Brief Issue Descriptions

for the

2008 Triennial Review

of the

San Francisco Bay Region Water Quality Control Plan (Basin Plan)

April 2008

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1. INTRODUCTION

The San Francisco Bay Regional Water Quality Control Board (Water Board) is conducting the 2008 triennial review of the water quality standards in its Water Quality Control Plan (Basin Plan). The last triennial review was completed in fall 2004. The Water Board's triennial review will identify those issues that are considered a priority for addressing 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 purpose of this list is to encourage input from interested parties to assist planning staff in prioritizing 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 Completion of Update of Significant Water Bodies and their Associated Beneficial Uses

Water Board staff has begun the effort to identify and update those significant water bodies that should be included in the Basin Plan, as this was identified as a high priority issue under the 2004 triennial review. This project would be completed during this next three year period. Many streams with substantial public interest are not in the Basin Plan's water body list and need to be added and appropriate beneficial uses designated. There are also some errors in existing designated uses that can be updated. For example, updates to beneficial uses for specific water bodies and wetland areas would be helpful for some receiving water bodies of NPDES wastewater dischargers, mainly shallow water dischargers. In addition, some water bodies that do not have beneficial uses designated in the Basin Plan are by default subject to the Water Board's drinking water policy such that the municipal supply beneficial use applies. This project would also establish the appropriate beneficial uses for these water bodies.

This may also include the creation of new "localized" watershed maps that focus on subareas of the basins depicted in Figures 2-3 to 2-9 (the Basin maps). These maps would be based upon the updated 1:24000 National Hydrologic Dataset layers and include updated watershed boundaries derived from local sources (Contra Costa Watershed Atlas, Oakland Museum maps, etc.) where appropriate. The maps may also include all water bodies under consideration for inclusion in Basin Plan Table 2-1, Existing and Potential Beneficial Uses of Water Bodies in the San Francisco Bay Region.

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

Water Board staff would consider developing a region-wide policy for groundwater along the Bay fringe and underlying fill areas. This effort would focus on the appropriateness of the domestic or municipal drinking water supply (MUN) beneficial use designation in these areas that are typically characterized by low well yield and elevated total dissolved solids (TDS) concentrations. Water Board staff would consider the exception criteria of Water Board Resolution 89-39 to evaluate the appropriateness of the MUN beneficial use.

Currently, the Basin Plan designates all groundwater in the Region as a potential or existing drinking water source. The Basin Plan identifies water quality objectives for municipal supply based on Maximum Contaminant Levels (MCLs) in Title 22 of the California Code of Regulations for drinking water in Table 3-5, Water Quality Objectives for Municipal Supply. These water quality objectives may not be appropriate to use as groundwater cleanup goals for cleanup sites along the Bay fringe, in instances where the underlying groundwater has been evaluated and found to meet the exception criteria under policy 89-93. In these cases, the MUN water quality objectives have not been applied as cleanup goals requiring implementation of an engineering remedy, but may be considered a cleanup goal that could be met in time based on natural attenuation. This Basin Plan amendment project would evaluate how best to address the appropriateness of the MUN designation and the application of Table 3-5, in Bay fringe areas.

2.3 Designation of Beneficial Uses for Hayward Marsh

The Hayward Marsh is a 145-acre improved marsh system including three freshwater marsh basins (85 acres) and two brackish waster basins (60 acres) at Hayward Shoreline Regional Park, adjacent to Lower San Francisco Bay. The three freshwater marsh basins (Basins 1, 2A, and 2B) are part of a wastewater treatment process. The two brackish water basins (Basins 3A and 3B) are waters of the United States and do not have specified beneficial uses other than those beneficial uses generically established in the Basin Plan for wetlands in the Hayward area. The Water Board would consider designating beneficial uses specific to Basins 3A and 3B or conducting a use attainability analysis to remove beneficial use designations, such as contact recreational use.

2.4 Evaluation of the Shellfish Beneficial Use for San Francisco Bay

All of San Francisco Bay is currently designated appropriate for commercial and recreational shellfish uses (SHELL). There are currently no commercial shellfish beds in San Francisco Bay. The Basin Plan identifies water quality objectives as a density of fecal coliforms as the indicator for pathogens, based on protection of commercial shellfish beds. Studies are being conducted at the State Water Board to identify where recreational shellfish harvesting is currently occurring along the coast and within the estuary. This may result in a refinement of the spatial and

temporal patterns of shellfish harvesting uses. This information would be used to subcategorize the SHELL beneficial use of San Francisco Bay for recreational shellfishing.

2.5 Completion of Stream and Wetland Systems Protection

Staff of the San Francisco Bay and the North Coast Regional Water Boards is currently working on proposed amendments to their respective Basin Plans to protect stream and wetland systems, which include stream channels, wetlands, floodplains, and riparian areas. This project was identified in the 2004 triennial review as a high priority project. The amendment will protect and restore the physical characteristics of these systems, including their connectivity and natural hydrologic regimes, in order to protect beneficial uses. The proposed amendment will likely include new beneficial uses and water quality objectives, and an implementation plan that sets forth actions needed to attain the new water quality standards. The implementation plan will provide flexibility to account for a wide range of watershed conditions (e.g., degree of urbanization, watershed size, and surrounding land uses) and will establish a general framework for avoiding, minimizing, and mitigating water quality impacts.

A single Stream and Wetland Systems Protection Policy will be proposed for Basin Plan adoption in both the North Coast and San Francisco Bay Regions to improve regulatory consistency. The Policy is intended to serve as a model for other Regional Water Boards and for the State in the protection of water quality.

On April 15, 2008, the State Water Board adopted a resolution recognizing the importance of the beneficial uses of wetland and riparian areas and the need to develop a statewide policy protecting these areas. The resolution directed the State Water Board staff to develop a state policy using a collaborative process that involves staff from the State Water Board and the Regional Water Boards. The Stream and Wetland Systems Protection Policy Basin Plan amendment being prepared by the San Francisco Bay and the North Coast Regional Water Boards will be considered in the development of this policy.

3. UPDATE WATER QUALITY OBJECTIVES

The overall goals of water quality regulation are to protect and maintain thriving aquatic ecosystems and the resources those systems provide to society and to accomplish these 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 are specific examples of water quality objectives we are considering updating.

3.1 Adopt U.S. EPA Beach Act Recreational Contact Standards

U.S. EPA promulgated bacteriological criteria (*1986 Ambient Water Quality Criteria for Bacteria*) for protection of human health due to contact recreation that are more appropriate than the current Basin Plan objectives of total and fecal coliform. These criteria are presented in the Basin Plan but were not formally adopted as water quality objectives. The U.S. EPA criteria-

based enterococci and E. Coli are more accurate indicators of potentially harmful bacteria. Adoption of these criteria as objectives would also involve evaluating the effluent limitations identified in Table 4-2 as to their appropriateness. The current effluent limitations for bacteria are expressed as total coliform. In addition to adoption of the U.S. EPA criteria for enterococci and E. coli, we would amend the Table 4-2 effluent limitations.

3.2 Develop Site-Specific Objectives for Dissolved Oxygen in Wetlands, Slough Channels and Other Shoreline Habitats in San Francisco Bay

The Basin Plan includes a minimum water quality objective for dissolved oxygen in all tidal waters of 5.0 mg/L downstream of the Carquinez Bridge; this objective was adopted in the 1975 Basin Plan and has not changed. The opportunities for restoration of unique habitats around the Bay margins have increased dramatically in recent years. 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 show compliance with the Basin Plan's dissolved oxygen objective of 5.0 mg/L, and sloughs under natural conditions (e.g., Newark Slough) often show dissolved oxygen levels below this threshold, it is appropriate to explore the possibility of developing a site-specific water quality objective or range of objectives for dissolved oxygen in tidal wetlands, slough channels and other shoreline habitats.

3.3 Refine Alameda Creek Watershed TDS and Chloride Water Quality Objectives

The current surface water quality objectives for TDS and Chloride in the Alameda Creek Watershed above Niles (Table 3-7) were adopted in the 1975 Basin Plan. These surface water objectives were established to protect groundwater resources used for drinking water. Specifically, they were intended to minimize salt buildup in the Livermore-Amador groundwater basin by limiting POTW discharges and their associated salts 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 lead to the cessation of all POTW discharges to the Livermore-Amador groundwater basin by 1980.

Other wastewater dischargers (e.g., aggregate mining operations) utilize 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 they are currently subject to the water quality objectives in Table 3-7. With the elimination of the POTW discharges, these objectives may no longer be applicable. In reconsidering the Table 3-7 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 Development of Biocriteria

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. Biocriteria 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, biocriteria are more integrative and environmentally relevant goals for the protection of aquatic life than objectives based on stressors that are currently in the Basin Plan. U.S. EPA is encouraging states to adopt biocriteria. Several states, such as Ohio and Florida, have done so and Regional Water Boards in Southern California are currently in the process of incorporating biocriteria into their Basin Plans.

In California, the Surface Water Ambient Monitoring Program (SWAMP) has been actively involved in collecting the information needed to develop biocriteria. Biocriteria for northern and southern coastal California have been developed; however, very few samples from the San Francisco Bay Region were used. In the San Francisco Bay Region, SWAMP has been collecting bioassessment data by monitoring watersheds in the Region. In addition, through the Bay Region Macroinvertebrate Bioassessment Information network (BAMBInet), SWAMP has been collaborating with stormwater and other watershed monitoring programs to develop the information to determine if developed biocriteria are suitable to the Bay Region or if Bay Region specific biocriteria are needed. The Water Board would develop and adopt biocriteria through a Basin Plan amendment to provide a better tool to evaluate whether aquatic life beneficial uses are protected. An outgrowth of inclusion of biocriteria in the Basin Plan would be consideration of the development of tiered aquatic life beneficial uses similar to the pilot project currently being conducted by the Los Angeles Regional Water Board.

3.5 Marine Debris

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. Our current regulatory framework (narrative objectives and prohibitions) does not explicitly protect against the significant impacts to the Bay and ocean beneficial uses that result from the transport of land-based debris.

To remedy this situation, Water Board staff would draft a Basin Plan amendment to establish narrative water quality objectives for marine debris, protective of the Bay and ocean beneficial uses. The amendment would also include implementation actions necessary to attain and maintain the new narrative objectives. An alternative project would be to revise the existing marine debris prohibition language in the Basin Plan to specifically prohibit discharge of trash and debris to protect aquatic life.

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 examples we are considering 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). 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. This update would not incorporate the current ESL criteria but rather the ESL approach. This would document the Water Board's current process for screening sites using a multiple-pathway conceptual model that includes groundwater and surface water interactions.

4.2 Low-Risk Site Closure Requirements

Staff would develop policy to address closure for low-risk contaminant sites. Currently, Water Board staff's Groundwater Committee is working to develop an approach for closing solvent sites that pose a low-threat to the environment. This approach would be integrated with existing closure requirements for fuel sites into one policy in the Basin Plan. The benefit of developing this policy would be to allow staff to 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 determinations for no further active remediation (i.e., monitoring only) or no further action (i.e., site closure) or requests for additional work, including a higher degree of site characterization and/or remediation.

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 2009, 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. Water Board staff would participate with DWR in its update of the California Water Plan to provide input on statewide policy issues and initiatives. Water Board staff would then evaluate potential updates to the Basin Plan to integrate the recommendations of the Water Plan. It is anticipated 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 Water Recycling Policy

The Water Board acknowledges the importance of using recycled water to meet California's future water supply needs and would update its current policy on recycled water usage. Potential updates might include the State Water Board's recycled water policy, once adopted, or recent legislation; for example, the State Water Board is now required to adopt a general permit for landscape irrigation with recycled water by July 2009.

5.3 Climate Change and Water Resources Policy

The Water Board is committed to reducing the impacts of climate change on our environment. We would review our existing policies and programs to track compliance with the State Water Board's September 2007 resolution on climate change and with other State laws as appropriate.

6. EDITORIAL REVISIONS, MINOR CLARIFICATIONS or CORRECTIONS

On an as-needed basis, the Water Board would make editorial changes that clarify or update regulatory program descriptions to be consistent with new laws, plans and regulations. These changes are sometimes needed for clarity and to ensure that the public is informed about the latest requirements to protect water quality. Such proposed elements of Basin Plan amendments would be non-regulatory, i.e., they would not impose new requirements on permittees, but rather clarify existing regulatory requirements or program descriptions not addressed in the current version of the Basin Plan. In addition, a new chapter of the Basin Plan, Chapter 7, was created to include Water Quality Attainment Strategies, such as the Total Maximum Daily Loads (TMDLs) and the copper site-specific objectives implementation plan. A non-regulatory action is needed to better align chapters 4 and 7, to account for already adopted TMDLs and future TMDL Basin Plan amendments with an appropriate numerical hierarchy.