A Dual Success Story from Vallecitos Water District, USA

South Lake – Recreational water | **Mahr Reservoir** – Reclaimed water for irrigation

PROJECT DESCRIPTION

SUMMARY

Vallecitos Water District in Southern California uses LG Sonic's chemical-free MPC-Buoy technology to control algae in two reservoirs. South Lake (10 acres, 73 million gallons) is a rain-fed reservoir used for recreation. Mahr Reservoir (54 million gallons) stores reclaimed water for irrigation. Both sites have used the system since 2018.

Lake	Product	ROI	Years
Mahr Reservoir	MPC-Buoy	$177,615	7 Years
South Lake	MPC-Buoy	$84,354	5 Years

PROBLEM FACED

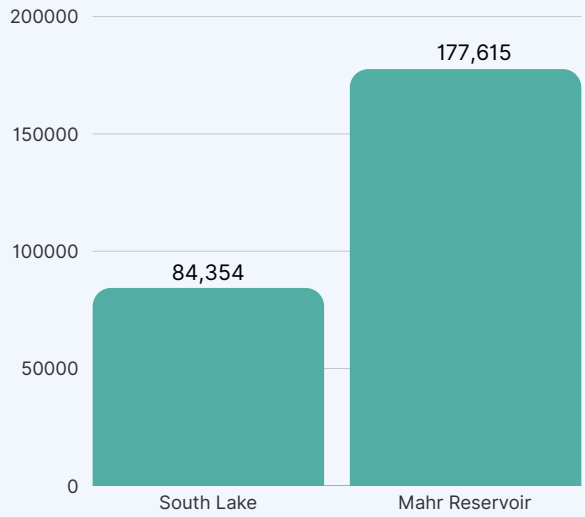
Mahr Reservoir

High phosphorus from Meadowlark Water Reclamation
Chemical treatment (copper sulfate) peaked at $44,530 (2013)
Algae threatened 5.25M gal/day irrigation supply

South Lake Reservoir

Shoreline algal blooms in park lake
Chemical treatment (copper sulfate) peaked at $18,677 (2017)
Public access required non-chemical solution.

Cost Savings from Eliminating Chemical Treatment (2024)

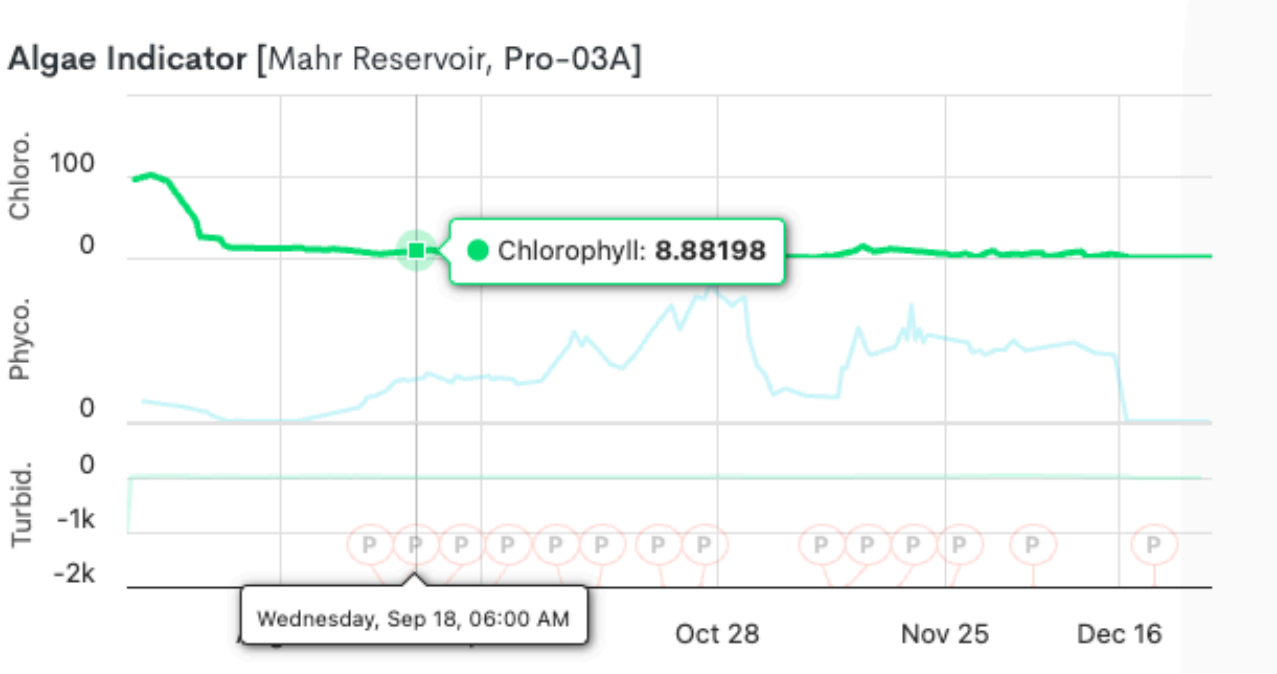


> **We have not needed to apply any chemicals to either reservoir since the addition of the MPC-Buoys.**

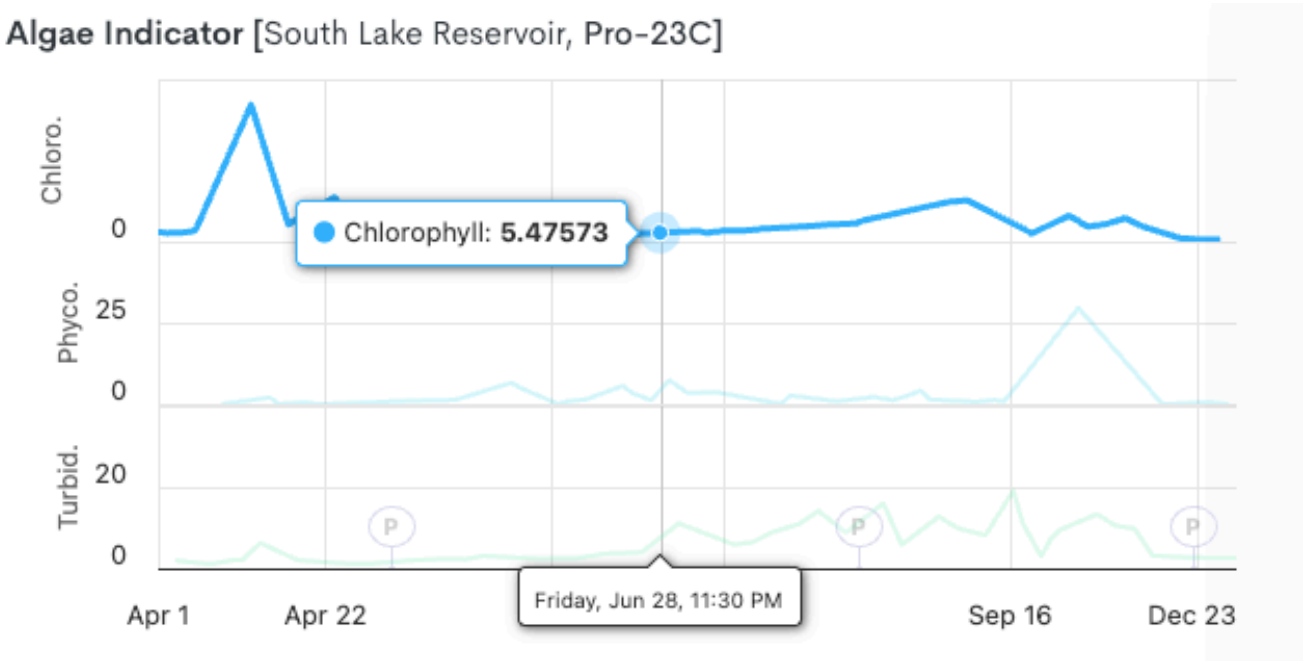
Ed Pedrazzi
Operations & Maintenance Manager
Vallecitos Water District (Retired)

RESULTS

Data from 2024 collected via MPC-View, show that **chlorophyll-a concentrations stabilized after an early steep decline**. By mid-September, chlorophyll dropped to approximately 8.88 µg/L, reflecting an early-season improvement in water quality. **Levels remained low** through December, indicating **sustained control of algal growth**.



Data from 2024, collected via **MPC-View**, show that **chlorophyll-a levels remained low throughout the monitoring period**. Levels declined steadily, reaching 5.48 µg/L by late June. Minimal fluctuations from mid-year to December indicate **limited bloom activity and effective control.**



DISCUSSIONS

Low TSS levels are essential for modern irrigation systems. Algae growth raises TSS, clogging filters that remove solids before water distribution. MPC-Buoy installations **successfully reduced** TSS and also stabilized pH and dissolved oxygen (DO) levels, supporting efficient irrigation.

At **Mahr Reservoir**, HABs dissapeared **within 2 weeks** of deploying the MPC-Buoy. Hence, VWD **saved $25,000 annually**, **totaling $177,615 over 7 years**, with an ROI in 2.5 years.

At **South Lake**, algae control led to **$84,354 in savings** and a **5-year ROI**, while maintaining chemical-free, safe water for recreation.

Since 2018, both reservoirs have operated fully chemical-free, with improved TSS, pH, and dissolved oxygen levels. This has led to lower maintenance, higher water quality, and recognition for award-winning innovation in sustainable reservoir management.