE: 44	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 15.1	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	20. Editorial Revisions, Minor Clarifications, or Corrections	
CATEGORY	Editorial Revisions	
SUMMARY	<p>Possible Basin Plan editorial changes have been identified by Water Board staff and through suggestions submitted by the public during recent Triennial Reviews. Some of these could be included as additional components for another Basin Planning project. Potential changes include but are not limited to:</p> <ul style="list-style-type: none"> • Updating footnotes to Tables 3.3 and 3-4 to reflect U.S. EPA’s final tributyltin criteria adopted in 2003. Currently the draft criteria are reflected in the footnotes. These criteria will remain as advisory and not be incorporated as objectives. • Updating the discussion of oil spills in Section 4.24 to better explain the role of the Water Board, especially to reflect experience from the Cosco Busan spill. • Clarifying on Table 3-6 (Water Quality Objectives for Agricultural Supply) the difference between a threshold and a limit. • Including a footnote to Table 3-3A explaining that water effect ratios are already included in copper site-specific objectives but that total to dissolved translators are not. • Updating footnote f to Table 3 to make it clear that copper site-specific objectives have been developed and are shown in Table 3-3A. • Correct the coordinates on Table 4-8 for Pacifica wastewater treatment plant outfall (37.6146 and 122.4890) and its location shown on Figure 4-1. • Updating Section 4-8 (Stormwater Discharges) to incorporate by reference the limitations on point source storm water and nonpoint source discharges to provide special protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS). • Update and/or remove text from Section 4.11, which provides non-regulatory narrative about special circumstances related to specific POTWs. Much of the text is out of date and not necessary. • Discuss electrical conductivity range in Table 3-6 and clarify units • Discuss requirements of Groundwater Management Act in Chapter 4 • Discuss direct and indirect potable use programs in Chapter 4 	
PROPOSED BY	Water Board	
SUPPORTED BY	Santa Clara Valley Water District, Water Board	
PRIORITIZED RANK: 20	GENERALIZED RANK: LOW	
SCORE: 43	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3 per update	PY RUNNING TOTAL: 15.4	
IMPLEMENTING DIVISION: NPDES, PLANNING, GROUNDWATER PROTECTION, TOXICS		

PROJECT TITLE	21. Review Un-ionized Ammonia Water Quality Objective for San Francisco Bay	
CATEGORY	Water Quality Objectives	
ISSUE SUMMARY	This candidate project will be to review and revise, as necessary, the un-ionized ammonia water quality objective for San Francisco Bay and its associated implementation provisions. Specifically, the purpose of the project is to ensure that the Basin Plan's objective and implementation provisions (e.g., for NPDES permits) are consistent with the magnitude and averaging period of U.S. EPA's acute and chronic saltwater criteria for un-ionized ammonia.	
PROPOSED BY:	U.S. Environmental Protection Agency	
SUPPORTED BY:	U.S. Environmental Protection Agency, Palo Alto	
PRIORITIZED RANK: 21	GENERALIZED RANK: LOW	
SCORE: 42	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 0.8	PY RUNNING TOTAL: 16.2	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	22. Clarify Turbidity Water Quality Objective	
CATEGORY	Editorial Revisions, Minor Clarifications or Corrections	
ISSUE SUMMARY	<p>The Basin Plan’s turbidity water quality objective is difficult to interpret:</p> <p><i>Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU</i></p> <p>This language is often subject to misinterpretation when determining whether dredging operations are negatively impacting water quality in the Bay. The language can be improved for clarity as well as consistency with turbidity objectives found in the Basin Plans from other regions. Because improving this language would require only minor clarifying changes, this project could be accomplished as part of another Basin Planning project.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, San Francisco Public Utilities Commission	
PRIORITIZED RANK: 22	GENERALIZED RANK: LOW	
SCORE: 42	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 16.5	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	23. Develop Policy for Managing Mercury in Restored Wetlands	
CATEGORY	Plans and Policies	
SUMMARY	<p>Wetlands pose a dilemma for resource managers and regulators because these environments provide badly-needed habitat for a wide variety of wildlife and aquatic life, but their chemical and biological features can increase exposure to certain types of contaminants, notably mercury. Wetlands are complex systems, especially with respect to contaminant cycling in wetland food webs. In the face of this complexity, regulators must balance the need to protect wildlife and people from hazardous exposure to contaminants against the myriad environmental benefits and ecological services provided by wetlands. The Water Board does not currently have a comprehensive policy providing unambiguous direction to wetland restorers and managers about how to manage restoration projects in the face of this complexity. The San Francisco Bay Mercury TMDL requires wetland restoration projects to include pre- and post-restoration monitoring to demonstrate that they have been designed and are operated to minimize methylmercury production and biological uptake, and result in no net increase in mercury or methylmercury loads to the Bay.</p> <p>In this candidate project, the Water Board would develop policy to help provide regulatory certainty in the challenging context of managing mercury in wetlands. The policy would likely include elements to provide restoration project proponents with greater certainty about required monitoring (e.g., over what duration, time of year, spatial coverage, which media or species/biosentinels) and the regulatory consequences of the monitoring results. We would also try to address the challenges of using dredged material for wetland restoration — how to use the material responsibly while minimizing the risk of exposure of biota to contaminants in the material. Last, we would include elements explicitly addressing how to balance the potential increased risks to wildlife from contaminant exposure as wetlands are restored with the ecological benefits provided by restored wetlands.</p> <p>This project would ultimately result in policy incorporated into the Basin Plan. This project would build on existing efforts by SFEI and the South Bay Salt Pond project to develop mercury monitoring frameworks that can be used to adaptively manage restoration projects.</p>	
PROPOSED BY	Water Board	
SUPPORTED BY	Water Board	
PRIORITIZED RANK: 23	GENERALIZED RANK: LOW	
SCORE: 40	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.5	PY RUNNING TOTAL: 18	
IMPLEMENTING DIVISION: GROUNDWATER PROTECTION, TOXICS, PLANNING		

PROJECT TITLE	24. Develop Regulatory Strategy for Contaminants of Emerging Concern	
CATEGORY	Implementation Plans	
SUMMARY	<p>CECs pose a significant challenge in that there are many chemicals in use for which there are no water quality objectives or EPA criteria. While there is a growing body of information about the likelihood of some of these contaminants contributing to impacts on beneficial uses, for many there is still a lack of toxicity and environmental occurrence information. This project would consider the need for a Basin Plan amendment that addresses decision-making about management actions required to address CECs in the region.</p> <p>In the last decade, the Regional Monitoring Program (RMP) has been conducting special studies on the occurrence, fate and toxicity of CECs in the San Francisco Bay and has prepared a research and monitoring strategy for CECs, based on a tiered risk-based approach. In conjunction with this effort, we have developed a management strategy linked to the tiered risk-based approach.</p> <p>This Basin Planning project would involve adopting the management strategy as a regulatory strategy for CECs and updating Section 4.26.3 of Chapter 4, Implementation Plan, which discusses the Board's approach to Emerging Toxic Pollutants of Concern. Here we would describe the tiered risk-based approach and appropriate management actions like source control, monitoring, and the need for developing water quality objectives.</p>	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board	
PRIORITIZED RANK: 24	GENERALIZED RANK: LOW	
SCORE: 38	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 19	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	25. Develop Policy for Reverse Osmosis Concentrate Discharge	
CATEGORY	Update Implementation Plans	
ISSUE SUMMARY	Recycled water programs are expanding in response to the ongoing drought as well as anticipated long-term water shortages in the Region. These projects would treat wastewater effluent with reverse osmosis, which results in a concentrate composed of approximately 15 percent of the reverse osmosis influent flow but almost all of its dissolved and suspended pollutants. When the concentrate is discharged, it has the same loads but higher concentrations of pollutants compared to the original effluent. This candidate project would explore implementation policies to address regulatory compliance with RO concentrate to encourage production of recycled water and address water quality protections.	
PROPOSED BY:	Bay Area Clean Water Agencies	
SUPPORTED BY:	Bay Area Clean Water Agencies	
PRIORITIZED RANK: 25	GENERALIZED RANK: LOW	
SCORE: 37	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 20	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	26. Update freshwater copper standards to allow use of the biotic ligand model to calculate aquatic life criteria	
CATEGORY	Update Water Quality Objectives	
ISSUE SUMMARY	Aquatic life criteria for copper in freshwater are provided in the California Toxics Rule (CTR). These freshwater criteria only take into account hardness as a factor modifying toxicity. Using only hardness as a modifying factor for metals criteria does not reflect current scientific understanding about the multiple factors that can modify metals toxicity to aquatic life. Like most metals, copper toxicity is a function of its bioavailability, which in addition to being controlled by hardness, is also strongly related to other important factors such as dissolved organic carbon (DOC), alkalinity, pH, and temperature. A model called the biotic ligand model has been adopted by U.S. EPA in 2007 as an acceptable means of accounting for these multiple factors when calculating aquatic life criteria for copper in freshwater. This candidate project would update the freshwater aquatic life criteria for copper to allow the use of this model in their calculation.	
PROPOSED BY:	GEI Consultants (for Copper Development Association)	
SUPPORTED BY:	GEI Consultants (for Copper Development Association), Fred Krieger	
PRIORITIZED RANK: 26	GENERALIZED RANK: LOW	
SCORE: 35	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 21	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	27. Revise Instantaneous Chlorine Effluent Limits	
CATEGORY	Update Implementation Plans	
ISSUE SUMMARY	<p>The effluent limit for residual chlorine (free chlorine plus chloramines) is an instantaneous limit of 0.0 mg/L. This is an interpretation of the Basin Plan’s narrative toxicity objective (<i>All waters shall be maintained free of toxic substances in concentrations that are lethal to or that produce other detrimental responses in aquatic organism</i>). This effluent is problematic because it is very difficult to remove trace amounts of chlorine. Failure to remove all traces of chlorine can lead to effluent limit violations, sometimes in circumstances where the amount of chlorine is very small and not a threat to water quality. POTWs that use chlorine for disinfection use sodium bisulfite (SBS) to remove the chlorine. To avoid violations, operators routinely overdose the effluent with SBS, costing agencies millions of dollars per year in aggregate, and exerting oxygen demand in the receiving water, with no water quality benefit. This candidate project would explore options to address chlorine residual limits.</p>	
PROPOSED BY:	San Francisco Public Utilities Commission, Bay Area Clean Water Agencies	
SUPPORTED BY:	San Francisco Public Utilities Commission, Bay Area Clean Water Agencies	
PRIORITIZED RANK: 27	GENERALIZED RANK: LOW	
SCORE: 34	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 22	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	28. Revise Pentachlorophenol (PCP) Water Quality Objectives for Salmonids	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>PCP criteria were included in the California Toxics Rule (CTR) of 2000. Subsequently, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service issued a Biological Opinion concluding that the U.S. EPA's CTR water quality criteria for PCP are not protective of the early life stages of salmonids under conditions of low dissolved oxygen and high temperatures. As a result, the U.S. EPA calculated criteria that are protective. The U.S. EPA has asked the State and this Water Board as part of the last triennial review to identify where these aquatic conditions occur and to adopt the revised (lower) PCP water quality criteria.</p> <p>This project, which has been a candidate in past triennial reviews, would develop a basin plan amendment to adopt the proposed more restrictive objectives for PCP and create a plan to implement the objectives where applicable to protect the early life stages of salmonids that may be present under conditions of low dissolved oxygen and high temperatures in the San Francisco Bay Region. Information is not available at this time to indicate where aquatic conditions occur in the Region that might pose a risk to salmonids.</p>	
PROPOSED BY	U.S. EPA	
SUPPORTED BY	U.S. EPA	
PRIORITIZED RANK: 28	GENERALIZED RANK: LOW	
SCORE: 32	COMPLEXITY: MEDIUM	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 23	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	29. Modification of Groundwater Sub-Basin Boundaries.	
CATEGORY	Update Beneficial Uses	
ISSUE SUMMARY	<p>This candidate project would involve revising the boundaries of two groundwater basins located in San Francisco and San Mateo counties to be consistent with the California Department of Water Resources Bulletin 118. DWR’s Bulletin 118 defines the Westside Basin and the Islais Valley Basin each as one entire groundwater basin with no delineated sub-basins.</p> <p>The Basin Plan, Figure 2-10C and Table 2-2 may not conform to Bulletin 118 and should be reviewed and updated as necessary.</p> <p>The Bulletin 118 boundaries are used as the basis for statewide water resource, planning, management, and funding decisions, as well as the California Statewide Groundwater Elevation Monitoring Program. DWR’s draft Basin Boundary Regulations, published on July 17, 2015, state that, “revision of any basin boundaries or creation of new sub-basins approved by the Department shall be consistent with the State’s interest in the sustainable management of groundwater as expressed in the Sustainable Groundwater Management Act (SGMA).” While elements of the Basin Plan are not required to be consistent with SGMA, maintaining consistency in statewide groundwater management will make planning efforts more effective and efficient.</p>	
PROPOSED BY:	San Francisco Public Utilities Commission	
SUPPORTED BY:	San Francisco Public Utilities Commission	
PRIORITIZED RANK: 29	GENERALIZED RANK: LOW	
SCORE: 26	COMPLEXITY: LOW	
ESTIMATED PERSONNEL-YEARS (PY): 0.3	PY RUNNING TOTAL: 23.3	
IMPLEMENTING DIVISION: PLANNING		

PROJECT TITLE	30. Alternative Compliance for Wet Weather Flows	
CATEGORY	Update Implementation Plans	
ISSUE SUMMARY	<p>Compliance of wet weather flows with water quality standards is a statewide issue. The State Water Board is developing a series of proposals, <i>Storm Water Program Workplan and Implementation Strategy</i>, that assesses new approaches for regulating storm water. One of these approaches concerns alternative compliance for municipal storm water permit receiving water limitations. If measured at the point of discharge, storm water typically contains concentrations of pollutants which exceed the water quality criteria or objectives. Options to address this issue include:</p> <ul style="list-style-type: none"> • A Seasonal or Wet Weather Suspension or variance for storm water or flows that are primarily storm water (such as combined sewer discharges) which cannot be effectively disinfected. A Region-wide Use Attainability Analysis (UAA) would be needed to support this change in beneficial uses. • Establishment of a wet weather sub-category of standards. For example, one may consider that the water contact recreation use is different in wet weather compared to dry weather so a different objective may be appropriate to protect the different nature of the use in wet versus dry seasons.. <p>This candidate project would explore alternative regulatory approaches to the challenge wet weather flows, possibly in coordination with the statewide storm water initiative that is currently considering a variety of approaches to this problem.</p>	
PROPOSED BY:	San Francisco Public Utilities Commission	
SUPPORTED BY:	San Francisco Public Utilities Commission	
PRIORITIZED RANK: 30	GENERALIZED RANK: LOW	
SCORE: 19	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 1.0	PY RUNNING TOTAL: 24.3	
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	31. Develop Flow Criteria for Selected Bay Area Streams and Rivers	
CATEGORY	Water Quality Objectives	
SUMMARY	<p>The Basin Plan does not currently include narrative or numeric objectives for in-stream flow. There are some water bodies (e.g., creeks, streams, rivers) in the region where anthropogenically reduced flows may be harming beneficial uses related to aquatic life during at least a portion of the year.</p> <p>For this project, flow criteria or objectives would be tributary- or watershed-specific. Water Board staff would determine which water bodies in the region have beneficial uses at risk from reduced flows, collate available instream flow data, and investigate various modeling and monitoring approaches to ultimately identify high priority water bodies. Flow criteria developed elsewhere relied on multiple years of stream gage data, which are not available for most tributaries in the San Francisco Bay Area. Thus, our approach may require modeling the hydrograph for many catchments. We would seek to leverage limited available resources to conduct needed studies over large geographic areas while addressing multiple species, life stages, and fluvial processes. The State Water Board is preparing a manual with procedures to guide the development of regional flow criteria. This guidance is intended to be applicable statewide, but allows for regional application, and incorporates existing information, studies, and data.</p> <p>Flow criteria could address minimum low flows during particular time periods (e.g., summer), but can also incorporate ecological benefits of a complete flow regime, which includes the magnitude, variability, duration, and timing of flows.</p> <p>This project is highly complex and would require close coordination with the California Department of Fish and Wildlife as well as State Water Board’s Division of Water Rights because of the nexus with water rights laws.</p>	
PROPOSED BY	Living Rivers Council	
SUPPORTED BY	Living Rivers Council	
PRIORITIZED RANK: 31	GENERALIZED RANK: LOW	
SCORE: NA	COMPLEXITY: HIGH	
ESTIMATED PERSONNEL-YEARS (PY): 3.0	PY RUNNING TOTAL: NA	
IMPLEMENTING DIVISION: PLANNING; WATERSHED		