

Water Quality Report Card

Chlorophyll *a* in Moro Cojo Slough

Regional Water Board: Central Coast, Region 3

Beneficial Uses Affected: COLD, SPWN, WARM

Implemented Through: Agricultural Order No. R3-2021-0040 Grants

Effective Date: 7 May 2014

Attainment Date: 2026

STATUS Conditions Improving

Pollutant Type: Nonpoint Source

Pollutant Source: Irrigated crop production
Natural sources

Water Quality Improvement Strategy

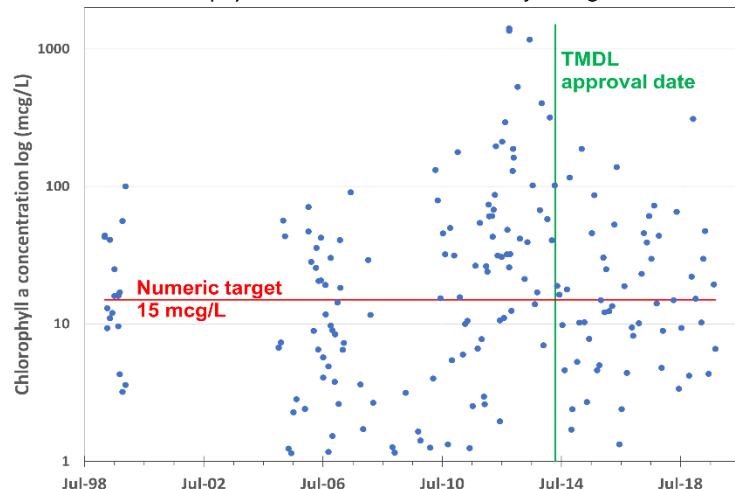
The Moro Cojo Slough subwatershed encompasses approximately 10,000 acres in the Lower Salinas Valley and drains directly into Moss Landing Harbor at the center of Monterey Bay. Agriculture, including irrigated cropland and grazing lands, is the dominant land use in the Lower Salinas Valley, with increasing transition to urban use. Moro Cojo Slough is on the [Clean Water Act Section 303\(d\) List](#) for nutrient-related impairments including nitrate, chlorophyll *a*, and dissolved oxygen. Chlorophyll *a* is a water quality response indicator representing nutrient-driven algae biomass in the water column. The [Lower Salinas River Watershed Nutrient TMDL](#) was approved in 2014 to address the impairments and achieve load allocations for nitrogen and orthophosphate by 2026. Irrigated agriculture is the main controllable source of nutrient pollution within this watershed. [Agricultural Order No. R3-2021-0040](#) implements this TMDL which provides for the assessment of biostimulatory water quality response (such as chlorophyll *a*) as primary indicators of nutrient loading to the waterbody.

Load Allocations and Chlorophyll *a* Target

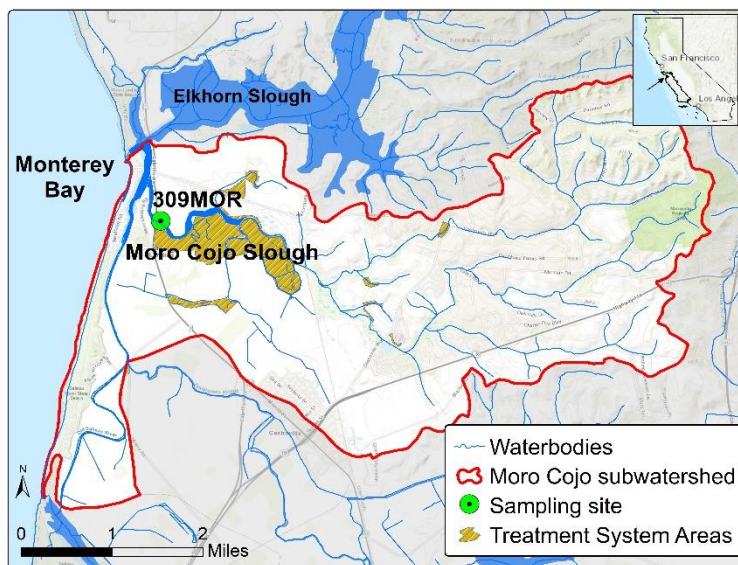
Nitrogen Load Allocations	Response Indicator
1.7 mg/L as N (dry season) 8.0 mg/L as N (wet season)	Chlorophyll <i>a</i> ≤ 15 mcg/L

Water Quality

Chlorophyll *a* Concentrations in Moro Cojo Slough



Moro Cojo Slough Subwatershed Map



Water Quality Outcomes

- Nutrient control strategies are intended to reduce undesirable aquatic biomass, as represented by Chlorophyll *a*, in the receiving water. Growers worked with the Central Coast Wetlands Group to implement Water Board grant funded nutrient treatment systems. Eight installed systems now treat runoff from 1,527 acres in watershed.
- Growers have employed management practices and technologies on their farms to more effectively manage nutrient inputs to improve water quality.
- After a large increase in typical chlorophyll *a* concentration beginning in 2010 (see numerical summary table below), chlorophyll *a* concentration has been lower in the years since TMDL adoption. Reduced algae biomass coincides with decreases in total nitrogen concentrations (see the [2019 report card for nitrate in Moro Cojo Slough](#)).

Chlorophyll *a* Numerical Summary at Site 309MOR

Time Period	Mean	Median	Max
Mar 1999 to Feb 2010	13	4	100
Mar 2010 to Apr 2014	120	32	2,015
May 2014 (TMDL adoption) to Sept 2019	29	12	310