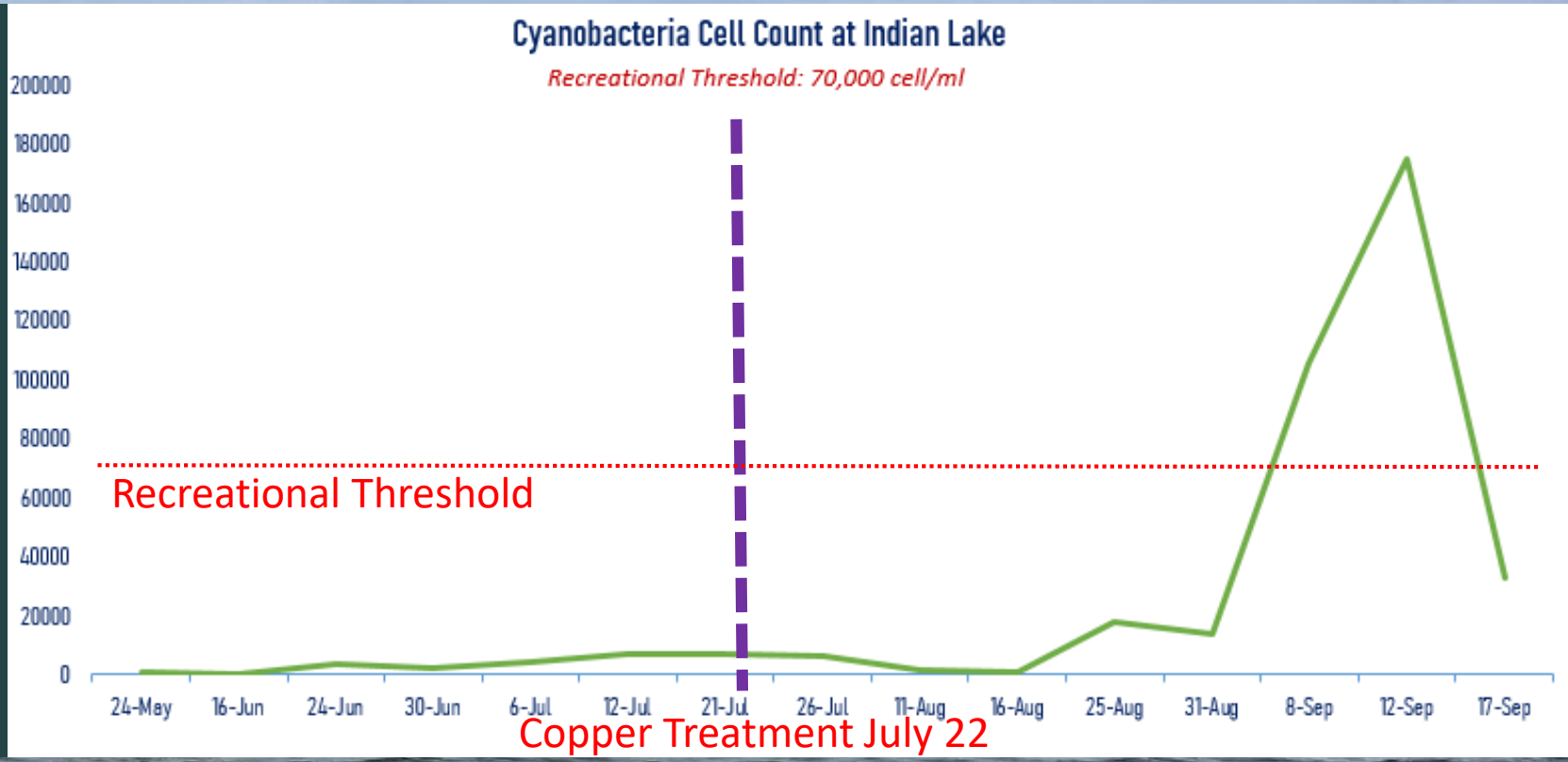
# Indian Lake Update
# November 9th, 2021



# Water Quality Update
# November 9th, 2021

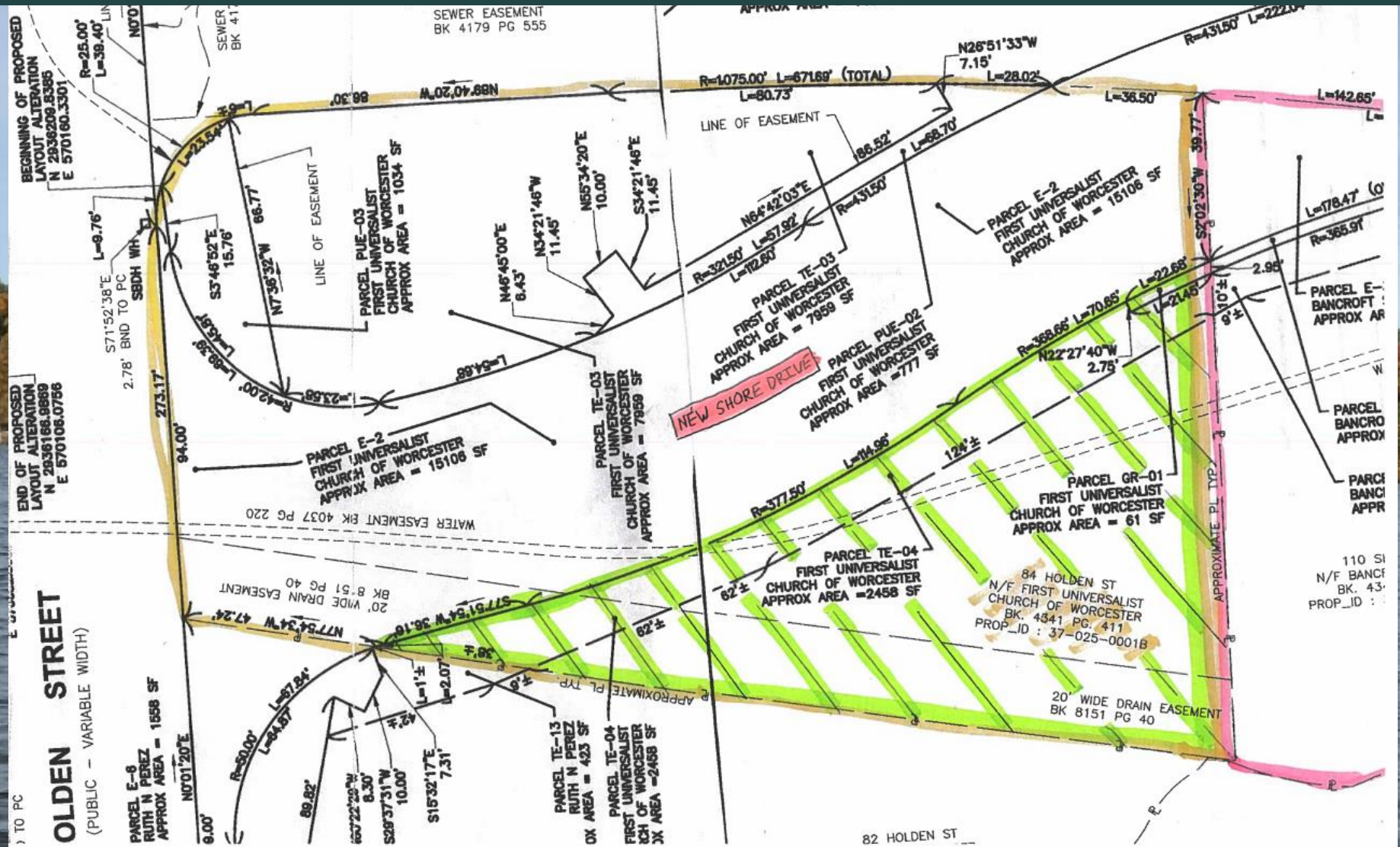
## *General Water Quality*

**Last Sampled:** 11/2/21
**Surface Temp:** 11.3°C (51.8°F)
**Dissolved Oxygen:** 87.6%
**Total Phosphorus** (10/18/21):
0.026 mg/l (N),
0.30 mg/l (S)
**Secchi:** 5.5 feet
**Trash Score:** 10/25
**Next Sampling Date:** Spring 2021




## Indian Lake opened again Sept 27

# Alum Dosing Station Update
# November 9th, 2021



# Drawdown Commences November 2nd, 2021

## *Changes*

1. We used a new herbicide this year, successful at curbing Eurasian milfoil
2. Drawdown in winter 2021/22 will be 3 vertical feet
3. No significant drawdown is planned for 22/23

## *Rational*

1. Drawdowns are bad for plant and animal biodiversity
2. Most drawdowns do NOT happen every year
3. We are not permitted to have a drawdown
4. Permitted docks will not be damaged
5. The lake will be healthier without a drawdown!

Recreational Waters (Blue Space) | City of Worcester, MA (worcesterma.gov)

## *Outreach/Response*

1. PSA of changes released in early October, link to information session on October 19th
2. Posting of over 180 paper notices on abutter's doors on October 15th
3. Listening session had about 6 participants who raised various concerns

*You can see presentation and concerns on the website below*

## *Considerations*

1. This year, during the 3 foot drawdown, we will be using monitoring devices
2. We have updated our aquatic plant management plan to include the possibility of emergent threats to recreation, so as to be able to respond quickly
3. It is not impossible that the drawdown will occur again in the future

# Invasive Aquatic Plant Management
# November 9th, 2021



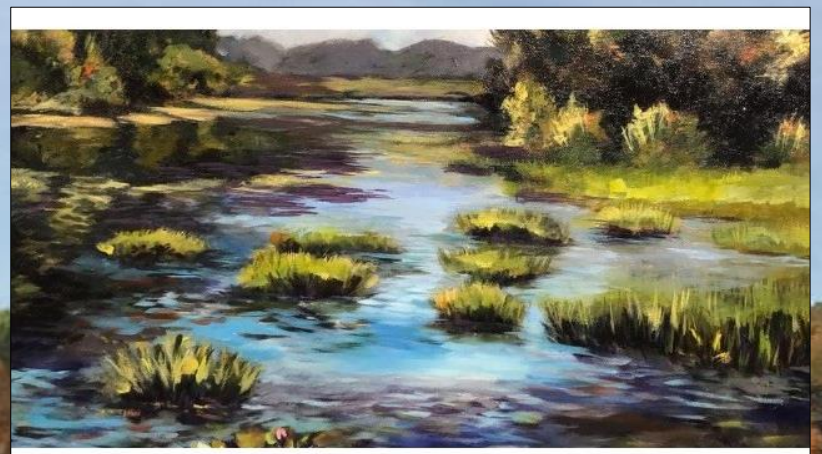







ARPA Funding Requested

# Events
# November 9th, 2021



THU, NOV 11 AT 7 PM EST

**Blue-Greens in our Blue Spaces**

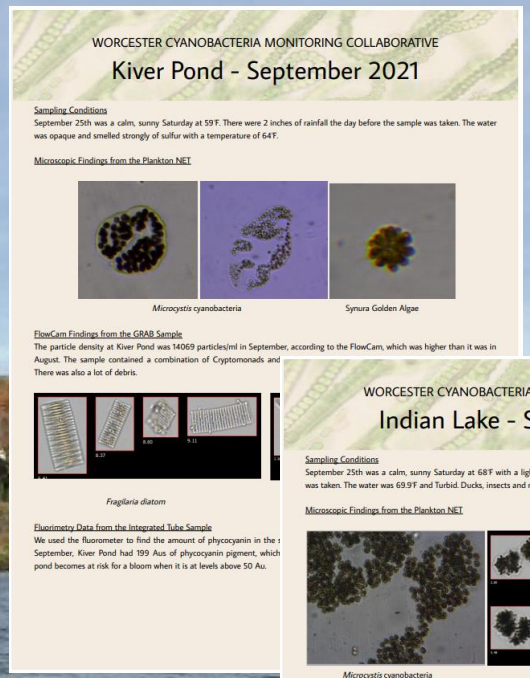
The Park View Room Worcester · Worcester, MA

## Gallery Open: Sundays 2:30-4:00

Now Virtual Register at https://www.preservationworcester.org/events-1/talk-blue-greens-in-our-blue-spaces-1

# Worcester Cyanobacteria Monitoring Collaborative
# November 9th, 2021



WORCESTER CYANOBACTERIA MONITORING COLLABORATIVE

Kiver Pond - September 2021

Sampling Conditions

September 25th was a calm, sunny Saturday at 59˚F. There were 2 inches of rainfall the day before the sample was taken. The water was opaque and smelled strongly of sulfur with a temperature of 64˚F.

Microscopic Findings from the Plankton NET

*Microcystis* cyanobacteria

Synura Golden Algae

FlowCam Findings from the GRAB Sample

The particle density at Kiver Pond was 14069 particles/ml in September, according to the FlowCam, which was higher than it was in August. The sample contained a combination of Cryptomonads and

There was also a lot of debris.

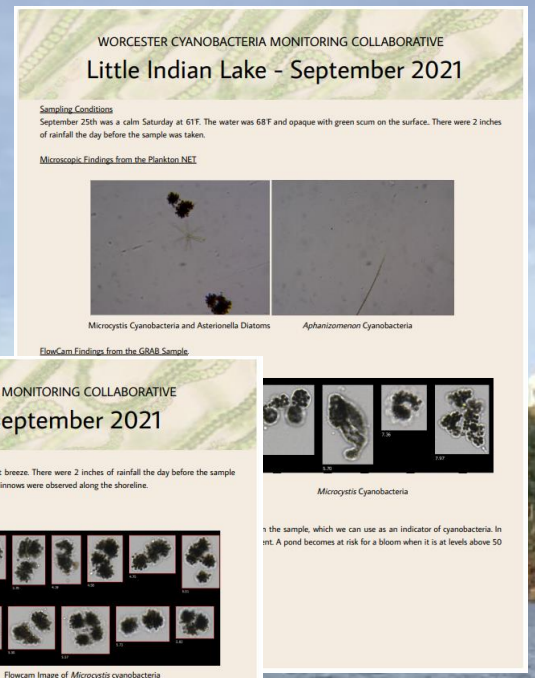
*Fragilaria diatom*

Fluorimetry Data from the Integrated Tube Sample

We used the fluorometer to find the amount of phycocyanin in the

September, Kiver Pond had 199 Aus of phycocyanin pigment, which

pond becomes at risk for a bloom when it is at levels above 50 Au.



WORCESTER CYANOBACTERIA MONITORING COLLABORATIVE

Little Indian Lake - September 2021

Sampling Conditions

September 25th was a calm Saturday at 61˚F. The water was 68˚F and opaque with green scum on the surface. There were 2 inches of rainfall the day before the sample was taken.

Microscopic Findings from the Plankton NET

Microcystis Cyanobacteria and Asterionella Diatoms

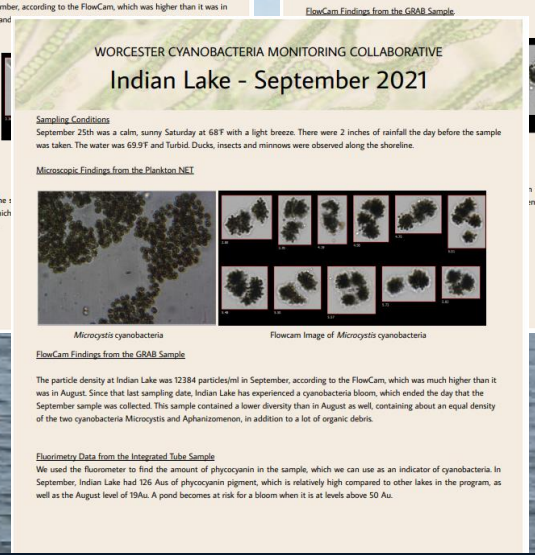
*Aphanizomenon* Cyanobacteria

FlowCam Findings from the GRAB Sample

*Microcystis* Cyanobacteria

s the sample, which we can use as an indicator of cyanobacteria. In

nt. A pond becomes at risk for a bloom when it is at levels above 50



WORCESTER CYANOBACTERIA MONITORING COLLABORATIVE

Indian Lake - September 2021

Sampling Conditions

September 25th was a calm, sunny Saturday at 68˚F with a light breeze. There were 2 inches of rainfall the day before the sample was taken. The water was 69.9˚F and Turbid. Ducks, insects and minnows were observed along the shoreline.

Microscopic Findings from the Plankton NET

*Microcystis* cyanobacteria

Flowcam Image of *Microcystis* cyanobacteria

FlowCam Findings from the GRAB Sample

The particle density at Indian Lake was 12384 particles/ml in September, according to the FlowCam, which was much higher than it was in August. Since that last sampling date, Indian Lake has experienced a cyanobacteria bloom, which ended the day that the September sample was collected. This sample contained a lower diversity than in August as well, containing about an equal density of the two cyanobacteria Microcystis and Aphanizomenon, in addition to a lot of organic debris.

Fluorimetry Data from the Integrated Tube Sample

We used the fluorometer to find the amount of phycocyanin in the sample, which we can use as an indicator of cyanobacteria. In September, Indian Lake had 126 Aus of phycocyanin pigment, which is relatively high compared to other lakes in the program, as well as the August level of 19Au. A pond becomes at risk for a bloom when it is at levels above 50 Au.

***Final Sampling on October 16th***

***September Reports available at WorcesterMA.gov/wcmc***