

Water Quality Report Card

Nutrients in The Santa Margarita River Estuary

Regional Water Board:	San Diego, Region 9
Beneficial Uses Affected:	EST, MAR, RARE, REC-1, REC-2, SPWN, WILD
Implemented Through:	Existing Regulatory Authority, Permits (Stormwater NPDES, WDRs for Agriculture)
Effective Date:	2018
Attainment Date:	2038

STATUS	Improvement Needed
Pollutant Type:	Point Source, Nonpoint Source, Legacy
Pollutant Source:	Non-point Source Agricultural Runoff Urban Stormwater Runoff

Water Quality Improvement Strategy

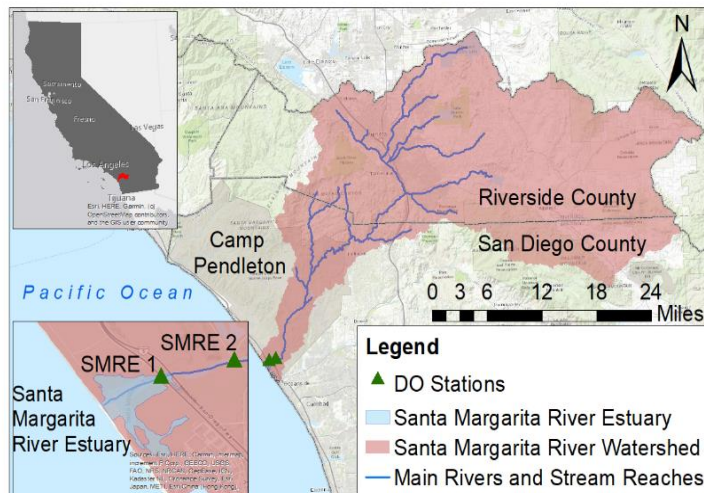
The Santa Margarita River Estuary (Estuary), is located at the bottom of the 750 square-mile Santa Margarita River Watershed (Watershed) and has tidal exchange with the Pacific Ocean within Camp Pendleton Marine Corps Base. The Estuary was placed on the Clean Water Act 303(d) impaired water bodies list in 1996 for eutrophic conditions caused by excessive nutrient loading. Excessive nutrients cause overabundant growth and decomposition of algae, with subsequent low dissolved oxygen (DO). When DO is low, the Estuary cannot support healthy aquatic life.

Major sources of nutrients include legacy contamination from urban and agricultural runoff into surface water, and from agriculture into groundwater. To reduce these loads, the [Water Quality Restoration Plan](#) for the Estuary relies on implementing existing permits and assessing the effectiveness of permits through monitoring. Restoration is considered successful when the primary numeric targets (dissolved oxygen and macroalgal biomass) or secondary numeric targets (dissolved oxygen, macroalgal biomass, and benthic community condition score) are achieved and sustained. Implementation began in May 2018. Implementation actions include adaptive management, updates to MS4 Water Quality Improvement Plans, point and nonpoint-source management practices, water body monitoring, and permit compliance assessments.

Dry Weather Nutrient Loads for Water Years 2019 & 2020

	Loading Target	Water Year 2019	Water Year 2020
Total Nitrogen (TN)	13,246	14,267	1,928
Total Phosphorus (TP)	1,528	499	65

Santa Margarita River Estuary Watershed Map



Water Quality Outcomes

- Two years of monitoring have been completed for the Estuary Water Quality Restoration Plan.
- Nutrient loading and macroalgal biomass targets were not achieved in water year (WY) 2019.
- Nutrient loading and macroalgal biomass targets were achieved in WY 2020. This was likely a result of drought year conditions with lower-than-average flows.
- Primary and secondary dissolved oxygen numeric targets and benthic community condition score numeric targets (not shown) were frequently exceeded in WYs 2019 and 2020.
- Under the investigative order, the Estuary will continue to be monitored for numeric targets and nutrient loading and progress will be assessed.

Water Quality

Dry Weather Exceedances of Dissolved Oxygen Primary and Secondary Numeric Targets by Station

