



Otsego Lake Association 2023 annual meeting

Otsego Lake Science Update

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Continuous Lake Monitoring Buoy (CLMB) Usually April - Dec

Yokota 2023 Otsego Lake Association Annual Meeting

Home

Our Mission

Recent News

Welcome to the Otsego Lake Association

Our Mission

The mission of the Otsego Lake Association is to educate, advocate, and actively participate in protecting the health, beauty, and well being of Otsego Lake by facilitating the implementation of the Otsego Lake Watershed Management Plan.

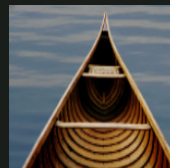
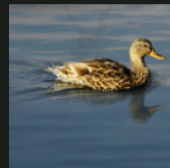
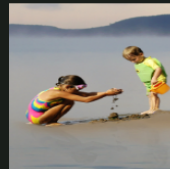


Real time data from the [Automated Monitoring Buoy](#) located offshore near 5-mile point. OLA helps support the buoy project.

Between around November and April, data below does NOT reflect the current condition of Otsego Lake. Data may be transmitted sporadically for near-shore data collection and/or equipment testing.

Otsego Lake Buoy	
Otsego Lake, NY, USA	
at 08-11-2023 21:15:00	
Temp_0m	22.57 C
Temp_2m	22.57 C
Temp_4m	22.58 C
Temp_6m	22.52 C
Temp_8m	22.57 C
Temp_10m	17.39 C
Temp_12m	12.96 C
Temp_14m	10.65 C
Temp_16m	9.43 C
Temp_18m	8.78 C

Powered By WQData LIVE



Like us on.



Quick reference table

Temp		Wind speed	
°C	°F	m/s	mph
-40	-40	0	0
-35	-31	5	11
-30	-22	10	22
-25	-13	15	34

Otsego Lake Buoy

Otsego Lake, NY, USA

at 08-11-2023 21:15:00

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Powered By WQData LIVE

This will cost \$2K per year in data center subscription starting on Jan 1, 2024

Testing the CLMB system with the new Airmar weather station funded by OLA and School of Sciences, SUNY Oneonta. 21-22 Dec 2022



No ice, even along the shoreline, on 3 Feb 2023



Entire lake ice-covered overnight
Photos on 4 Feb 2023 9:55 am by Paul H. Lord



How did it happen?

4:48 pm

5:48 pm

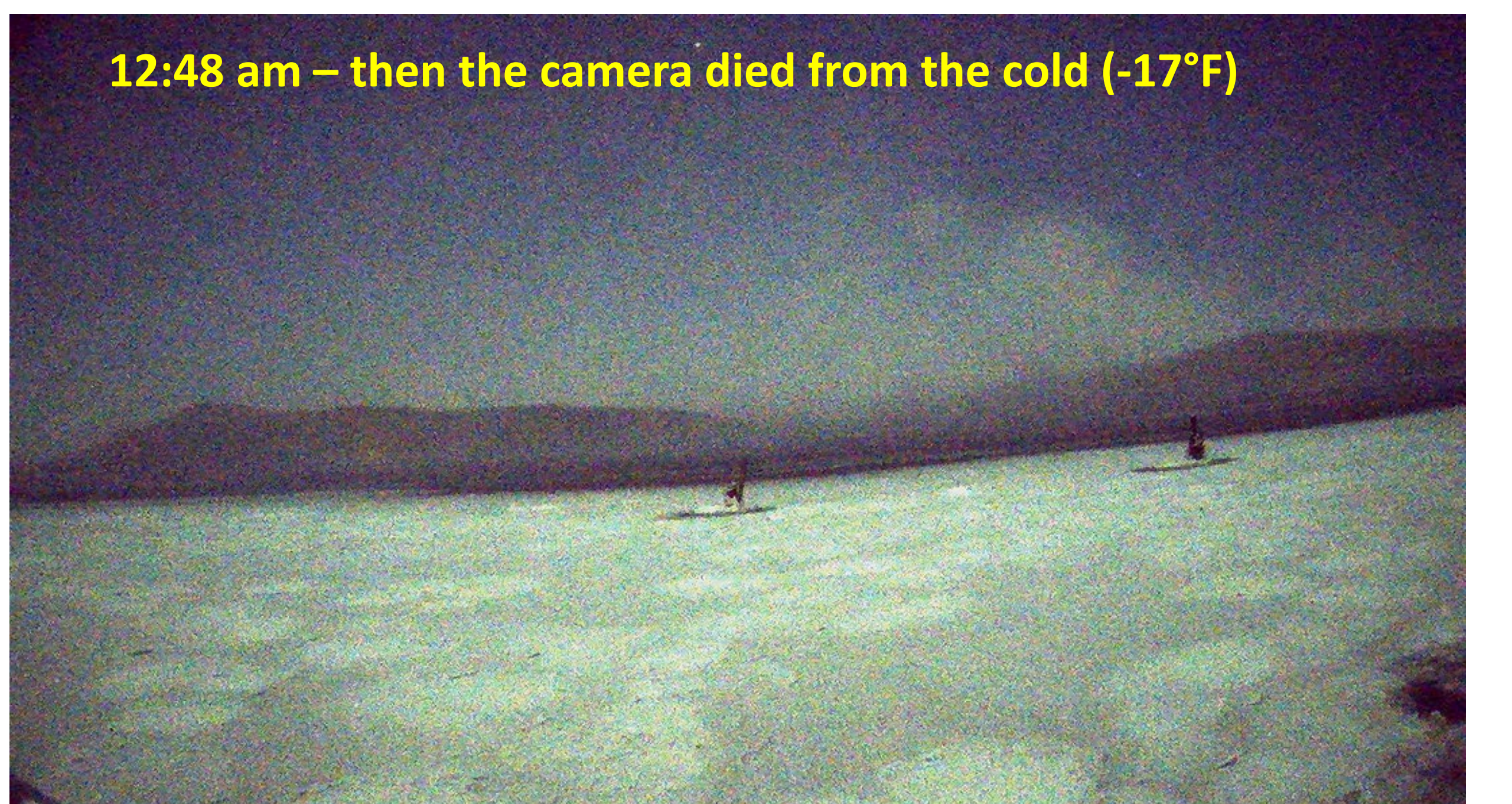
8:48 pm

9:48 pm



10:48 pm

12:48 am – then the camera died from the cold (-17°F)

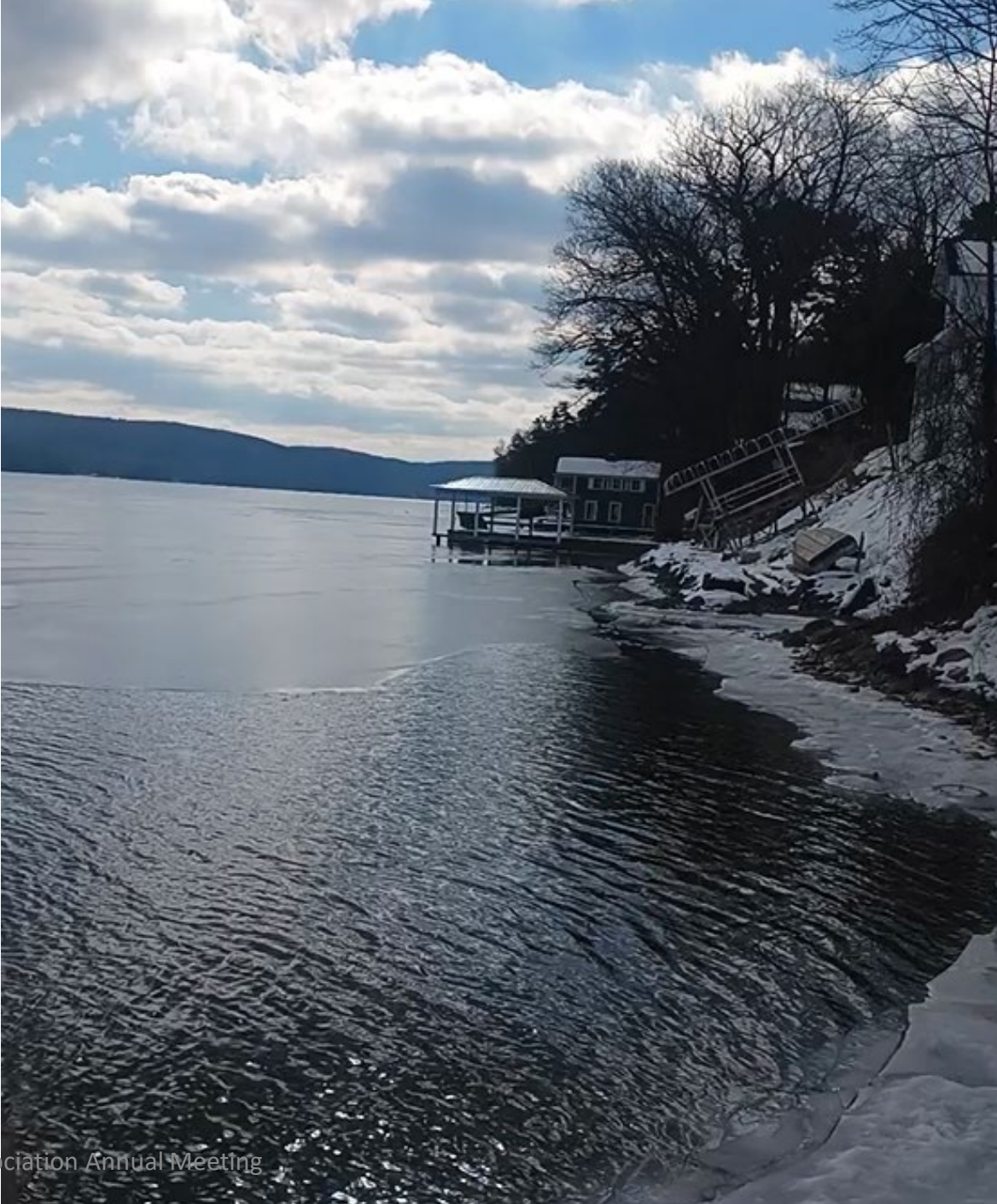


4 days later on 8 Feb 2023



Yokota 2023 Otsego Lake Association Annual Meeting

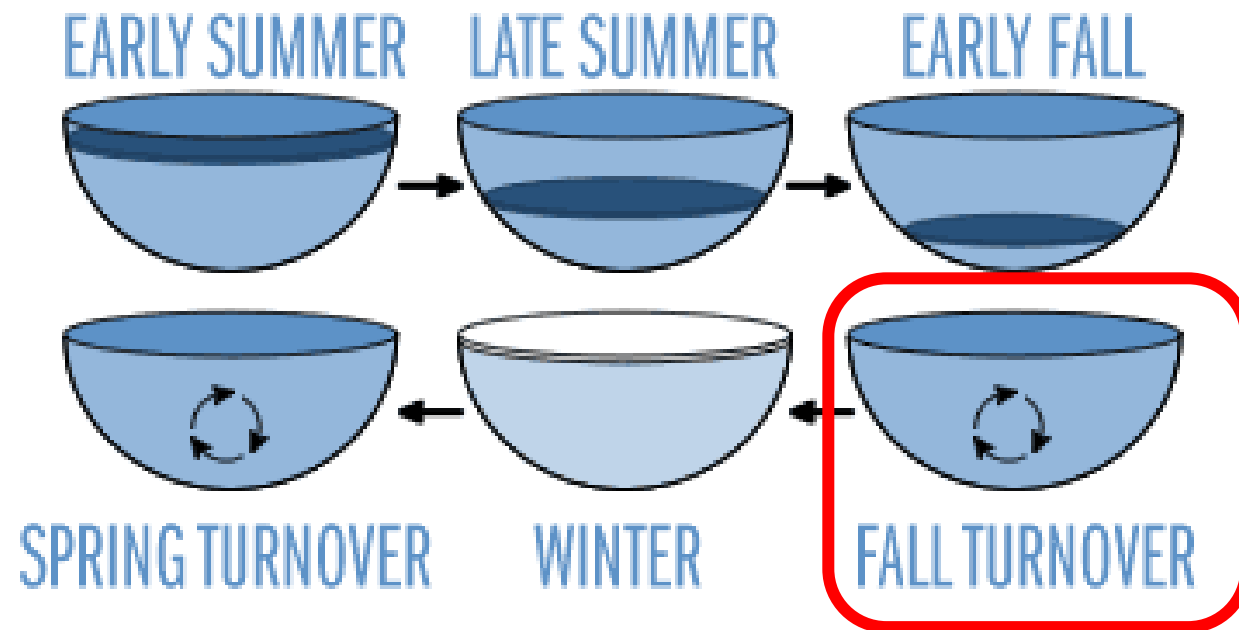
4 days later on 8 Feb 2023



Implications of thin and short ice cover in Winter 2022-23

- Lake water not insulated under ice and snow cover as in “normal” years
- Prolonged fall turnover until 4 Feb 2023
- Close to freezing all the way to the bottom on 3 Feb?
- Warm/cold air → immediate surface warming/cooling
- Lake heat budget probably different this yr
- Winter condition probably favored:
 - Cold- and/or fluctuation-tolerant species (e.g., light, temp, nutrients)
 - **Cyanobacteria**
 - **Invasive species**
 - **Continued AIS control critical**

ANNUAL CYCLE OF THERMAL STRATIFICATION IN A DIMICTIC LAKE



Otsego Lake
bloom pictures
– 2022 (photos
by Holly
Waterfield)



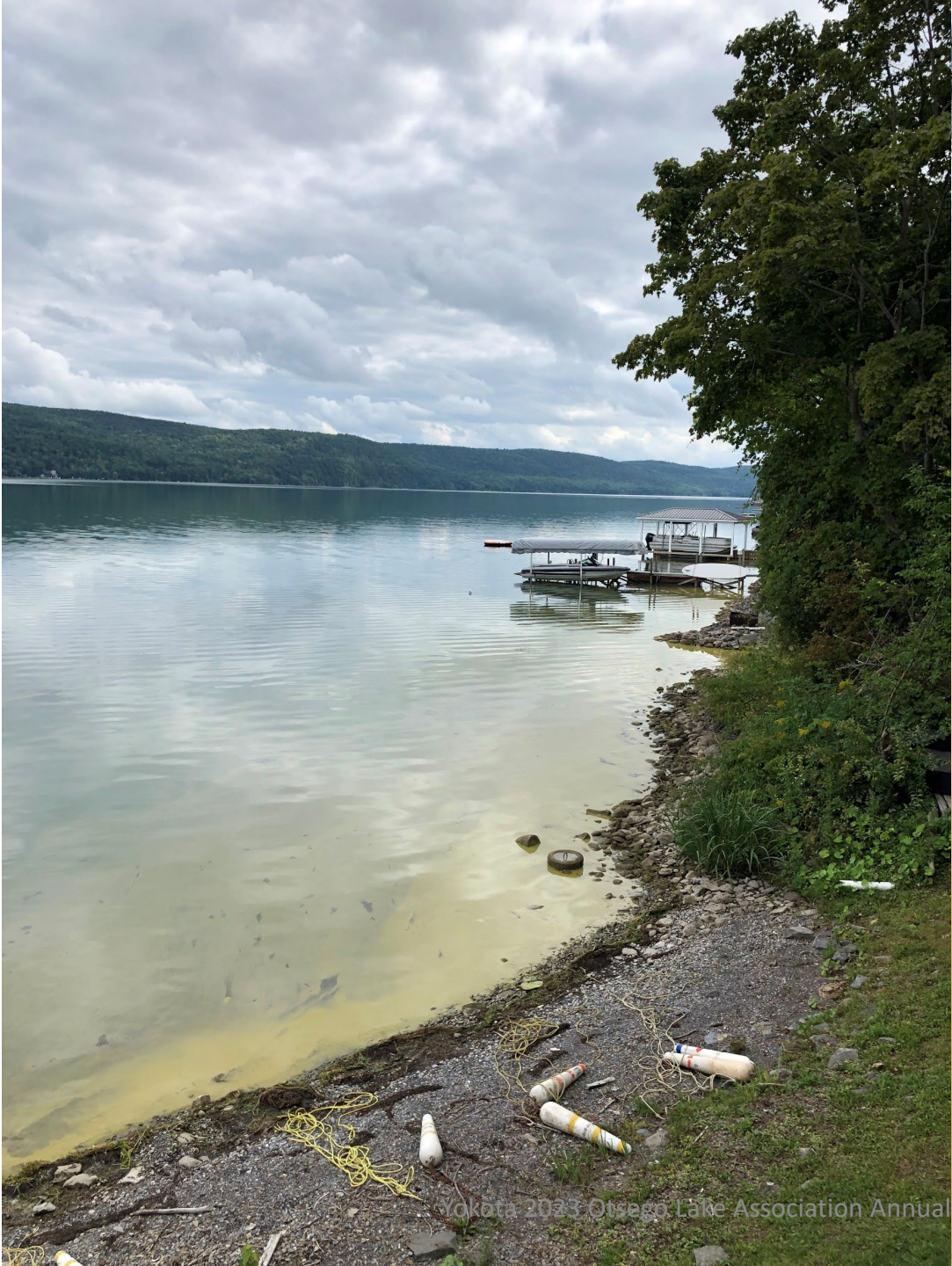
Otsego Lake bloom pictures –
2022 (photos by Holly
Waterfield)



Otsego Lake
bloom pictures –
2022 (photos by
Holly Waterfield)

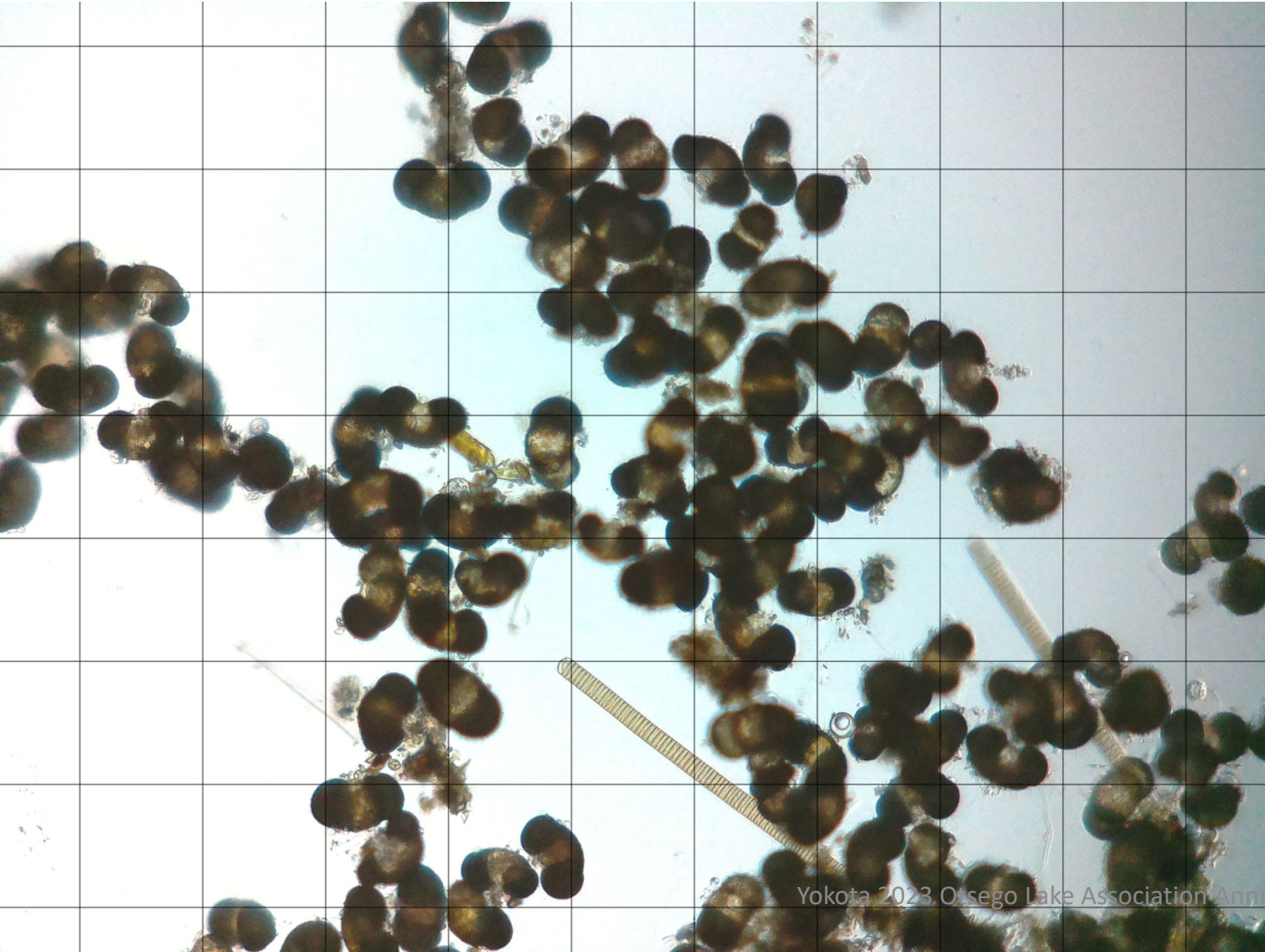


Otsego Lake
bloom pictures –
2022 (photos by
Holly Waterfield)



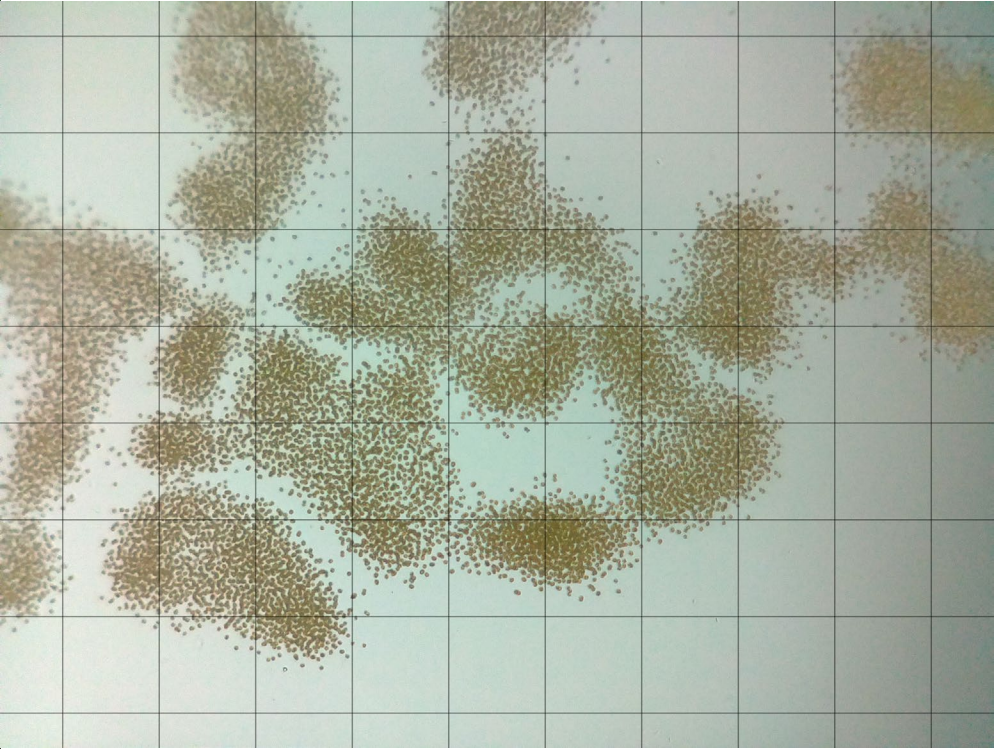
False alarm, 11 June 2023 @Glimmerglass State Park

Mostly pollen (grids are 100 microns x 100 microns)



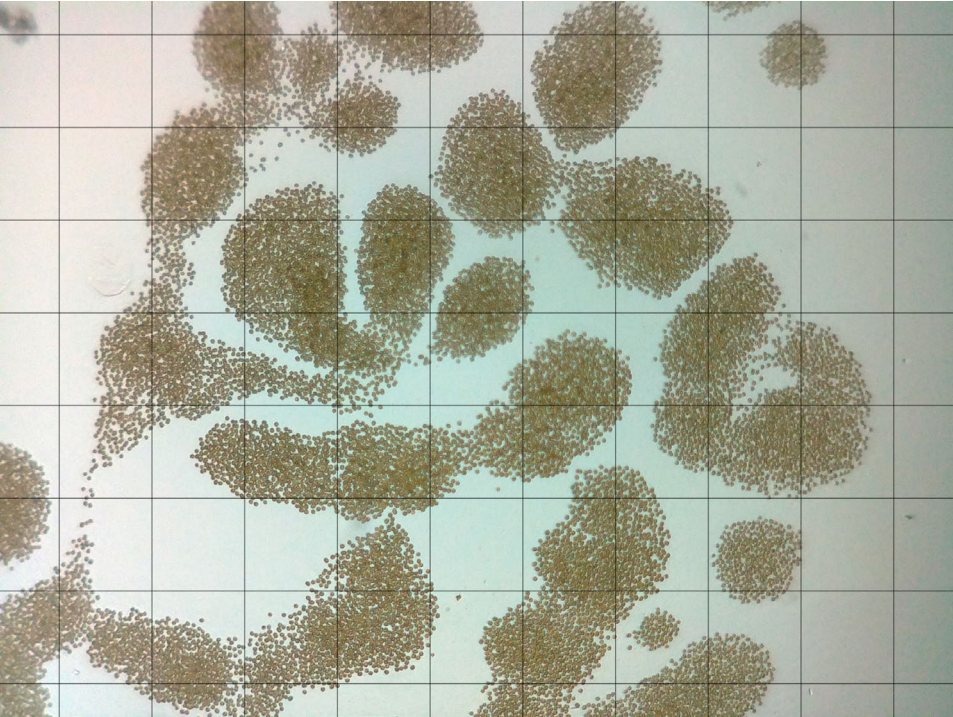
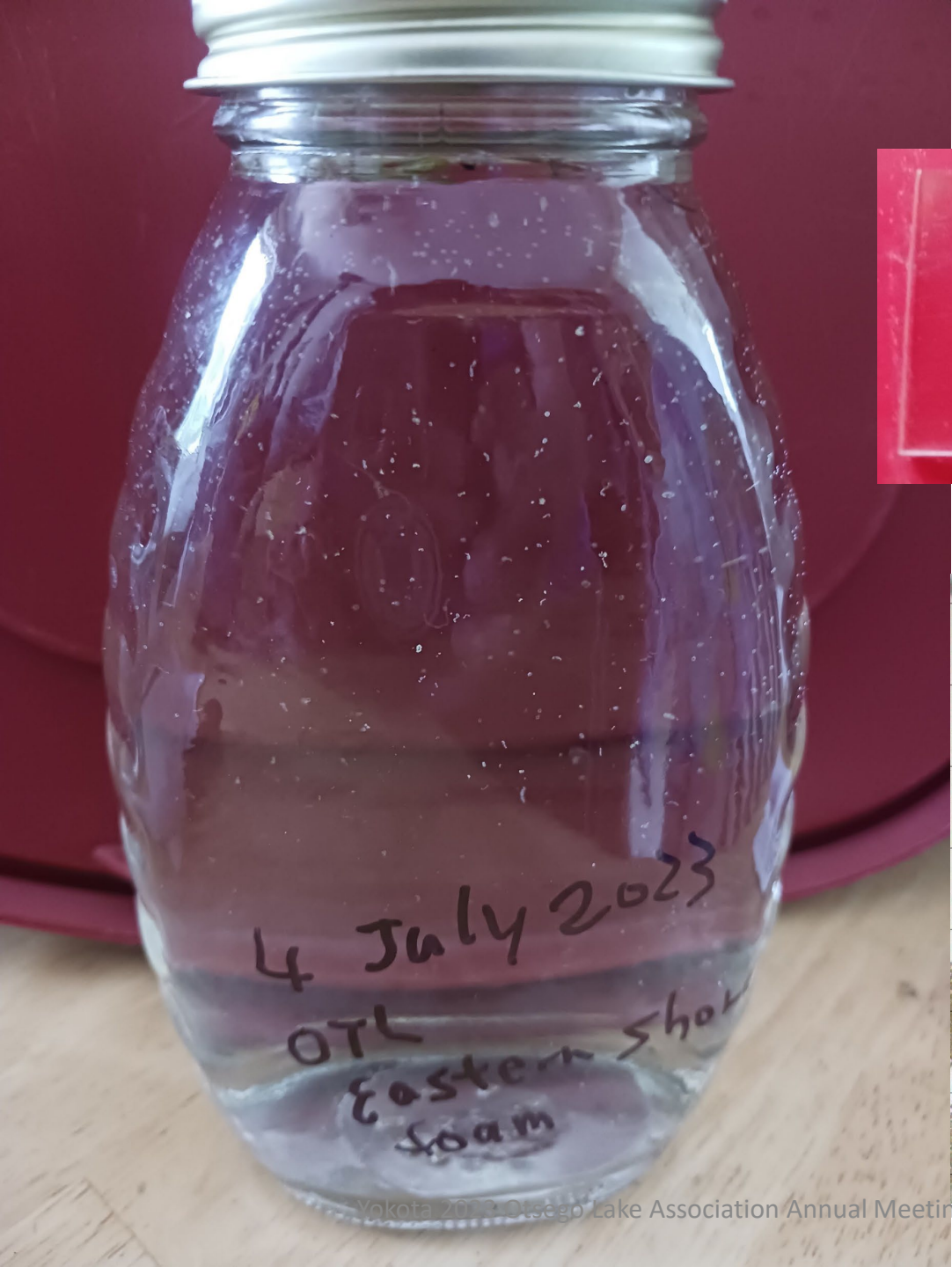
White particles, 27
June 2023 @BFS
Boathouse (near
Sunken Island)

Macroscopic colonies
of *Microcystis*
aeruginosa (grids are
100 microns x 100
microns)



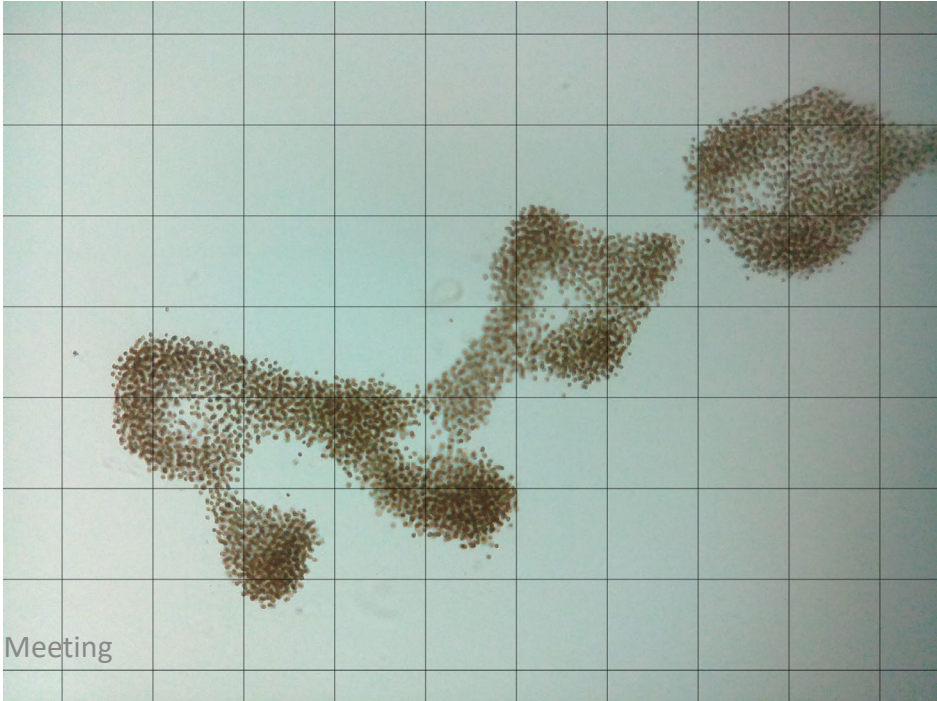
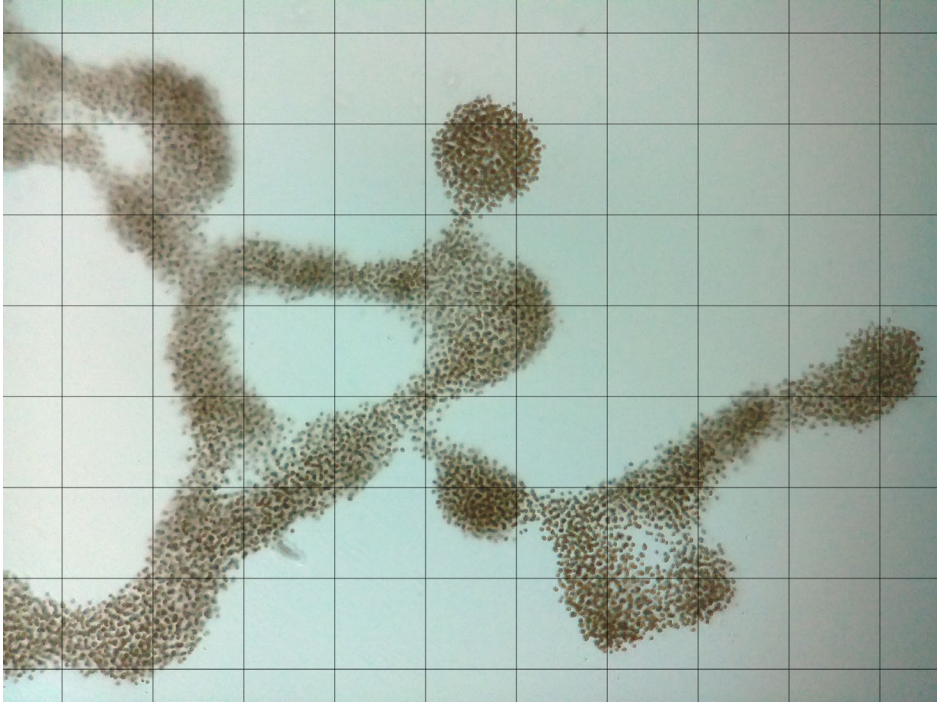
Foamy streak, 4 July
2023 along the
eastern shore

Macroscopic colonies
of *Microcystis*
aeruginosa (grids are
100 microns x 100
microns)



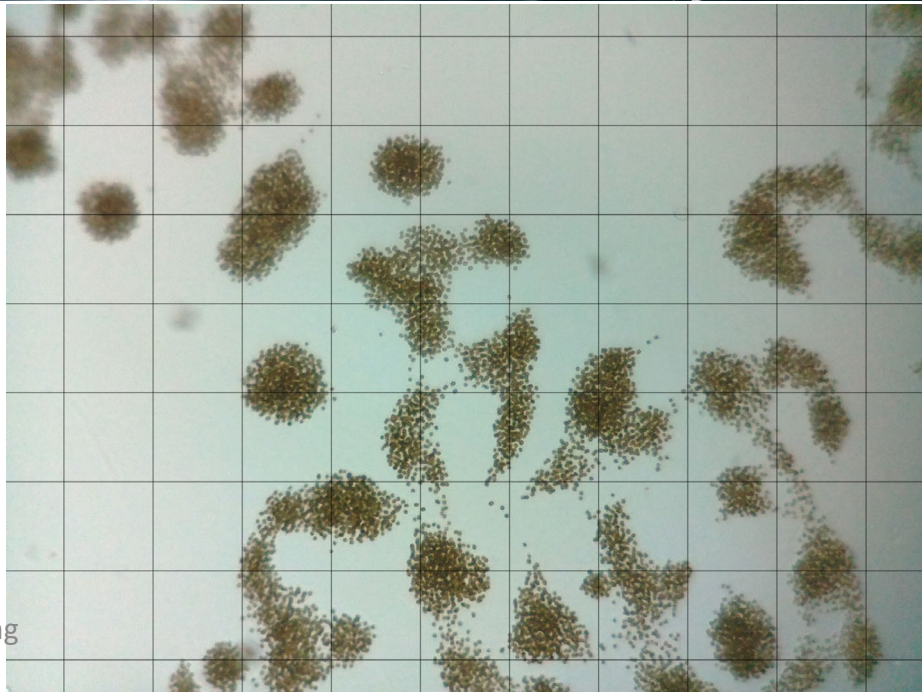
Foamy streaks, 17
July 2023 near CLMB
(near 5MP in the
middle of the lake)
Water surface photos
by CSLAP volunteer
Rhonda Willies

Macroscopic colonies
of *Microcystis*
aeruginosa (grids are
100 microns x 100
microns)



Foamy streaks, 31 July 2023 in the middle of the lake running north-south

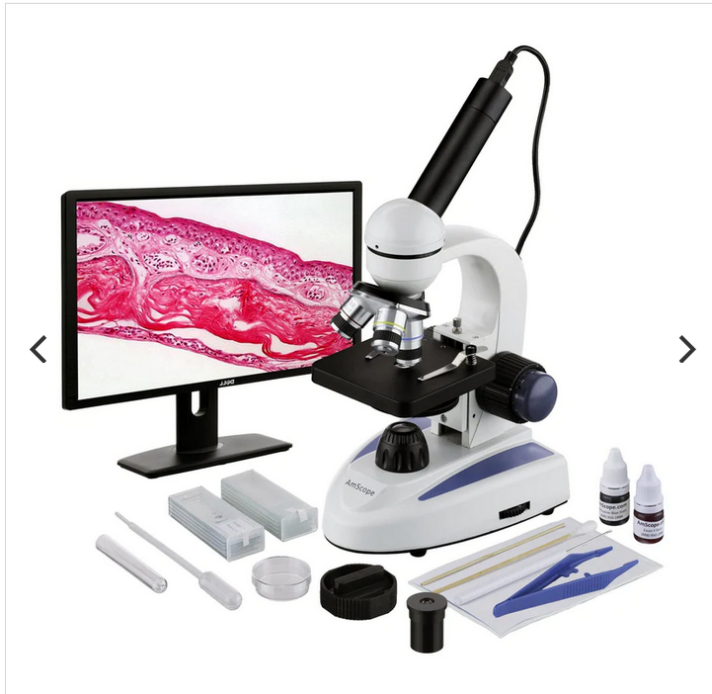
Macroscopic colonies of *Microcystis aeruginosa* (grids are 100 microns x 100 microns)



Interested in observing cyanobacteria and other phytoplankton species?

Decent microscopes with a camera are available for ~\$200 (requires a computer)

Tutorials and species ID keys at <https://cyanos.org/cyanoscope-details/>



40X-1000X Biology Science Metal Glass Student Microscope with USB Digital Camera and Slide Preparation Kit

SKU: M158C-SP14-E
★★★★★ 5 Reviews

QTY: - 1 +

ADD TO CART

AVAILABILITY: IN STOCK

\$208.99 \$164.99

>> [How to Buy A Microscope](#)

Key Features

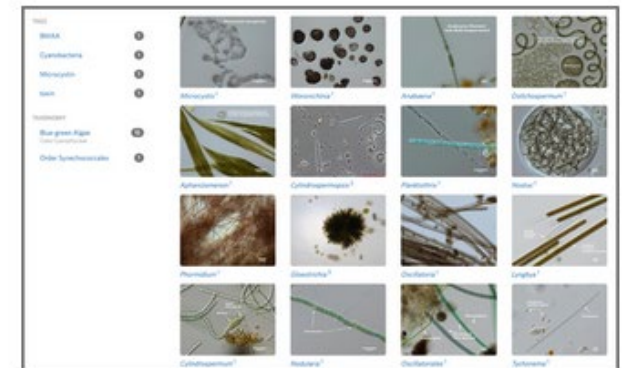
- 360 degree rotating monocular head with optical glass lenses, offering five levels of magnification up to 1000X
- Sturdy all-metal framework with single glass lens condenser and 6-hole disc diaphragm
- LED illumination powered via outlet and/or batteries
- Digital camera with advanced editing, processing & measuring software for Windows XP/Vista/7/8/10
- Includes slide preparation kit
- Includes an AmScope Exclusive – digital camera software designed for middle and high school students that makes capturing and editing photos and videos easy and fun! [Windows and Mac](#)

https://amscope.com/products/m158c-sp14-e?utm_source=affiliate&utm_medium=rakuten&utm_campaign=rakuten&ranMID=43027&ranEAID=JNLJ1ZP2xGI&ranSiteID=JNLJ1ZP2xGI-qdWusgwVIVmNHqULNtD5IQ (Just an example – not endorsement)

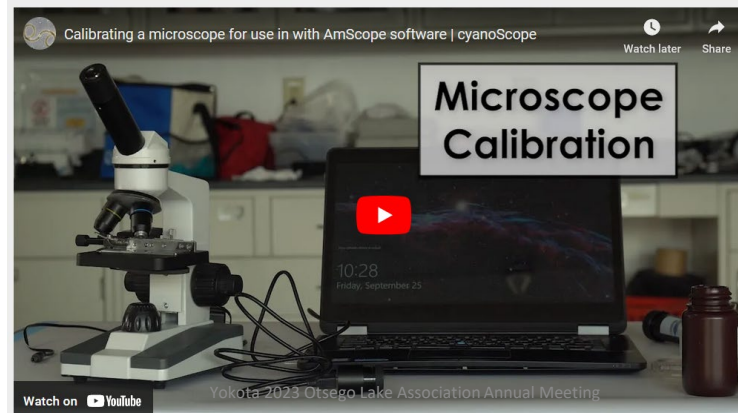
Identify cyanobacteria



USE DIRTY DOZEN KEY



USE INATURALIST KEY



Want to learn more about harmful algal blooms (HABs)?

Check out the Summer 2023 issue of LakeLine, a quarterly magazine of the North American Lake Management Society. This issue is open access.

<https://www.nalms.org/product/lakeline-43-2-harmful-algal-blooms/>

2023 NALMS symposium in Erie, PA
Early bird registration closes on 1 Sept

<https://www.nalms.org/nalms2023/>



Great Lakes, Local Solutions

NALMS 43rd International Symposium
October 22-26, 2023 • Erie, Pennsylvania

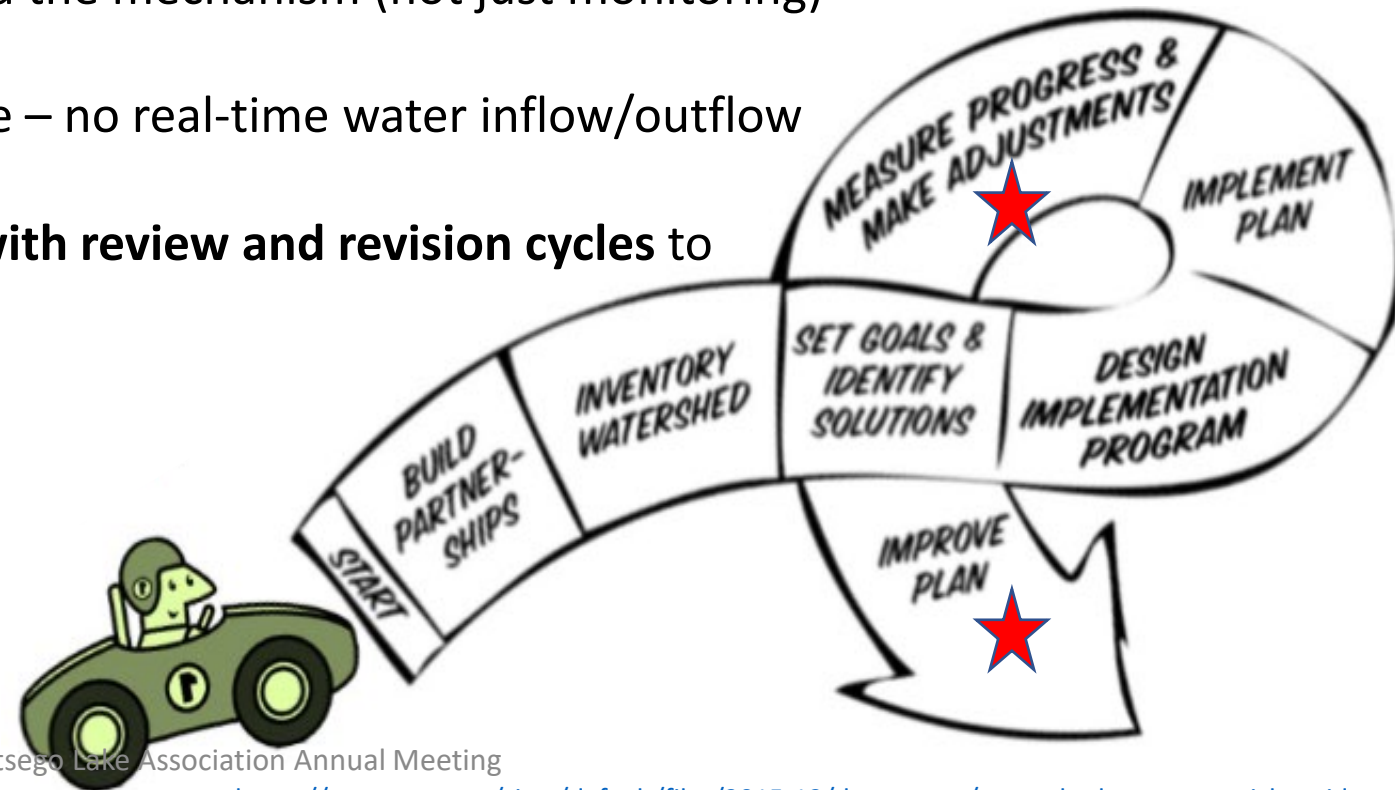
Attendee Registration is Open

Exhibitor Registration is Open



How to help restore a “healthy” lake?

- 1. Continue reducing nutrient and sediment input from watershed** - climate change is counteracting reductions
 - Wastewater management
 - Lake-friendly landscaping (“lakescaping”)
 - Better ditching (stormwater management)
- 2. Understand how water and nutrients interact with living organisms and sediment**
 - Hypothesis-driven research to understand the mechanism (not just monitoring)
 - Collect data from both lake and streams
 - Need a USGS stream gage for Otsego Lake – no real-time water inflow/outflow data; just rough daily estimates
- 3. Create a comprehensive management plan with review and revision cycles to address #1 & 2 (NYSDEC 9 Element Plan)**



Acknowledgement

- Otsego Lake Association – volunteer hours, ice-resistant steering system for 2 BFS boats, other supplies, PR support
- Otsego SUNY Oneonta BFS Volunteer Dive Team
- Lake technical assistance: Holly Waterfield, Matt Albright, Edward Irwin, John Knapp
- National Science Foundation
- NYS Water Resources Institute
- Cooperstown Rotary Club
- Otsego County Conservation Association
- School of Sciences & Biological Field Station, SUNY Oneonta
- Logistical support/approval from: Otsego County Conservation Association; Glimmerglass Condominium Homeowners' Association; Otsego County Sheriff's Office; NYS Parks, Recreation & Historic Preservation; Belmonte-Flynn Family, VanHeusen Family, collaborators from the SUNY Lakes Ecological Observatory Network (SUNY LEON), Global Lake Ecological Observatory Network (GLEON), and Northeast GLEON (NE GLEON); SUNY BFS Summer Interns

**Thank you for your interest and support
for Otsego Lake research!
OLA supports the CLMB project and live data streaming.**

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 **@YokotaLimnoLab**

<http://employees.oneonta.edu/yokotak/YokotaLimnoLab/>