CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION No. R2-2018-0042

APPROVING THE 2018 TRIENNIAL REVIEW
of the
SAN FRANCISCO BAY BASIN WATER QUALITY CONTROL PLAN
and
ADOPTING A LIST OF PRIORITIZED BASIN PLANNING PROJECTS

WHEREAS, the California Regional Water Quality Control Board, San Francisco Bay Region (Water Board), finds that:

1. The San Francisco Bay Basin Water Quality Control Plan (Basin Plan) is the Water Board's master water quality control planning document. The Basin Plan has been duly adopted by the Water Board and approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law, and U.S. EPA, where required.
2. The Basin Plan contains the San Francisco Bay Region's water quality standards, which consist of beneficial uses, water quality objectives, and implementation plans necessary to protect those uses.
3. In accordance with section 303(c)(1) of the federal Clean Water Act and section 13240 of the California Water Code (Water Code), the Water Board has concluded its 2018 Basin Plan Triennial Review.
4. Water Board staff prepared an issue paper entitled "Brief Issue Descriptions," dated April 2018, describing potential Basin Plan projects.
5. In accordance with State Water Board procedures, Water Board staff circulated the candidate Basin Plan project descriptions and held a workshop on May 21, 2018, for the purpose of receiving public comments concerning the need for revisions to the water quality standards, (i.e., beneficial use designations, water quality objectives) established in the Basin Plan.
6. Taking into account initial public comments, Water Board staff developed a staff report, dated July 2018, describing the 2018 Triennial Review process and the list of prioritized basin planning projects to be pursued over the next three years. The staff report describes water quality issues, the relative priority for investigating the issues, identifies which issues can be investigated with existing resources, and identifies additional issues along with the additional resources it will take to investigate and complete them.
7. On July 20, 2018, the Water Board provided to all interested parties both the *2018 Triennial Review List of Prioritized Basin Planning Projects* and the supporting staff report and notified these interested parties of its intent to approve the Prioritized List in fulfillment of the 2018 Triennial Review.
8. The Water Board held a public hearing on September 12, 2018, to receive testimony on the 2018 Triennial Review process and staff report.

9. The Water Board reviewed, carefully considered, and responded to all written comments received on the July 2018 staff report and list of prioritized projects as well as oral testimony received relative to the 2018 Triennial Review.

NOW THEREFORE BE IT RESOLVED, THAT

1. The Water Board hereby certifies completion of the 2018 Triennial Review and adopts the *2018 Triennial Review List of Prioritized Basin Planning Projects* as set forth in Exhibit A to this Resolution; and

2. The Water Board may address issues described in the 2018 Triennial Review staff report, but not included in Exhibit A, as staff and external resources may become available; and

3. The entire Basin Plan shall remain in effect until such time that appropriate and specific amendments are adopted by the Water Board and approved by the appropriate review authorities.

I, Bruce H. Wolfe, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on September 12, 2018.

Digitally signed by Bruce H. Wolfe
Date: 2018.09.14 14:53:44 -07'00'

BRUCE H. WOLFE
Executive Officer

Exhibit A – 2018 Triennial Review List of Prioritized Basin Planning Projects

EXHIBIT A
2018 Triennial Review List of Prioritized Basin Planning Projects

PROJECT TITLE	1. Climate Change and Wetland Policy Update
CATEGORY	Plans and Policies and Implementation Plan
SUMMARY	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 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 and restore water quality. The first element of the candidate project would update the Basin Plan to reflect the relationship between climate change and water quality regulation and would consist of multiple 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 wetlands and infrastructure, changes in aquatic species composition, impediments to drainage from low gradient streams, and desiccation of first-order streams. The second project element would review existing policies that could be used to promote resilience of Bay ecosystems and shoreline areas to sea level rise. Staff efforts to date have focused on three policy areas. We are reviewing: (1) how existing policies regulating wetland fill, wetlands conservation, and ecosystem restoration can best incorporate consideration of sea level rise; (2) the need for updating existing policies to facilitate the use of treated wastewater and stormwater as a source of freshwater to nourish tidal marshes (see candidate project description 4.2); and (3) how sediment management policies can optimize the beneficial reuse of dredged sediment to enhance flood control, support baylands restoration, and promote shoreline resilience. The scope of the problem makes this project technically complex and challenging, but there is a growing body of information that can inform our policies at the regional level. Other phases of this project could explore other potential changes to the Basin Plan to address other program needs or additional policy development to advance use of natural infrastructure and living shoreline solutions as shoreline adaptation solutions.
PROPOSED BY:	Water Board
SUPPORTED BY:	Water Board, Baykeeper, Alameda County Water District, Bay Area Clean Water Agencies, Santa Clara Valley Water District

PRIORITIZED RANK: 1	**GENERALIZED RANK: HIGH**
SCORE: 77	**COMPLEXITY: HIGH**
ESTIMATED PERSONNEL-YEARS (PY): 2.0	**PY RUNNING TOTAL: 2.0**
IMPLEMENTING DIVISION: PLANNING	

PROJECT TITLE	2. Review and Update of Policy 94-086 - Using Wastewater to Create, Restore, and Enhance Wetlands	
CATEGORY	Plans and Policies and Implementation Plan	
SUMMARY	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 treated wastewater as a source of freshwater for restored wetlands could provide an environmental benefit by increasing and accelerating 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 Baylands Ecosystem Habitat Goals 2015 Science Update to "restore estuary-watershed connections that nourish the Baylands with sediment and freshwater" (see also the project on Climate Change and Water Resources Policy). This is an ongoing project that Water Board staff are actively working on. This project includes review and consideration of the need to update Regional Board Resolution No. 94-086 "Policy on the Use of Wastewater to Create, Restore, and/or Enhance Wetlands." This current policy is now over 20 years old. Much has been learned about wetland restoration over the intervening years, and the hydrology and topography of San Francisco 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. The project would also clarify permitting requirements for wastewater discharges into wetlands and creation of wetlands such as horizontal or ecotone levees that include use of wastewater and develop near-shore permitting strategies for discharges to wetlands. 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). 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 the creation of new wetlands.	
PROPOSED BY:	Water Board	
SUPPORTED BY:	Water Board, EOA Inc., Bay Area Clean Water Agencies, Palo Alto, Alameda County Water District	
PRIORITIZED RANK: 2		**GENERALIZED RANK: HIGH**
SCORE: 72		**COMPLEXITY: HIGH**
ESTIMATED PERSONNEL-YEARS (PY): 1.5		**PY RUNNING TOTAL: 3.5**
IMPLEMENTING DIVISION: PLANNING, NPDES		

PROJECT TITLE	3. Review and Refine Dissolved Oxygen Objectives for San Francisco Bay
CATEGORY	Water Quality Objectives
SUMMARY	This project was identified as a high priority project during the previous (2015) Triennial Review, and the first phase of the project, adoption of site-specific dissolved oxygen objectives for Suisun Marsh, has been completed. The Regional Water Board adopted these objectives at its April 2018 meeting, and the State Water Board approved the TMDL and Basin Plan Amendment at its August 2018 meeting. 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, and 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. Updating the dissolved oxygen objectives is especially important in view of the dramatic increase in opportunities for restoration of unique habitats around 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 are regularly 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 both temporal and spatial or, possibly, developing site-specific dissolved oxygen objectives in tidal wetlands, slough channels, managed ponds, shallow subtidal habitats, or other shoreline habitats. The approach taken to develop site-specific objectives for Suisun Marsh is expected to be applicable to other shallow-water habitats around the Bay.
PROPOSED BY	Water Board
SUPPORTED BY	Bay Area Clean Water Agencies, Alameda County Water District, City of Palo Alto, Water Board

PRIORITIZED RANK:3	**GENERALIZED RANK: HIGH**
SCORE: 68	**COMPLEXITY: HIGH**
ESTIMATED PERSONNEL-YEARS (PY): 1.0	**PY RUNNING TOTAL: 4.5**
IMPLEMENTING DIVISION: NPDES, WATERSHED, PLANNING	

PROJECT TITLE	4. Review and Implement Biological Assessment Tools	
CATEGORY	Plans and Policies and Implementation Plans	
SUMMARY	Biological assessments can provide direct measures of the cumulative response of the biological community to all sources of stress in a watershed. Biological indicators directly assess if beneficial uses such as warm or cold freshwater habitat are supported. The current 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 statewide biological indicator. The State Water Board has been developing a statewide implementation plan to utilize bioassessment data in wadeable streams and rivers. Water Board staff would continue to participate in this State Water Board project and, depending on the ultimate timeline and result of this statewide policy, we would consider the need for amendments to the Basin Plan. Preventing the degradation of biological integrity is an important component of the statewide effort and is also a priority for our Region. Recent analyses at the State and regional levels show that stream physical habitat conditions substantially influence bioassessment scores calculated with the statewide California Stream Condition Index (CSCI). Metrics to evaluate the condition of engineered channels and compare condition regionally are not consistently available. One element of this project under consideration is the development of condition assessments using CSCI data for engineered or modified channels as a tool to use in Clean Water Act section 401 certifications. We would use existing data to determine the range of water quality, physical habitat conditions, and biological conditions observed in different flood control channels to model expected conditions in flood control channels without existing data and develop a classification approach. A framework, including reference to bioassessment and mapping tools (e.g., mapping in Ecoatlas) could then be incorporated into Chapter 4 Implementation Plan. Bioassessment data would also inform the development of the Regional Stream and Wetland Systems Protection Policy project by providing a nexus between riparian physical habitat conditions and in-stream water quality and biological condition.	
PROPOSED BY	State Water Board	
SUPPORTED BY	California Trout, Alameda County Water District, Santa Clara Valley Water District	
PRIORITIZED RANK: 4		**GENERALIZED RANK: HIGH**
SCORE: 66		**COMPLEXITY: MEDIUM**
ESTIMATED PERSONNEL-YEARS (PY): 0.6		**PY RUNNING TOTAL: 5.1**
IMPLEMENTING DIVISION: PLANNING, WATERSHED		

PROJECT TITLE	5. Develop Numeric Nutrient Endpoints (NNEs) in Freshwater Streams and Estuaries	
CATEGORY	Water Quality Objectives	
SUMMARY	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. Nutrients for San Francisco Bay are being addressed separately through this Board's Nutrient Management Strategy during this three-year workplan cycle and will be considered in a future basin planning project. 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. 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 certifications, 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. This candidate project consists of Water Board staff's active participation in both efforts, and the estimated PYs are limited to that effort. As each nears completion, Water Board 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.	
PROPOSED BY	State Water Board	
SUPPORTED BY	City of Palo Alto	
PRIORITIZED RANK: 5		**GENERALIZED RANK: HIGH**
SCORE: 63		**COMPLEXITY: MEDIUM**
ESTIMATED PERSONNEL-YEARS (PY): 0.3		**PY RUNNING TOTAL: 5.4**
IMPLEMENTING DIVISION: PLANNING, NPDES, WATERSHED		

PROJECT TITLE	6. Incorporate Revised U.S. EPA Recreational Water Quality Criteria for Bacteria
CATEGORY	Water Quality Objectives
SUMMARY	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). 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. In August 2018, the State Water Board adopted the new RWQC into the Ocean Plan and the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. With this adoption, the total and fecal coliform indicators currently in the Basin Plan will no longer apply for the protection of contact recreation. The State Water Board's program implementing the new criteria currently contains other elements such as a reference beach/natural source exclusion process and exemptions to the new criteria under conditions of high flow. In view of the State Water Board's adoption of the new criteria and other associated policies, the Water Board must make corresponding changes to our Basin Plan to be consistent with the State Water Board action.
PROPOSED BY	State Water Board
SUPPORTED BY	Bay Area Clean Water Agencies, State Water Board

PRIORITIZED RANK: 5	**GENERALIZED RANK: HIGH**
SCORE: 63	**COMPLEXITY: LOW**
ESTIMATED PERSONNEL-YEARS (PY): 0.3	**PY RUNNING TOTAL: 5.7**
IMPLEMENTING DIVISION: NPDES, PLANNING	

PROJECT TITLE	7. Designate Tribal Tradition and Culture, Tribal Subsistence Fishing, and Subsistence Fishing Beneficial Uses in the San Francisco Bay Region
CATEGORY	Update Beneficial Uses
ISSUE SUMMARY	In 2017, the State Water Board adopted Resolution No. 2017-0027. The provisions for this resolution (***Final Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California—Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions***) defined three new beneficial uses: Tribal Tradition and Culture (CUL), Tribal Subsistence Fishing (T-SUB), and Subsistence Fishing (SUB). Resolution No. 2017-0027 established these three uses in the Statewide Plan for Inland Surface Waters, Enclosed Bays and Estuaries of California, but it did not designate these uses for any specific waterbodies in California nor require that the uses be designated. Regional Water Boards are generally responsible for designating beneficial uses for specific waterbodies (where the use applies) within their respective regions, and this designation occurs through a basin planning process. This candidate project is to amend the Basin Plan to designate these three uses for waterbodies in the San Francisco Bay Region. In executing this project, Water Board staff would work with local tribes as well as groups representing subsistence fishing communities to document the existence of these uses along with relevant spatial and temporal attributes. Upon reviewing the available documentation, Water Board staff would determine the appropriate geographic scope (e.g., specific waterbodies or regional designation) of the use designations for the Basin Plan amendment.
PROPOSED BY:	Clean Water Action, State Water Board
SUPPORTED BY:	U.S. EPA, Baykeeper, Clean Water Action, Michelle Pierce, Environmental Justice Coalition for Water

PRIORITIZED RANK: 7	**GENERALIZED RANK: HIGH**
SCORE: 61	**COMPLEXITY: MEDIUM**
ESTIMATED PERSONNEL-YEARS (PY): 1.0	**PY RUNNING TOTAL: 6.7**
IMPLEMENTING DIVISION: PLANNING	