HAB AquaticSolutions

PROJECT DESCRIPTION

Lake Size
120 acres

Date of Application
April 2017

Project Sponsor
City of Watsonville

Project Reference
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Pinto Lake, CA

HAB Public Outreach Event at Pinto Lake

Pinto Lake is a 120-acre recreational lake in Watsonville, CA. The lake developed massive algal blooms every late summer and fall and algal toxin levels typically exceeded the State health criteria. As a result, the lake was classified as "impaired" and was closed for contact recreation during the bloom periods. Of particular interest, the death of 31 endangered southern sea otters have been traced to algal toxins which have accumulated in shellfish eaten by the otters. Pinto Lake is the likely source of the toxins in the shellfish and the cause of the otter deaths. An excessive amount of the nutrient phosphorus was the main cause of the toxic algal blooms. Internal phosphorus loading (leaching from the lakebed sediments) and watershed runoff both contribute phosphorus to Pinto, but a study in 2011 showed that the majority (85%) was coming from the lakebed.

Samples from the bottom of the lake confirmed that phosphorus was very high in the sediments and available to be released into the overlying water column. HAB Aquatic Solutions conducting a buffered alum application (79,000 gallons of alum and 39,500 gallons of sodium aluminate) over a ten-day period in April 2017. The application was highly successful with a dramatic reduction in water column phosphorus and algal biomass, an elimination of algal toxins and the lifting of recreational use restrictions.

Alum and Sodium Aluminate Being Applied at Pinto Lake