

Overview of Algae Abatement Project with EarthTec

BOARD OF DIRECTORS – AUGUST 7, 2023



Discussion

Background

What is EarthTec?

Observations in 2023

Installation of EarthTec Injection at Mountain View Turnout

Project Cost and Dosing

Next Steps



Background

Issue – Harmful Algal Blooms (HABs) occur in the State Water Project conveyance system (e.g., reservoirs and recharge basins)

Caused by:

- High nutrient concentrations
- High light intensity (sunlight)
- Warm, calm water. Perfect conditions to cause the bacteria to bloom
- Droughts – Generally lower flows in SWP during droughts



Background (Continued)



CA - DWR
@CA_DWR

Pyramid Lake in Los Angeles County will be closed on August 2 due to algal bloom treatment. Algal bloom treatment messaging will be removed from our website when the lake is reopened. Learn more at water.ca.gov/What-We-Do/Rec...



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CA - DWR
@CA_DWR

Silverwood Lake in San Bernardino County has a caution algal bloom advisory. Always keep yourself and pets away from algal blooms. For algal blooms updates, visit water.ca.gov/What-We-Do/Rec...



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Background (Continued)

Impact on SWP water quality

- These HABs can produce toxic compounds (cyanobacterial toxins or “cyanotoxins” or “blue-green algae) that are harmful to the environment, human and animal health
- If left untreated HABs can release cyanotoxins into the water, which can cause taste, odor, and color problems in treated water, which can be harmful to human health

Solution

- Installation of an EarthTec injection point at our Mountain View Turnout



What is EarthTec?

Aglaecide/Bactericide

- The active ingredient in EarthTec is the cupric ion (Cu^{2+}), which is the most effective form of copper useful in controlling algae and bacteria
- Registered by the US EPA in every state as an algaecide/bactericide and is certified to NSF Certified Standard 60 as an additive to drinking water
- Regional Water Quality Control Board Approved
- Statewide: DWR has used EarthTec for algae treatments in SWP
- Locally: Valley District and BCVWD use EarthTec to control algae



Observations in 2023



March - 2023



March - 2023



Observations in 2023



March - 2023



April - 2023



April - 2023



Observations in 2023



April - 2023



April - 2023



Installation of EarthTec Injection



Installation of EarthTec Injection



Installation of EarthTec Injection



Installation of EarthTec Injection



Installation of EarthTec Injection



Installation of EarthTec Injection



Completion of EarthTec Injection Project



Project Cost and Dosing

Overall Project Costs:

- Custom Conex Box: \$6,600
- Safety Supplies and Signage: \$688
- New electrical conduit and wiring: \$1,480
- Carson manhole covers: \$5,043
- 275-Gallon EarthTec Tote: \$5,225 (\$19/gallon)
- Total Project Cost: \$19,036

Dosing Information:

- Recommended dose per manufacturer: 1 ppm
- Recommended maintenance dose per manufacturer: 0.06 ppm
- Actual concentration dose: 0.065 ppm



Next Steps

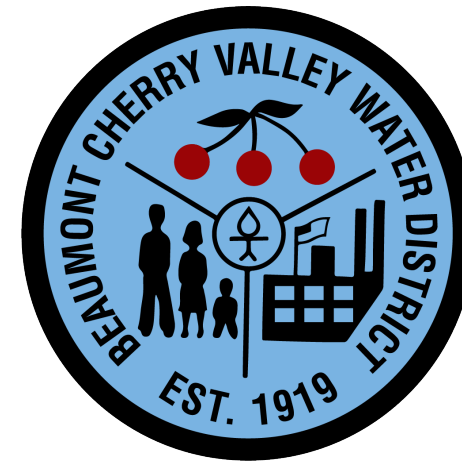
Continue to monitor Brookside East Recharge Facility for HABs

Level off the slope near the Conex Box for easier delivery of new EarthTec totes

Ensure compliance with our Hazard Material Permit with Riverside County DEH

Continuously evaluate, adjust, improve, and upgrade the system to ensure optimal performance

Stay connected with DWR's Cyanotoxin monitoring team for upcoming HABs



A Big thank you to the Beaumont-Cherry Valley Water District staff for their help with this project!

