

**STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

STAFF REPORT FOR REGULAR MEETING OF JANUARY 31, FEBRUARY 1, 2019
Prepared on January 14, 2019

ITEM NUMBER: 18

SUBJECT: Executive Officer's Report to the Board

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This item presents a brief discussion of issues that may interest the Board. Upon request, staff can provide more detailed information about any item.

WATER QUALITY REPORT CARDS - AN EVALUATION OF THE EFFECTIVENESS OF PROGRAM IMPLEMENTATION

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This report provides a brief summary of the 2018 water quality report cards that describe three examples of effective Central Coast Water Board program implementation and surface water quality improvements in the region.

Background: The Total Maximum Daily Load (TMDL) Program is an important component of the federal Clean Water Act's framework to restore and protect our nation's surface waters. The State of California is required to develop a list of surface waterbodies that do not meet water quality standards in accordance with section 303(d) of the federal Clean Water Act. This list is commonly referred to as the 303(d) List. The Clean Water Act further requires development of action plans, called TMDLs, to restore water quality for those 303(d) listed waterbodies. A TMDL is comprised of a calculation of the maximum amount of a pollutant, or load, that the surface waterbody can receive and still meet water quality standards (i.e., waterbody's assimilative capacity); an allocation of the acceptable pollutant load to each source of the pollutant; and an implementation plan with a schedule for restoring water quality to meet water quality standards.

Report Cards: Each year, TMDL program staff develop three report cards for the State Water Board's Performance Report. These report cards evaluate water quality outcomes associated with the implementation of TMDLs and/or other program actions that address 303(d) listed waterbodies. In 2018, the Central Coast Water Board's report cards highlighted implementation actions that resulted in water quality improvement for 303(d) listed waterbodies. The following summaries briefly describe each implementation action and the water quality outcome for these three waterbodies.

Santa Ynez River nitrate pollution addressed by a wastewater treatment plant upgrade: Treated municipal wastewater effluent is one of the major sources contributing nutrients to the lower Santa Ynez River. In 2006, the lower Santa Ynez River was added to the 303(d) list due to elevated nitrate concentrations. In November of 2009, the City of

Lompoc completed a major upgrade to their regional wastewater treatment plant, which resulted in reduced nitrate in the plant's wastewater effluent. The reduction in nitrate was achieved as required by Time Schedule Order No. R3-2006-0090 to comply with the effluent limit for nitrate prescribed in Waste Discharge Requirements Order No. R3-2006-0037, National Pollutant Discharge Elimination System (NPDES) permit. Following completion of the plant's upgrade, water quality data collected by both the Central Coast Ambient Monitoring Program (CCAMP) and the Cooperative Monitoring Program for Agriculture (CMP) document an immediate and significant reduction in nitrate concentrations in the Santa Ynez River, downstream of the plant's effluent discharge point. Since the plant's upgrade, nitrate concentrations in the River rarely exceeded the drinking water quality standard of 10.0 mg/L (Figure 1, copied from the [Santa Ynez River nitrate water quality report card](#)). A TMDL project is currently under development to address all sources of nutrients and restore water quality to support aquatic life and habitats in the Santa Ynez River.

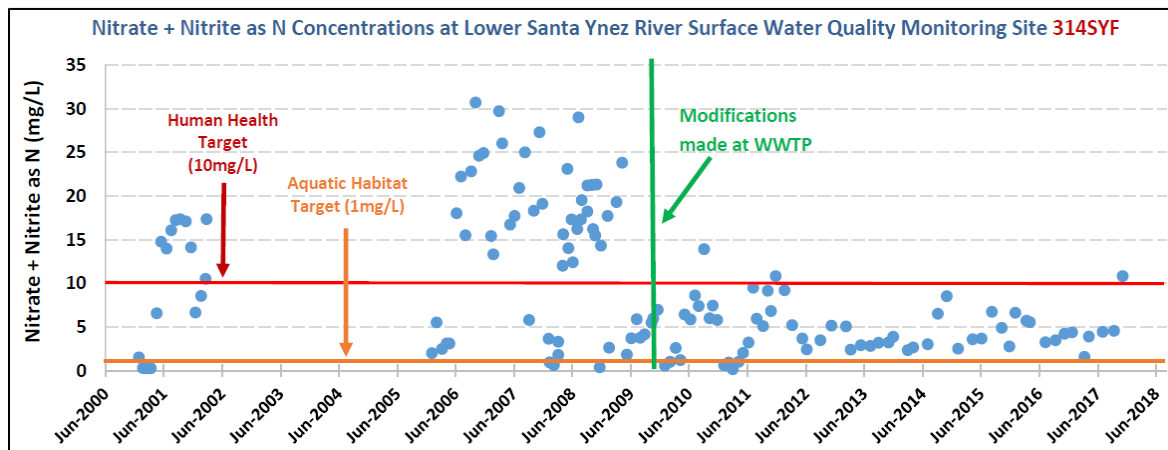


Figure 1. Santa Ynez River nitrate data from monitoring site 314SYF, located downstream of the City of Lompoc effluent discharge point.

San Simeon Creek nitrate pollution addressed by the voluntary actions of wastewater treatment plant operators: Lower San Simeon Creek was added to the 303(d) List in 2010 due to elevated nitrate concentrations. The 2015 draft TMDL project identifies the primary source of nitrate as the wastewater percolation ponds at the Cambria Community Services District wastewater treatment facility and states that revision of the Waste Discharge Requirements was necessary to implement the TMDL. Using this information, Central Coast Water Board staff (Jon Rokke and Howard Kolb) worked with the Cambria Community Services District to adjust the nitrate treatment operations at their wastewater treatment facility, which significantly reduced the nitrate concentration in the wastewater discharged to the percolation ponds. CCAMP data from lower San Simeon Creek showed an immediate reduction in nitrate concentrations following the voluntary actions of the Cambria Community Services District. Today, nitrate concentrations in lower San Simeon Creek remain below the aquatic habitat target of 1.0 mg/L (Figure 2, copied from the [San Simeon Creek nitrate water quality report card](#)). Due to the successful treatment of nitrate in wastewater, San Simeon Creek will likely be removed from the 303(d) List when the Central Coast Region updates the List in 2020.

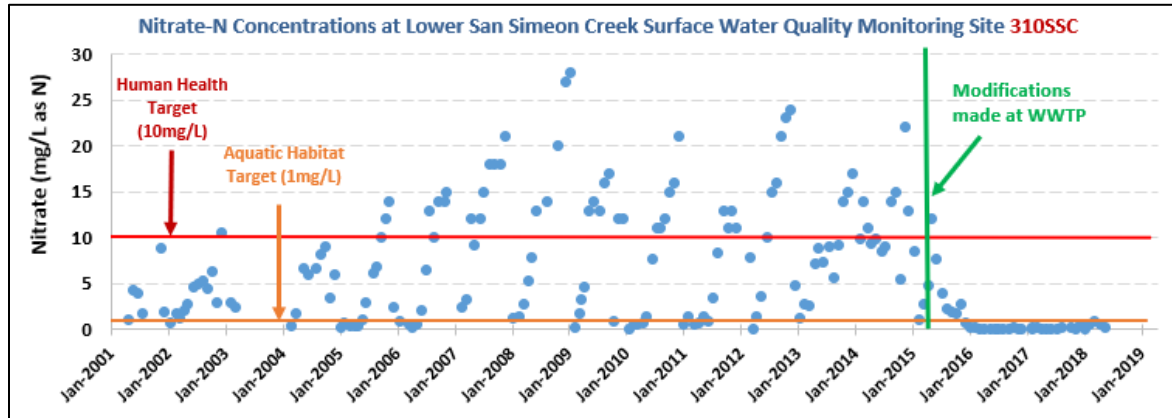


Figure 2. San Simeon Creek nitrate data from monitoring site 310SSC, located downstream of the Cambria Community Services District wastewater percolation ponds.

Pinto Lake harmful algal blooms addressed by grant-funded projects: Nutrients from multiple sources historically fed seasonal and persistent harmful algal blooms. The algal blooms often contained compounds that can be toxic to humans and wildlife, and result in thick mats containing algal scum and foam on the surface of Pinto Lake. Consequently, Pinto Lake was added to the 303(d) List in 2010. Since then, Water Board staff (Shanta Keeling, Pete Osmolovsky, and Melissa Daugherty) solicited, developed, and managed approximately one million dollars in Nonpoint Source program grant projects that reduced nutrient loading to the lake and sequestered phosphorus already deposited in lake bottom sediments. Grant funding sources included the federal Clean Water Act section 319(h) program and Proposition 84 Agricultural Water Quality Grant program. These grants supported projects implemented by the City of Watsonville and the Resource Conservation District of Santa Cruz County, in coordination with partnering landowners and agencies. Recent data provided by the City of Watsonville show that these implementation actions resulted in significant reduction of phosphorus availability in the lake (Figure 3, copied from the [Pinto Lake water quality report card](#)). Recent visual monitoring and testing for algal toxins showed that in 2017 and 2018, algal blooms were significantly less frequent and less severe than prior to implementation of the grant funded actions. Water Board staff are currently developing TMDLs and an implementation plan to continue to address nutrient loading and prevent harmful algal blooms in the future.

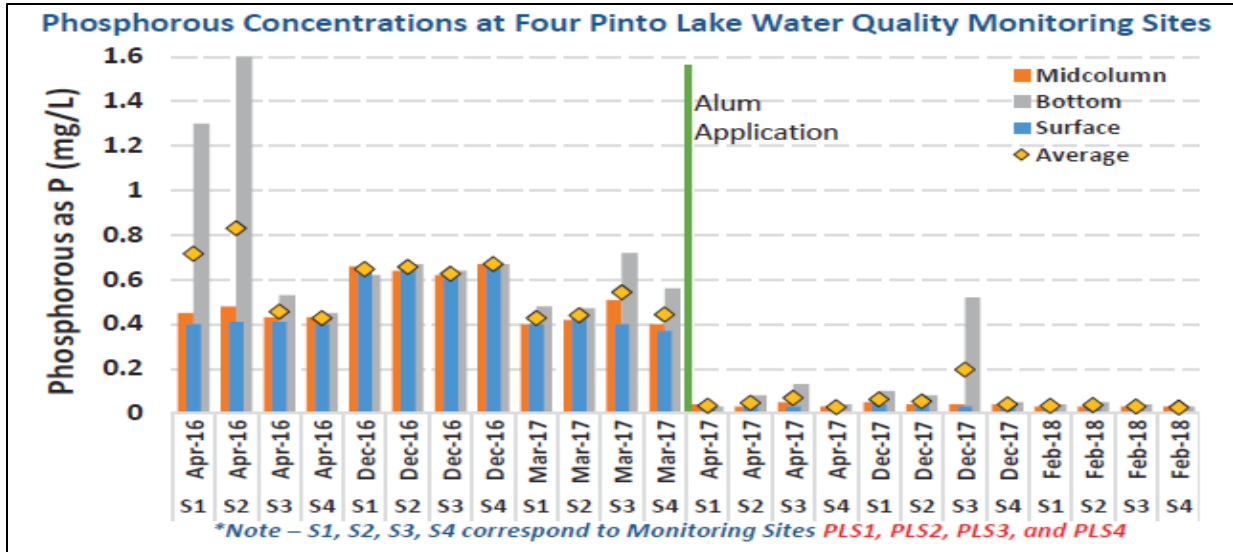


Figure 3. Pinto Lake phosphorus data collected before and after grant-funded treatment using alum to prevent the phosphorus rich lake sediments from fueling algal blooms.

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Attachments

1. Table 1 - 401 Water Quality Certification Applications Received
2. Table 2 - 401 Water Quality Certifications Issued
3. Table 3 - Groundwater Section, Case Closure Performance Scoreboard
4. Table 4 - Groundwater Case Closures
5. Table 5 - Enrollments In General Orders/Waivers