

PRELIMINARY ENVIRONMENTAL ASSESSMENT

VISTA IRRIGATION DISTRICT
1391 ENGINEER STREET
Vista, CA 92081-8836

Name of Project: Lake Henshaw Oxygenation Pilot Study

Location: Western shore of Lake Henshaw, located off California State Highway 76 in unincorporated San Diego County, west of the community of Warner Springs, California.

Description: The Study involves the design, construction, implementation, and analysis of a full-scale, temporary reservoir oxygenation system to evaluate the effectiveness of oxygenation in controlling harmful algal blooms (HABs) in Lake Henshaw.

Background: The Lakes Henshaw and Wohlford HABs Management and Mitigation Plan was developed by Stillwater Sciences for the Vista Irrigation District (District) and the City of Escondido as part of a multi-phased management strategy that began in 2021 in response to elevated cyanotoxin concentrations in Lake Henshaw. The Plan identified a range of short-term and long-term mitigation options, and oxygenation was selected as a promising long-term approach for reducing or eliminating HABs. Bioavailable forms of nitrogen and phosphorus are necessary to support cyanobacteria growth and the development of HABs. Oxygenation is expected to affect the oxidation-reduction potential in Lake Henshaw bottom water and sediments, which should eliminate releases of these nutrients from bottom sediments into the water column and cut off a major source of nutrients for cyanobacteria.

The Lake Henshaw Oxygenation Pilot Study (Study) involves the design, construction, implementation, and analysis of a temporary, full-scale oxygenation system to evaluate its effectiveness in controlling HABs and improving water quality at Lake Henshaw. A temporary pilot study allows real-world evaluation of the concept without the substantial capital investment required for a permanent installation. It will also provide information on the size, type, and cost of a future permanent system for Lake Henshaw.

Commissioning, installation, and startup of the oxygenation system are planned from November 1, 2026 to April 1, 2027, with decommissioning by December 31, 2027. Proposed Study tasks include the following:

- Site improvements
- Equipment procurement and installation
- System operation and decommissioning
- Monitoring and data analysis

The equipment will be operated over approximately eight months to test oxygen addition and evaluate the lake's response. The Study will include extensive monitoring of water quality conditions through visual observations, remote sensing, grab samples, and infield instrumentation to measure cyanotoxin concentrations, nutrients, dissolved oxygen, and the phytoplankton community. Minor site improvements will be necessary to accommodate the oxygenation equipment.

Biological surveys were conducted to assess potential impacts on sensitive species and habitats within the Study area. Potential impacts on biological resources were found to be less-than-significant.

Supporting Map/Photos:



Figure 1. Existing road leading to the electric service site located near top of the hill.



Figure 2. Reservoir shoreline where electrical cables will be routed to deliver power to oxygenation equipment on the lake.

Environmental Determination:

The Vista Irrigation District is the lead agency for the Study under the California Environmental Act (CEQA).

The Study is categorically exempt under the following State CEQA Guidelines:

- **Class 1 section 15301 (Existing Facilities), 14 CCR § 15301.** The Study will consist of maintenance, permitting, and minor alternations to an existing water supply reservoir, Lake Henshaw, with no expansion of existing or former uses.
- **Class 3 section 15303 (New Small Facilities or Equipment), 14 CCR § 15303.** The Study will comprise installation of limited new pieces of equipment and structures that will have negligible or no impacts on the environment and that will require no changes to existing facilities.
- **Class 4 section 15304 (Minor Alterations to Land), 14 CCR § 15304.** The Study involves installation of facilities and equipment that will require only minor and temporary alternations to land, water, and vegetation that will have negligible or no impacts to the environment.
- **Class 6 section 15306 (Information Collection), 14 CCR § 15306.** The Study consists of basic data collection, research, experimental management, and resource evaluation activities that are intended to inform further agency decision-making and will not result in serious or major disturbance to environmental resources.
- **Class 7 section 15307 (Actions to Protect Natural Resources), 14 CCR § 15307.** The Study is intended to maintain, restore, and enhance Lake Henshaw by exploring methods to reduce harmful algal blooms in the lake that can threaten local species, water quality, and drinking and irrigation water supplies. The Study is further intended to avoid the use of more environmentally harmful algaecides.
- **Class 11 section 15311 (Accessory Structures), 14 CCR § 15311.** The Study involves placement of temporary minor structures that are accessory to the existing Lake Henshaw industrial and institutional facilities, and will have negligible or no impacts on the environment.

None of the exceptions listed in section 15300.2 of the CEQA Guidelines would apply to the proposed study.



Lesley Dobalian
Director of Water Resources

April 21, 2026
Date