

Overview of Algal Bloom Remediation Project: Lake Minneola



Harmful Algal Bloom Innovative Technology Grant

- Florida Legislature appropriated grant funding in FY 2020 for innovative technology projects related to Harmful Algal Blooms (HABs).
- Given recent history of HABs, Lake Minneola was selected for a pilot study for a HAB remediation project.
- The St Johns River Water Management District (SJRWMD) entered a grant agreement with the Florida Department of Environmental Protection (FDEP) to provide support for the contract recipient, Blue Green Water Technologies (BGWT).

Lake Minneola 2020 HABs



Courtesy of Mr. Fred Sommer, President, Sommer Sports

March 2020



St. Johns River
Water Management District

Project Goal

Prevent or reduce HAB formation via *Lake Guard*® Oxy

- Hydrogen Peroxide pellets (H_2O_2) with a polysaccharide membrane.
- Meant to float and target problematic algae on the surface.
- Dissipates, releasing Hydrogen and Oxygen
- 6 months of monitoring and treatment



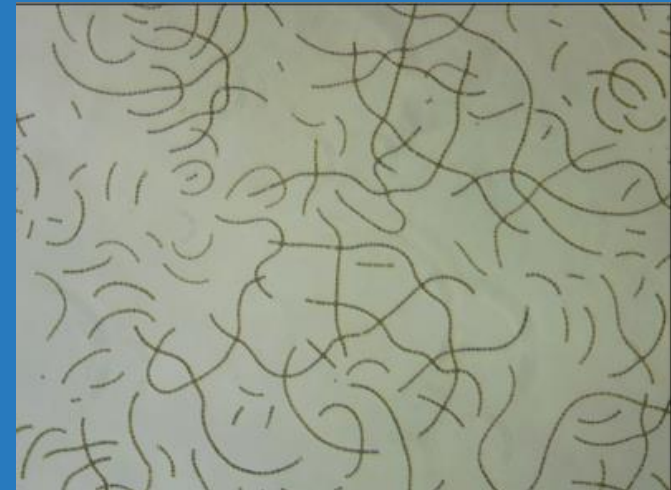
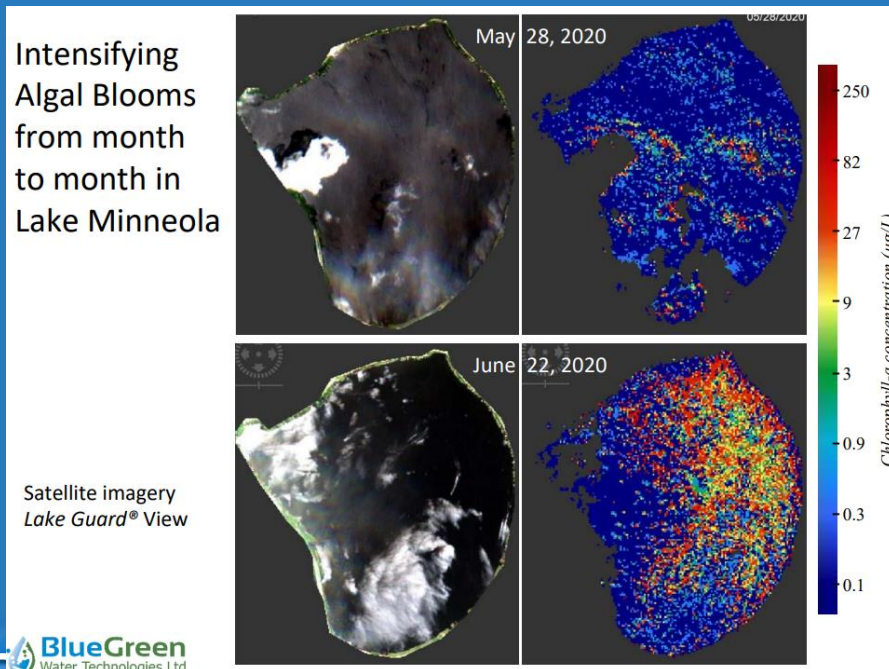
Lake Minneola *Lake Guard*® Deployment
November 2020



After deployment, pellets are visible
up to 24 hours before dissipating.

Determine Lake Guard® Treatment through Contractor Monitoring

- 1-2 times a week monitoring 5 sites (or more if bloom activity) *in situ* measurements include pH, specific conductivity, dissolved oxygen, temperature, phycocyanin.
- Phytoplankton microscopy
- Satellite Imagery



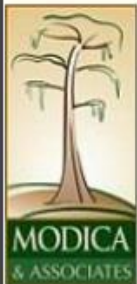
Microscopy sample collected on January 26th, 2021 showed large aggregates of *Anabaena/Dolichospermum*-like sp.

Frequent Monitoring and Deployment

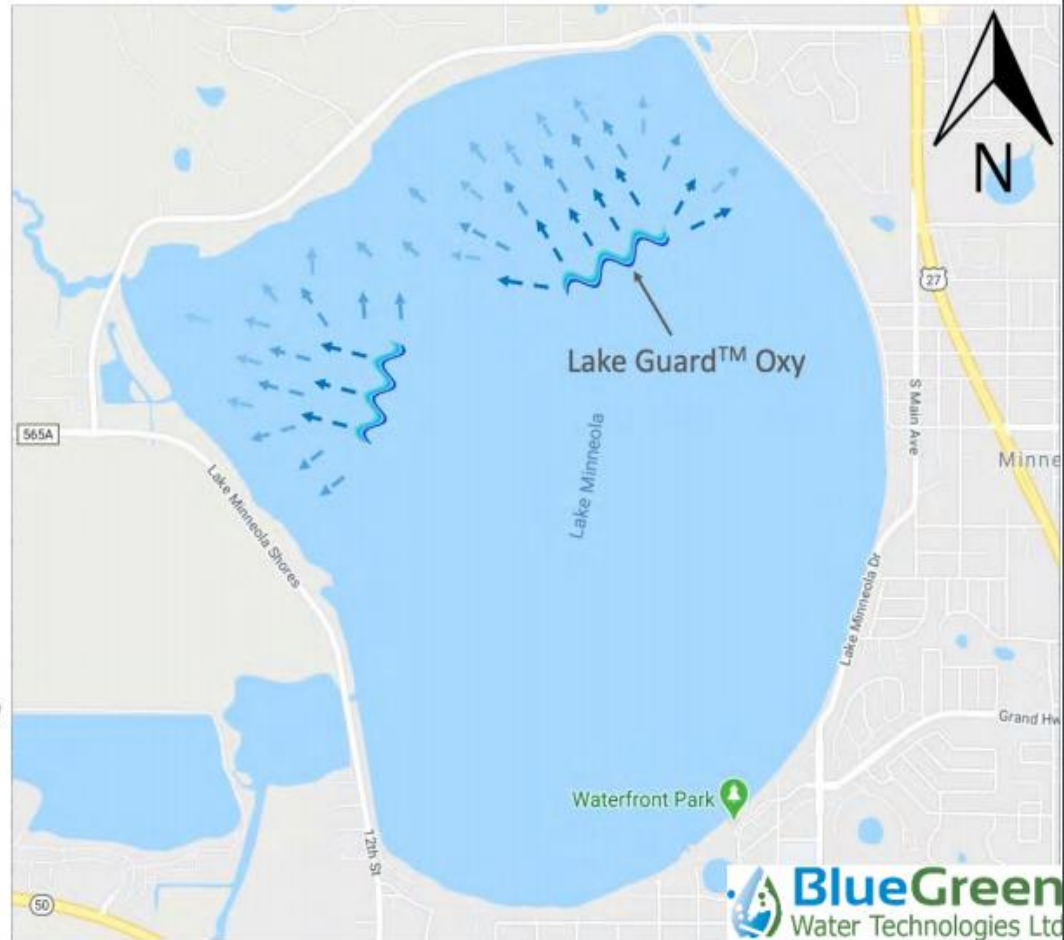
Frequent Monitoring:

- Satellite imagery,
- Visual inspection
- In-situ measurements
- Water sampling through two independent and certified laboratories

In association with:



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Public Involvement and Outreach

- Online public presentation and meeting was given in July 2020, prior to project launch date.
- Treatment notifications are sent to interested residents and any interested parties following lake treatments.
- A final public presentation and Q&A session will take place after project completion in the summer of 2021.



Signs posted at Lake Minneola Boat ramp prior to lake treatment.

Progress to Date:

- A total of 21 weeks of monitoring, weekly reports, and monthly summaries.
- Ten *Lake Guard*® treatments totaling 20,258 pounds of product (0.5 – 7.5 lbs/acre).
- No significant HAB outbreaks that resulted in the rescheduling of lake activities.

<https://www.sjrwmd.com/projects/#lake-minneola>

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Questions?



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