

Water Quality Report Card

Regional Water Board:	Central Coast, Region 3
Beneficial Uses Affected:	REC-1, REC-2, AGR, MUN, WILD, WARM, SPWN, COMM
Implemented Through:	To Be Determined
Effective Date:	Pending
Attainment Date:	To Be Determined

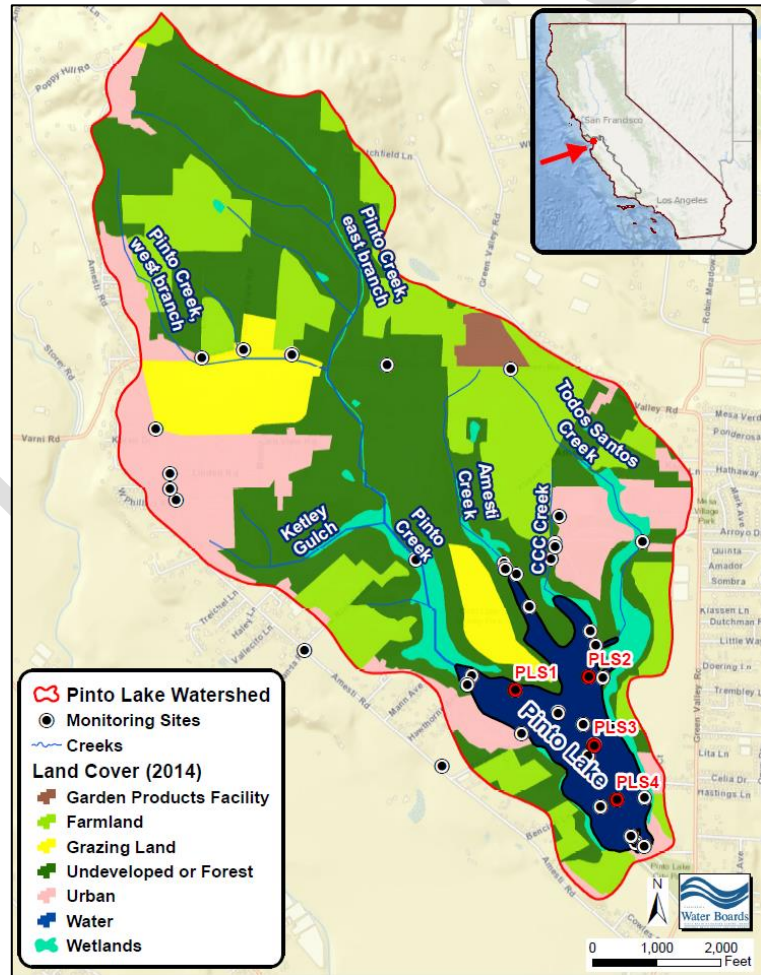
Cyanobacteria Stimulating Nutrients in Pinto Lake

STATUS	<input checked="" type="checkbox"/> Conditions Improving		
	<input type="checkbox"/> Data Inconclusive		
	<input type="checkbox"/> Improvement Needed		
<input type="checkbox"/> Targets Achieved/Water Body Delisted			
Pollutant Type:	<input type="checkbox"/> Point Source	<input checked="" type="checkbox"/> Nonpoint Source	<input type="checkbox"/> Legacy
Pollutant Source:	Erosion/Siltation	Naturally Occurring	
	Non-Point Source	Other: Storm Water	
	Runoff	Runoff	
	Removal of Riparian Vegetation	Irrigated Crop Production	

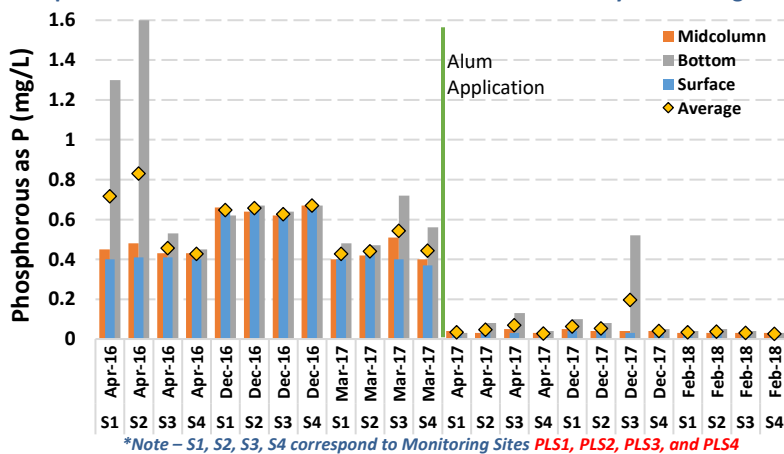
Water Quality Improvement Strategy

Pinto Lake is a shallow, 103-acre lake located within the Lower Pajaro River watershed in Santa Cruz County. It is bordered by two public parks and private lands. Land use in the lake's 1,470-acre catchment is characterized by agricultural and ranch land, some suburban and rural residential areas, and businesses. Removal of native vegetation increased erosion and allowed nutrient-rich sediment to enter the lake. Fertilizer applications and other human activities also increase loading of nutrients to the lake. As a result, the lake experiences seasonal and persistent cyanobacteria algal blooms. These blooms adversely affect the lake's aquatic ecosystems and recreational uses, often producing the toxin microcystin at concentrations exceeding the World Health Organization's limit of 0.8 ppb. Pinto Lake is listed on the Clean Water Act [303\(d\) List of impaired waterbodies](#) due to impairments associated with harmful algal blooms including elevated levels of microcystins (algal toxins), scum/floating material, chlorophyll *a*, and low dissolved oxygen. Algal blooms, resulting from nutrient-driven biostimulation, constitute a potential health risk and public nuisance to humans, pets, and to wildlife. In 2013 a Clean Water Act §319(h) – Nonpoint Source Implementation Grant was awarded to the City of Watsonville, CA to implement strategies to reduce nutrient loading to the lake ([Grant Final Report](#)). Recent data show reduced phosphorus loading to the lake, and a significant decrease in the duration and severity algal blooms. A [TMDL](#) addressing nutrients contributing to cyanobacterial blooms and biostimulation in the Pinto Lake Watershed is currently under development.

Pinto Lake Watershed



Phosphorous Concentrations at Four Pinto Lake Water Quality Monitoring Sites



Water Quality Outcomes

- Implemented sediment control practices (rolling dips, sediment control basin, grassed waterway) to address nutrient rich run-off in the Pinto Lake Watershed.
- Application of alum in Pinto Lake occurred in April 2017.
- Post alum treatment results show dramatic decreases in in-lake phosphorus loadings, as well as a significant decrease in the duration and severity of the fall microcystin toxicity.
- Only 1 lake closure in 2017 for 3 weeks compared to 1-3 month closures in 2015 and 2016.
- City of Watsonville will continue monitoring for cyanotoxin concentrations and cyanobacteria composition on a weekly basis.