

REGIONAL WATER QUALITY CONTROL BOARD

SAN DIEGO REGION

EXECUTIVE OFFICER SUMMARY REPORT

MARCH 13, 2019

ITEM 6

SUBJECT

Informational Item: Update on Santa Margarita River Estuary Water Quality Restoration Strategy and Investigative Order (R9-2019-0007) (*Hiram Sarabia*)

STAFF RECOMMENDATION

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

KEY ISSUES

1. The Santa Margarita River Estuary (Estuary) is a high priority water body because it provides significant refuge, foraging, and breeding areas for several threatened and endangered species, making it a Key Area for habitat and ecosystems. Eutrophication, however, impairs aquatic life beneficial uses of the Estuary. Instead of adopting a traditional Total Maximum Daily Load (TMDL), Board staff are pursuing an alternative water quality restoration strategy that relies on full compliance and implementation of existing permits for storm water and agriculture, stakeholder collaboration, and targeted water quality monitoring.
2. This project involves significant stakeholder collaboration, commitment, and resources. Since 2011, staff have worked with the Santa Margarita River Nutrient Initiative Stakeholder Group to develop a water quality restoration strategy for the Estuary.

PRACTICAL VISION

Existing and proposed efforts to address nutrients in the Santa Margarita River Estuary support important goals of the San Diego Water Board's Practical Vision:

1. Healthy waters realized through collaborative, outcome-focused efforts (Chapter 3 goals);
2. Achieving healthy waters through strategic and effective government actions, targeting high priority waters (Chapter 1 goals); and
3. Improving physical and biological integrity in naturally occurring wetlands and supporting vulnerable native species (Chapter 3 goals).

DISCUSSION

Watershed and Project Background

The Estuary's watershed is the largest of the San Diego region's eleven watersheds covering approximately 750 square miles and encompassing portions of both Riverside County and San Diego County (Supporting Document 1). Approximately 73.5 percent of the Watershed land surface falls within Riverside County, which includes all or portions of the Cities of Murrieta, Temecula, and Wildomar. The remaining 26.5 percent of the watershed is located in San Diego County and includes Marine Corps Base Camp Pendleton and the unincorporated communities of Fallbrook and Rainbow.

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The Estuary is a high priority, or [key water body](#), because it is one of the few remaining and largely unmodified coastal estuaries in southern California, providing 192 acres of valuable estuarine habitat including mudflats, salt pannes, salt marsh, and subtidal habitats.¹ This unique estuarine habitat provides important refuge, foraging areas, and breeding grounds for several threatened and or endangered species, as well as coastal marine species. These include populations of State and federally endangered or threatened species such as the California Least Tern (*Sternula antillarum browni*), Western Snowy Plover (*Charadrius alexandrinus nivosus*), Tidewater Goby (*Eucyclogobius newberryi*), Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Least Bell's Vireo (*Vireo bellii pusillus*) and Southern California Steelhead (*Oncorhynchus mykiss*). In addition, the aquifer immediately upstream of the Estuary provides nearly all of Marine Corps Base Camp Pendleton's drinking water.

In the 1990s, the San Diego Water Board and others observed that more total nitrogen and total phosphorus (nutrients) were entering the Santa Margarita River Estuary than it could assimilate. Those excess nutrients led to unsightly algal blooms and eutrophic conditions that harmed aquatic life, impaired the ecosystem, and impacted aesthetic beneficial uses of the Estuary (Supporting Document No. 2). To investigate the impairment of the Estuary, the San Diego Water Board issued an Investigative Order (Order No. R9-2006-0076) in July of 2006, which required monitoring of several lagoons and sloughs in the San Diego region. Since this process began, however, two historic major discharges of nutrients to the Estuary have ceased (treated sewage from Camp Pendleton and groundwater dewatering from the North County Transit District) and agricultural discharges from the former Stuart Mesa Agricultural Fields adjacent to the Estuary have attenuated. In addition, the San Diego Water Board has issued new (Agricultural WDRs) or revised (Regional municipal storm water) permits that directly address watershed sources of nutrients that are the root causes of eutrophic conditions in the Estuary.

Since 2011, staff have worked collaboratively with the Santa Margarita River Watershed Nutrient Initiative Stakeholder Group (Stakeholder Group) (Supporting Document No. 3) to address eutrophic conditions in the Estuary and the Santa Margarita River watershed in an integrated fashion.² The Stakeholder Group agreed to assess the Estuary through a nutrient numeric endpoint (NNE) process – a scientific methodology implemented for California estuaries by the Southern California Coastal Water Research Project that uses multiple lines of evidence and numeric models to more reliably measure ecological health than relying solely on ambient nutrient concentrations.

At the Board's September 2017 meeting,³ staff provided an update on the progress of the Stakeholder Group, its selection of the NNE-based numeric targets of dissolved oxygen and algal

¹ See Resolution No. R9-2017-0030 for Key Beneficial Uses and Key Areas at http://www.waterboards.ca.gov/sandiego/water_issues/programs/key_areas/

² The Santa Margarita River and its main tributaries in San Diego and Riverside Counties are impaired for several pollutants, including phosphorus and toxicity.

³ See September 13, 2017 Item 7, "Information Item: Status Update on a Pathway to Water Quality Restoration in the Santa Margarita River Estuary." https://www.waterboards.ca.gov/sandiego/board_info/agendas/2017/Sep/Sep13.html

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biomass, and the calculated TMDLs, load allocations, and waste load allocations to achieve the targets. Staff informed the Board that ultimately the results of this TMDL analysis may be used by the San Diego Water Board to adopt a formal, rule-making TMDL or to justify a decision to endorse an alternative restoration approach.

Preferred Restoration Strategy

Board staff favors using an alternative TMDL approach to reduce nutrient loading to the Estuary that relies on implementation and enforcement of existing permits and monitoring programs for storm water and agriculture dischargers because it provides more flexibility for adaptive management. Such as strategy is consistent with USEPA guidance and State Water Board Policy. The success of the strategy for the Estuary depends primarily on the full compliance and implementation of existing requirements and discharge prohibitions in the Regional Municipal Separate Storm Sewer System (MS4) Permit; Regionwide Commercial Agriculture Waste Discharge Requirements; and Phase II Small MS4 General Permit. Toward this part of the strategy, the Executive Officer in recent months has approved third-party water quality monitoring plans for the agricultural dischargers in the watershed and has accepted the Santa Margarita River Watershed Management Area Water Quality Improvement Plan including its monitoring program for the Phase I MS4 Copermittees.

Staff's Strategy also relies on continued collaboration with the Stakeholder Group, which is currently investigating nutrients in the Santa Margarita River. Finally, to fill the gap of monitoring Estuary conditions, the Executive Officer will consider issuing an Investigative Order (R9-2019-0007) to the Phase I MS4 Copermittees and Camp Pendleton to assess the condition of the Estuary and confirm TMDL model estimates of the linkage between the nutrient loading trends from those jurisdictions and the restoration of the water quality and beneficial uses in the Estuary.

Staff is also prepared to supplement discharger water quality monitoring in the watershed as needed using resources of the Monitoring, Assessment, and Research Unit. Altogether, staff will monitor progress of the restoration Strategy toward achieving the NNE-based targets by analyzing information from the aforementioned monitoring efforts and permit compliance reports. Progress updates of the restoration strategy will be provided in future Executive Officer reports to the Board.

LEGAL CONCERNS

None

PUBLIC NOTICE

The Meeting Notice and Agenda for today's meeting was posted on the Board's website and sent to those who subscribed to the email list for Board Meetings on February 20, 2019. This item was publicly noticed in the Meeting Notice and Agenda for the March 13, 2019 meeting.

SUPPORTING DOCUMENTS

1. Map of Santa Margarita River Estuary Watershed
2. Santa Margarita River Estuary, California. Nutrients Total Maximum Daily Load Project Draft Staff Report (July 2018)
3. Santa Margarita River Nutrient Initiative Stakeholder Group Participants