Total Maximum Daily Load Progress Report		Clear Lake Nutrient TMDL
Regional Water Board	**Central Valley, Region 5**	
Beneficial uses affected:	MUN, REC-1, REC-2, and WILD	
Pollutant(s) addressed:	Phosphorus	
Implemented through:	Erosion control program, NPDES Permits, WDRs	
Approval date:	September 19, 2007	

STATUS

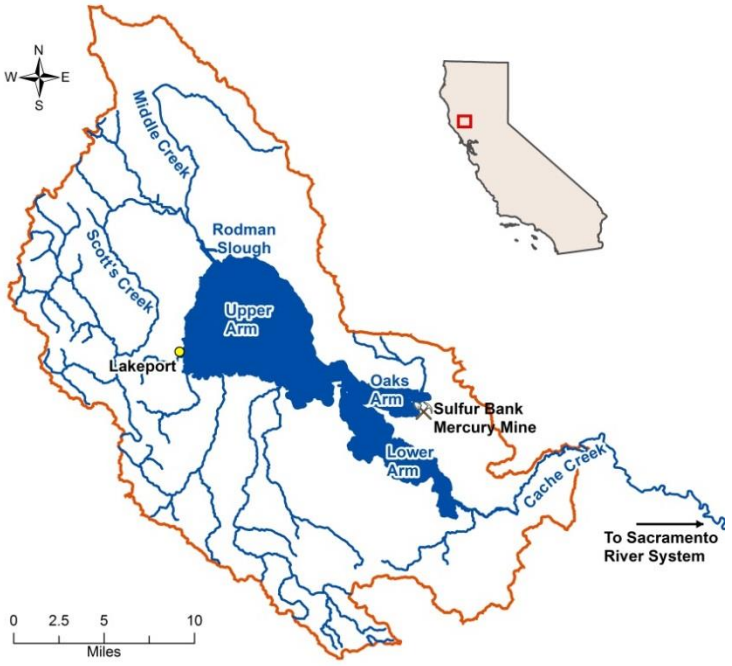
- ☐ Conditions Improving
- ☐ Data Inconclusive
- ☑ **Improvement Needed**
- ☐ TMDL Achieved/Waterbody Delisted

TMDL Summary

Clear Lake is impaired by the presence of nuisance blooms of blue-green algae (cyanobacteria) during spring, summer and fall periods. Nuisance algal bloom growth is stimulated by elevated concentrations of phosphorus. Most Clear Lake phosphorus sources are sediment driven. Phosphorus sources include erosion from agricultural and urban areas, instream channel erosion, timber harvesting, runoff from roads, construction, gravel mining, wildfires, control burns, off highway vehicle (OHV) use, and dredging and filling. Fertilizer use and sewer and septic overflows may also contribute phosphorus to the lake. The presence of nuisance algal blooms impact the recreational use. The Central Valley Regional Board developed a TMDL for nutrients in Clear Lake that was approved by U.S. EPA in September 2007.

The TMDL is implemented through NPDES Permits, agricultural WDRs, and an erosion control program. The TMDL calls for a 40% reduction (target load allocation of 87,100 kg) in average annual phosphorus loading by June 2017, which will significantly reduce the incidence of cyanobacteria blooms.

Clear Lake Watershed



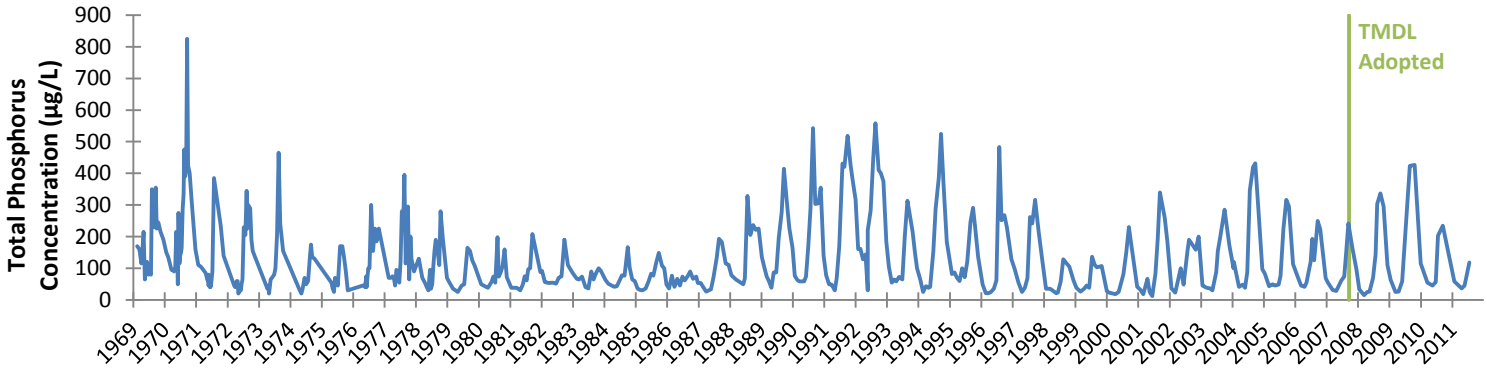
TMDL Waste Load Allocations/Load Allocations

Discharger	2007 Loading Estimates (kg/year)	Target Load Allocation (kg/year)
Waste Load Allocation		
Lake County Stormwater Permittees	5,000	2,000
Caltrans	250	100
Load Allocation		
U.S. Bureau of Land Management U.S. Forest Service Lake County Irrigated Agriculture	212,500	85,000
TMDL Total	**217,750**	**87,100**

Water Quality Outcomes

- *Water quality data show exceedance of TMDL water quality objectives; phosphorus concentrations have not decreased.*
- *A Monitoring and Implementation Plan for the Nutrient TMDLs was developed in 2008.*
- *West Lake Resource Conservation District and the U.S. Forest Service received a 2011 Federal grant to hydrologically disconnect 42 miles of Forest Service roads from Clear Lake, reducing sediment delivery to the lake.*
- *State and Federal agencies are working on the Middle Creek Flood Damage Reduction and Ecosystem Restoration Project to reduce phosphorus delivery to the Clear Lake. Middle Creek is Clear Lake's largest sediment source.*

Clear Lake Watershed Water Quality



Updated September 2013