Brief Issue Descriptions

for the

2012 Triennial Review

of the

San Francisco Bay Basin

Water Quality Control Plan

(Basin Plan)

March 2012

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1 INTRODUCTION

The San Francisco Bay Regional Water Quality Control Board (Water Board) is conducting the 2012 triennial review of the water quality standards in its Water Quality Control Plan (Basin Plan, http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml). The last triennial review was completed in fall 2009. The Water Board's triennial review will identify those issues that are considered a priority to address through Basin Plan amendment projects. Based on previous stakeholder comments, coordination with the statewide Basin Plan roundtable and a review of regulatory program needs, Water Board staff has identified the following issues within the Basin Plan for consideration in the upcoming triennial review. The projects are presented in categories of project type: beneficial uses, water quality objectives, implementation plans, other plans and policies, and editorial updates. Their order within these categories does not reflect their priority – which will be established through the triennial review public process. We prepared this list to inform the public and inspire interested parties to generate ideas to share with us to assist in our efforts to identify and prioritize Basin Plan amendment projects that will best address the water quality planning needs of our region.

2 UPDATE BENEFICIAL USES

State policy for water quality control in California is directed toward achieving the highest water quality consistent with maximum benefit to the people of the State. The beneficial uses described in Chapter 2 of the Basin Plan define the resources, services, and qualities of the State's aquatic systems. The Water Board is charged with protecting all these beneficial uses from pollution and nuisance that may occur as a result of waste discharges in the Region. Beneficial uses of surface water bodies, groundwater aquifers, and wetlands presented here serve as a basis for establishing water quality objectives and discharge prohibitions to attain this goal.

2.1 Modify Groundwater Recharge Beneficial Use

This project would explore modifying and expanding the groundwater recharge beneficial use definition to support storage of drinking water in groundwater aquifers. The Basin Plan designates all groundwater basins as potential or existing drinking water sources. The State faces global climate change and associated hydrological changes, so groundwater storage will become an increasingly important water management tool to help the State meet its future water needs. Enhancing groundwater storage may be necessary to help the Region cope with climate change impacts.

2.2 Evaluate the Beneficial Use for Municipal Supply for Groundwater Aquifers along the Bay Fringe

The goal of this project would be to create a consistent and transparent process to determine when the municipal supply beneficial use applies to a given groundwater aquifer and to memorialize these use determinations through the Basin Plan. The project would entail developing a regional policy for groundwater along the Bay fringe and underlying fill areas. The Water Board's "Sources of Drinking Water" Policy (Water Board Resolution 89-039) states that all surface and groundwaters in the state are suitable or potentially suitable for municipal and domestic water supply. This project would explore where exceptions to this policy might be granted – for example when the groundwater has elevated total dissolved solids concentrations or

the area suffers from low well yield. Developing this policy would provide regulatory certainty as to whether the domestic or municipal supply beneficial uses apply to a given Bay fringe site, and ensure that appropriate cleanup levels are applied for Bay fringe sites for which the domestic or municipal beneficial use does not apply.

2.3 *Evaluate the Shellfish Harvesting Beneficial Use for the San Francisco Bay Region*

Most segments of San Francisco Bay are currently designated as suitable for commercial and recreational shellfish harvesting beneficial uses (SHELL). There are currently no commercial shellfish beds in San Francisco Bay. Commercial shellfish beds in the region are in Tomales Bay and along the coast at Point Reyes National Seashore. All coastal areas in the region are also designated as having the SHELL beneficial use. The Basin Plan identifies water quality objectives for shellfishing using a bacterial indicator, measured as fecal coliforms, and these objectives are based on protection of commercial shellfish beds for human health consumption. These objectives are more than ten times lower than the recreational water contact objectives.

The State Water Board has been working on an amendment to the Ocean Plan to update bacterial indicator objectives protective of shellfishing. One aspect of this project under consideration is refining the shellfish harvesting beneficial use definition to distinguish between commercial and recreational shellfishing. Data have also been collected and evaluated to support an implementation option for the SHELL beneficial use as it would apply to recreational shellfishing – referred to as the "reference system approach." In the "reference system approach, we determine how frequently bacterial water quality objectives are exceeded in areas downstream of relatively undeveloped watersheds. Then, the exceedance frequencies for other areas are compared to the reference exceedance frequency for the purpose of determining protection of beneficial uses. Data collected thus far however indicate that even reference areas exceed the SHELL water quality objectives 40% of the time. Currently we are participating with other Regional Boards and the State Water Board in the development of the statewide project related to this beneficial use. At a minimum, this project would revise the beneficial uses to be consistent statewide and to distinguish between recreational and commercial shellfishing. An approach is needed in the region to address the applicability of the shellfish water quality objective.

2.4 Complete the Stream and Wetland Systems Protection Policy

This project is to complete the 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 amendment would designate two 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 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 new water quality objectives and an implementation plan that sets forth actions needed to attain the new water quality standards. The implementation plan would provide flexibility to account for a wide range of watershed conditions (e.g., degree of urbanization, watershed size, and surrounding land uses) and would establish a general framework for how to assess achievement of the water quality objectives associated with the new beneficial uses.

3 UPDATE WATER QUALITY OBJECTIVES

The overarching purpose of water quality regulation is to protect and maintain thriving aquatic ecosystems and the resources those systems provide to society and to accomplish this in an economically and socially sound manner. California's regulatory framework uses water quality objectives both to define appropriate levels of environmental quality and to control activities that can adversely affect aquatic systems. The following candidate projects provide specific examples of water quality objectives we are considering updating.

3.1 Develop Site-Specific Objectives for Dissolved Oxygen in San Francisco Bay

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. This objective was adopted in the 1975 Basin Plan and has remained unchanged. Recent advances in scientific knowledge regarding the dissolved oxygen tolerance of estuarine and marine organisms, as well as new methods for setting protective limits, may provide the technical basis for improved and more consistent objectives to protect beneficial uses. As part of the nutrient numeric endpoint project for coastal estuaries underway at the Southern California Coastal Water Research Project (SCCWRP), an evaluation of the scientific basis for dissolved oxygen objectives for estuaries and enclosed bays in California has been conducted. This work may inform an update of dissolved oxygen objectives for San Francisco Bay.

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 than in the main water mass of San Francisco Bay and frequently exhibit concentrations less than 5.0 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 developing new dissolved oxygen objectives or possibly, site-specific dissolved oxygen objectives in tidal wetlands, slough channels, managed ponds, and other shoreline habitats. In addition, the State Board began development of a nutrient assessment framework for San Francisco Bay and dissolved oxygen is proposed as a primary indicator. As such, the existing dissolved oxygen objectives should be evaluated for various habitats in San Francisco Bay.

3.2 Update the Basin Plan's Toxicity Testing Requirements

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. That amendment would update procedures for assessing the potential for chemicals to cause toxicity to aquatic life in surface waters.

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 vast range of interpretations.

The draft State Water Board policy 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 policy would supersede the Basin Plan's current toxicity policy, so Water Board staff would need to edit the Basin Plan sections on toxicity (3.3.18 and 4.5.5.3) to ensure consistency.

3.3 Refine Alameda Creek Watershed Total Dissolved Solids (TDS) and Chloride Water Quality Objectives

The current surface water quality objectives for TDS and chloride in the Alameda Creek Watershed above Niles (Basin Plan Table 3-7) were adopted in the 1975 Basin Plan. These objectives were established to protect groundwater used for drinking water. Specifically, they were intended to minimize salt buildup in the Livermore-Amador groundwater basin by limiting treated municipal wastewater discharges to the Alameda Creek watershed upstream of Niles, as surface waters recharge the Livermore-Amador groundwater basin. The objectives were based on historic South Bay Aqueduct (SBA) water quality and thus limited surface water discharges to salt concentrations no higher than those in SBA imports. The adoption of these objectives led to the cessation of all publicly-owned treatment works (POTW, i.e., sewage treatment plant) discharges to the Livermore-Amador groundwater basin by 1980.

Other wastewater dischargers (e.g., aggregate mining operations) use Livermore-Amador groundwater in their operations and discharge salt from this groundwater into Alameda Creek and its tributaries. These discharges do not necessarily lead to salt buildup in the Livermore-Amador groundwater. However, the discharged water must meet the water quality objectives in Table 3-7.

With municipal wastewater discharges eliminated, the Table 3-7 objectives may no longer be applicable. In reconsidering the objectives, potential impacts to the Niles Cone groundwater basin (recharged by the Alameda Creek watershed downstream of Niles) must be considered. The surface water quality objectives would be reviewed and refined to reflect salt transport throughout the Alameda Creek system and conditions that best protect water supplies and other beneficial uses.

3.4 Revise Cadmium Water Quality Objectives

In 2000, U.S. EPA promulgated the California Toxics Rule (CTR), which established acute and chronic dissolved freshwater criteria for cadmium as 4.3 micrograms per liter (µg/L) and 2.2 µg/L, respectively. The CTR also established acute and chronic dissolved saltwater criteria for cadmium of 42 µg/L and 9.3 µg/L, respectively. The U.S. Fish and Wildlife Service (FWS) found that the CTR freshwater and saltwater cadmium criteria are not protective of threatened and endangered species. In response to this FWS finding, U.S. EPA developed revised, recommended cadmium criteria in 2001 that are protective. The State Water Board staff are proposing to adopt hardness-based equations for freshwater cadmium objectives (derived by the United States Geological Survey) and U.S. EPA's revised, recommended saltwater cadmium criteria for inland surface waters, enclosed bays, and estuaries.

Once State Board adopts these new equations, the Water Board could undertake a project to prepare a Basin Plan amendment incorporating these hardness-based relationships.

3.5 Revise Pentachlorophenol (PCP) Water Quality Objectives

PCP criteria were included in the California Toxics Rule (CTR) of 2000. Subsequently, the US 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.

This project 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.

3.6 Develop Trash Water Quality Objectives

Land-based sources of trash and debris are negatively affecting beneficial uses of the Bay and its tributaries. Once transported to coastal and open oceans, the trash, in the form of marine debris, affects beneficial uses there, as well. The State's current regulatory framework is not consistent across all regions (some regions have narrative objectives only and others have narrative objectives and prohibitions). Moreover, the Basin Plan lacks implementation provisions that explicitly protect against significant impacts to the Bay and ocean beneficial uses that may result from the transport of land-based trash.

In order to minimize development of time and resource-intensive trash TMDLs around the State, the State Water Board is developing a trash policy both to address the problem of trash and remedy the inconsistent regulatory framework. The draft policy currently contains three elements:

- A water quality policy that would define trash as well as performance standards for cleanup and removal of trash from the storm drain system;
- Trash water quality objectives; and

- Implementation provisions designed to achieve the objectives.

Adoption of this policy by the State Water Board would require changes to the Basin Plan in Chapters three, four, and five to ensure consistency with the policy.

3.7 Develop Nutrient Water Quality Objectives

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 major focus of this project would be to develop an assessment framework for nutrients for San Francisco Bay, but it would also include evaluating statewide efforts to address nutrients for freshwater and coastal estuaries for their applicability in the region. This project would build on the State Board's efforts to develop an approach to address nutrients statewide.

The State Water Board is in the process of developing a freshwater nutrient policy that includes narrative nutrient objectives along with numeric guidance to translate the narrative objectives into numeric water quality objectives. The approach is based on the Nutrient Numeric Endpoint (NNE) framework, which establishes numeric endpoints based on the response (e.g. algal biomass, dissolved oxygen, etc.) of a water body to excessive nutrient concentrations. The State Water Board held a public scoping meeting in October 2011 and is also initiating peer review of the policy's technical foundation. Water Board staff would track this effort and evaluate the policy's application for fresh waters in the Region. After NNE policy is adopted by the State Board, we would also need to make corresponding changes to the portions of the Basin Plan involving nutrient objectives and implementation thereof.

In addition, a State Regional Technical Advisory Group has been established by the State Water Board to support application of the framework to 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.

For San Francisco Bay, Water Board staff are currently actively involved in the process of developing the SF Bay-specific NNE framework, which will be the foundation both for assessing the Bay's impairment status relative to nutrients, eutrophication and for developing a nutrient monitoring, modeling and management strategy for SF Bay. Staff are also working collaboratively with stakeholders to develop the regional nutrient strategy.

3.8 Development and Implementation of Biological Objectives

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. Biological objectives set the biological quality goal, or target, to which water quality can be managed, rather than the maximum allowable level of a stressor (pollutant or other water quality condition) that affects the aquatic life in that water body. Therefore, biological objectives are more integrative and environmentally relevant goals for the protection of aquatic life than the objectives based on stressors that are currently in the Basin Plan. U.S. EPA is encouraging states to adopt biological objectives, and several states, such as Ohio and Florida, have already done so.

In California, the Surface Water Ambient Monitoring Program (SWAMP) has been collecting the information needed to develop biological objectives. In the San Francisco Bay region, SWAMP has collected bioassessment data by monitoring watersheds in the Region and is currently collaborating with other watershed monitoring programs to develop Bay Area specific indices of biotic integrity, referred to as an IBI, for both perennial and non-perennial streams. The State Water Board is in the process of developing statewide biological objectives for perennial streams and rivers.

Data from stormwater programs, Region 2 SWAMP, Perennial Streams Assessment Program, and Reference Condition Management Program are available to develop San Francisco Bay-specific biological objectives for perennial and non-perennial streams and the associated implementation plans. Such a project might also include the development of a tiered aquatic life beneficial use (TALU) framework or similar conceptual framework, which recognizes the maximum biological potential based on a stream's natural condition and ambient stressors. The biological objectives framework relies on a combination of biological, physical, and chemical monitoring to account for natural variation through water body classification and relies on bioassessment data to measure aquatic life directly. Biological objectives are coupled with numeric biological standards (e.g., IBI scores) that provide a direct measure of the beneficial use being protected.

3.9 Incorporate Revised U.S. EPA Recreational Water Quality Criteria for Bacteria

In December, 2011, the U.S. EPA published and invited comment on its draft recreational water quality criteria for bacteria in both fresh and marine waters. There are not substantial changes to the geometric mean criteria, but U.S. EPA introduced a new concept, Statistical Threshold Value (STV), as a clarification and replacement for the term 'single sample maximum'. Also, the draft criteria document no longer recommends different criteria values for beaches based on intensity of use. EPA has also developed a quantitative polymerase chain reaction method to detect and quantify enterococci more rapidly than the culture method.

For calculating the geometric mean and associated STV, EPA recommends a duration between 30 days and 90 days. EPA recommends a frequency of zero exceedances of the GM and less than 25 percent exceedance of the STV, during the recreation duration specified. The duration of the averaging period and the frequency of exceedance are both components of a water quality criterion, and as such, would need to be explicitly included in State's water quality standards.

Once the new criteria have been adopted by U.S. EPA, California would need to make corresponding changes in State plans and policies. Part of this work would involve making decisions on averaging periods as well as harmonizing the recommended exceedance frequencies with the State policy for impaired waters.

4 UPDATE IMPLEMENTATION PLANS

The Water Board's overall mission is to protect the beneficial uses supported by the quality of the Region's surface water and groundwater. Together, the beneficial uses described in detail in Chapter 2 define the resources, services, and qualities of aquatic ecosystems that are the ultimate goals of protecting and achieving water quality. The objectives presented in Chapter 3 present a framework for determining whether water quality is indeed supporting these beneficial uses. This

chapter describes in detail the Water Board's regulatory programs and specific plans of action for meeting water quality objectives and protecting beneficial uses. The following are specific implementation plan sections we have identified as candidates for updating.

4.1 Environmental Screening Levels (ESLs) for Groundwater Cleanups

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.

Accomplishing this project would both promote consistency and optimal resource allocation in groundwater cleanup projects because, by memorializing these screening levels in the Basin Plan, other regulatory agencies would more likely use the ESLs as appropriate cleanup levels. 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 would document our current process for screening sites using a multiple pathway conceptual model, which includes groundwater and surface water interactions. This project was included in the prioritized list in the last Triennial Review and some initial work, supported by the Toxics Division, has already been conducted.

4.2 Amend Wet Weather Overflows Implementation

The Basin Plan contains a conceptual approach for evaluating wet weather discharge conditions where polluted stormwater or process wastewater bypasses normal treatment. This approach uses three levels of treatment corresponding to the three types of beneficial uses commonly affected by wet weather overflows (water contact recreation, non-contact water recreation, and shellfish harvesting).

In 2007, the State Water Board found the wet weather permit and time schedule order (TSO) issued to the East Bay Municipal Utility District to be inconsistent with the Clean Water Act mandate that POTWs achieve secondary treatment, at a minimum. State Water Board Order 2007-0004 remanded the permit and TSO back to the Water Board for revision and directed the Water Board to amend the Basin Plan to delete language that conflicts with the Clean Water Act. The Water Board adopted a revised permit and a stipulated order that no longer allow discharges from wet weather facilities to the Bay. This project would amend Section 4.9.2 and Table 4-4 of the Basin Plan to update the relevant language there.

4.3 Low-Threat Site Closure Requirements

Staff would develop a regional policy to address closure for low-threat contaminant sites as a complement to the forthcoming State Water Board policy for Low Threat Closure of Petroleum Underground Storage Tank (UST) sites. The proposed State Board 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. There are two possible scopes for this project. The first (narrow) option is to limit the policy's

scope to solvent-impacted sites, thereby avoiding any overlap with the pending State Water Board policy. The second (broader) option is to craft a policy that addresses both petroleum-UST and solvent-impacted sites, in case the State Water Board's policy is not adopted. This policy would benefit staff in that they could focus their attention on sites that pose the most threat to human health and the environment. The policy 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).

4.4 Salt and Nutrient Management Plans

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 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.

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 adopt salt and nutrient management plans. Board staff have identified three priority groundwater basins – Sonoma, Livermore-Amador Valley and Santa Clara. San Francisco Bay Region stakeholders are in the process of developing management plans for these three priority groundwater basins. These management plans will assess sources, identify linkages to water quality objectives and establish a plan to achieve and maintain water quality objectives.

These implementation plans will eventually be adopted into the Basin Plan. In order for Basin Plan adoption to be a smooth process, the Water Board will provide regulatory and technical guidance during the stakeholder-led development of these plans.

4.5 On-Site Wastewater Treatment System Implementation Plan

The State Water Board has drafted a new policy for septic systems to ensure that surface waters and ground waters are not contaminated by the pathogenic bacteria and soluble inorganic materials such as nitrogen compounds that these systems can release.

The draft OWTS Policy includes:

a) Minimum operating requirements that may include siting, construction, and performance requirements,

b) Requirements for OWTS adjacent to impaired waters,

c) Requirements authorizing local agency implementation,

d) Corrective action requirements,

e) Minimum monitoring requirements,

f) Exemption criteria, and

g) Requirements for determining when an existing OWTS is subject to major repair.

State Water Board staff conducted a series of public workshops around the state in late Fall 2011 to introduce the policy and answer questions. The State Water Board will likely act on this policy in 2012, and, after adoption, we will need to amend Section 4.18 of the Basin Plan to ensure consistency with the new policy, as necessary.

5 UPDATE PLANS AND POLICIES

In addition to the Basin Plan, many other plans and policies direct the Water Board's actions or clarify the Water Board's intent. Chapter 5 describes numerous State Water Board plans and policies and Water Board policies. The following are specific examples of policies we are considering updating.

5.1 The California Water Plan

The California Department of Water Resources (DWR) is preparing the California Water Plan Update 2013, utilizing a variety of venues and outreach to partner with other State agencies, federal agencies, tribal governments, statewide and local agencies, organizations, technical experts, and the public. The 2013 Water Plan will, for the first time, contain a finance plan that will identify critical priorities for State investment in integrated water management activities and recommend equitable and fiscally responsible financial strategies and revenue sources should funding gaps be identified as part of the water plan's development. The Water Plan will also emphasize enhanced content related to water quality, to highlight regional and statewide water quality challenges and recommend strategies to protect and improve water quality and water supply reliability.

Water Board staff would have two roles in this project. First, staff would contribute material for the Water Quality Section of the San Francisco Bay Regional Report. Second, staff would evaluate potential updates to the Basin Plan to integrate the recommendations of the Water Plan. We anticipate that the Water Plan will focus on regional water issues with statewide impacts, data availability, lessons learned, best management practices and management strategies, with a strong emphasis on integrated regional water management and planning.

5.2 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.

The current list of impaired waters for California is available on the State Board website (http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml). We present here, for stakeholder review and comment, the list of TMDLs that are of higher priority for development and completion as Basin Plan amendments over the next three years:

- Butano and Pescadero Creeks Sediment
- Lagunitas Creek Sediment
- Mission Creek Toxic Hot Spot
- Napa River Nutrients
- North San Francisco Bay Selenium

- Permanente Creek Selenium
- Petaluma River Nutrients and Pathogens
- San Francisco Bay Beaches (pathogens)
- San Gregorio Creek Sediment
- San Mateo Coast, Pacifica/San Pedro Creek pathogens
- Sonoma Creek Nutrients
- Suisun Marsh Dissolved Oxygen, Mercury and Nutrients

5.3 Develop Policy for Managing Mercury in Restored Wetlands

Wetlands pose a dilemma for resource managers and regulators because these environments provide badly-needed habitat for a wide variety of wildlife, 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 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.

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.

This project would ultimately result in policy incorporated into the Basin Plan.

6 EDITORIAL REVISIONS, MINOR CLARIFICATIONS or CORRECTIONS

This category of project involves making editorial non-regulatory changes that clarify or update some of the program descriptions to be consistent with new laws, plans and regulations or to correct minor errors. These changes are sometimes needed for clarity and to ensure that the public is informed about the latest requirements to protect water quality. These changes would be non-regulatory. That is, they would not impose new requirements on permittees, but rather clarify existing regulatory requirements or program descriptions. For example, Chapter 7 was created in the Basin Plan to include Water Quality Attainment Strategies, such as Total

Maximum Daily Loads (TMDLs). Chapters 4 and 7 need to be aligned to account for already adopted TMDLs and future TMDL Basin Plan amendments.

6.1 Clarify Turbidity Water Quality Objective

The Basin Plan's turbidity water quality objective is difficult to interpret:

> *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*

This 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 changes, this project could be accomplished as part of another Basin Planning project.

6.2 Miscellaneous Editorial Changes

Suggestions were also made during the public workshop from the 2009 Triennial Review as to possible changes to the Basin Plan that could be considered non-regulatory. These include:

- Update sections on toxicity to reflect current U.S. EPA requirements and references.
- Update 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.
- Chapter 1, Introduction: Consider adding more detail.

For more information about these candidate basin planning projects or the triennial review process itself, please contact:

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