State of California
Regional Water Quality Control Board
San Diego Region

EXECUTIVE OFFICER SUMMARY REPORT
December 13, 2017

ITEM: 14

SUBJECT: Informational Item: Water Quality Restoration Plan for Nutrient Reduction in Famosa Slough: Alternative Approach to a Nutrient Total Maximum Daily Load (TMDL). (*Jody Ebsen*)

PURPOSE: To inform the San Diego Water Board and the public of the Famosa Slough water quality restoration plan to meet the water quality objective for biostimulatory substances and restore estuarine, marine and recreational beneficial uses through nutrient reductions.

RECOMMENDATION: This is an informational item and the Board will not take an action.

KEY ISSUES: The City of San Diego plans to list Famosa Slough as a high priority water quality issue in the Water Quality Improvement Plan for the San Diego River to address the eutrophic conditions in Famosa Slough (Supporting Document 1). The regional municipal separate storm sewer system (MS4) permit, Order No. R9-2013-0001, as amended (Regional MS4 Permit) requires development of plans for each of the major watersheds in the San Diego Water Board's Region. The City of San Diego is choosing to use the Water Quality Improvement Plan process to demonstrate its commitment to restore water quality in Famosa Slough. The San Diego Water Board supports this approach to restore water quality in Famosa Slough (Supporting Document 2).

The City's commitment to use the Water Quality Improvement Plan's provisions for addressing impaired waterbodies that do not have Total Maximum Daily Loads (TMDLs), makes it reasonable for the San Diego Water Board to postpone developing a TMDL as a Basin Plan amendment. The use of existing regulatory programs to promote cost effective and timely restoration activities to address impaired waterbodies is consistent with the State Water Resource Control Board's (State Water Board) policy for addressing impaired waterbodies, and with USEPA's 2013 Vision for the Clean Water Act Section 303(d) Program for the restoration and protection of impaired waterbodies.

PRACTICAL VISION: This project supports the San Diego Water Board's goal to achieve healthy waters through collaboration, reliance on the latest science, and prioritizing and using meaningful environmental indicators to measure water quality. Specifically, the project:

1. Is a collaboration with the City of San Diego;
2. Uses the newest science to develop meaningful water quality targets that measure ecosystem health; and
3. Makes efficient use of resources by relying on an existing regulatory measure, rather than continuing to develop a lengthy Basin Plan amendment.

DISCUSSION: Famosa Slough is a 37-acre tidal wetland south of the San Diego River and approximately 1.25 miles east of the Pacific Ocean in San Diego. It is a designated State Marine Conservation Area and provides estuarine and marine habitat for waterfowl and wildlife, and recreational beneficial uses. The Slough, however, is impaired due to eutrophic conditions and is on the Clean Water Act section 303(d) impaired waterbodies list. Excessive nutrients in a water body can cause eutrophication characterized by high levels of algal growth, low dissolved oxygen concentrations, and nuisance conditions created by algal decay. These conditions stress the aquatic organisms, which impairs ecosystem beneficial uses, and creates unsightly or odorous conditions, which impair recreational beneficial uses, like bird-watching. Supporting Document 3 is a staff report that describes the project, summarizes the findings of a draft TMDL analysis, and outlines the City of San Diego's plan for reducing nutrient loading into Famosa Slough to meet the water quality objective for biostimulatory substances and restore the beneficial uses.

In 2014, a stakeholder group was formed to develop a nutrient TMDL for Famosa Slough with the City of San Diego, Tetra Tech (City's consultant), Friends of Famosa Slough, and San Diego Water Board staff. This resulted in a draft TMDL technical report that shows the primary sources of nutrients impacting Famosa Slough come from non-storm water discharges from the City of San Diego (Supporting Document 4). The modeling indicates that focused efforts by the City of San Diego to control non-storm water discharges into Famosa Slough can achieve the necessary nutrient load reductions to restore the beneficial uses in Famosa Slough. Specifically, the modeling results indicate that a 37 percent nutrient load reduction from the Famosa Slough watershed within the City of San Diego combined with twice-a-year algae harvesting will restore beneficial uses in an economically efficient manner within ten years.

Unlike other chemical pollutants, nutrient levels and ecosystem responses to nutrient levels vary widely for different waterbodies. Therefore, rather than relying on levels of nitrogen and phosphorus in Famosa Slough, staff favors a new approach to identify biological response indicators that more effectively measure ecosystem health.

Macroalgae biomass and dissolved oxygen are indicators of the biological response to nutrient enrichment in a waterbody. Monitoring these two targets at Famosa Slough will track its ecological health and demonstrate the progress of water quality improvements. These targets directly correlate to the health of the waterbody and its ecological response to nutrient enrichment. This approach is consistent with the Southern California Coastal Water Research Project guidance on developing nutrient numeric endpoints for California estuaries and follows the USEPA and State Water Board approach for developing meaningful nutrient water quality standards.

The focused actions that the City plans to take to reduce nutrients into Famosa Slough and the monitoring to measure successful restoration of Famosa Slough will be documented in future revisions to the Water Quality Improvement Plan for the San Diego River. This will allow the City to use adaptive management strategies as necessary to ensure the successful restoration of Famosa Slough, and provide annual reporting to the San Diego Water Board. If monitoring shows that the City's management efforts fail to improve Famosa Slough water quality, then the San Diego Water Board can reinitiate the TMDL process or consider enforcement actions to expedite restoration of the Slough.

LEGAL CONCERNS: N/A

SUPPORTING DOCUMENTS:

1. City of San Diego Letter dated August 31, 2017.
2. San Diego Water Board Letter dated October 31, 2017.
3. Water Quality Restoration Plan for Nutrient Reduction in Famosa Slough: Alternative Approach to a Nutrient Total Maximum Daily Load.
4. Famosa Slough Nutrients / Eutrophication Total Maximum Daily Loads.

PUBLIC NOTICE: The workshop notice for this item was posted on the San Diego Water Board website on November 14, 2017. This item was publically noticed in the Meeting Notice and Agenda for the December 13, 2017 meeting.