Photo credit: Holly Davidson, volunteer HABs harrier

HABS WEEKLY NEWSLETTER

2022 CAYUGA LAKE HABS MONITORING PROGRAM

September 9, 2022
by CLWN Staff Intern Adele Hancock

THIS WEEK'S CONTENTS:

HABs Update

This week Cayuga Lake has had **five blooms**, with two widespread blooms leading to double reports. All seven samples taken are listed in the chart on pages two and three. These blooms have been concentrated in the **North End** of the lake.

In this week's newsletter we wanted to include some information about aquatic vegetation on the lake. See page three to learn about the types of plants in the lake, and what has been done to manage their growth in the past and present.

Use caution when entering water with dense vegetation! It can be difficult to identify HABs in the weeds, and the reduced waterflow through the weeds may cause the accumulation of HABs and their toxins.

The latest incoming HABs reports can be viewed at the Community Science Institute's HABs Reporting Page.

All of the previous HABs newsletters can be found at the 2022 HABs Update Page.

HABs Update

On the right side of the page is a Map of Cayuga Lake indicating the location of this week's HAB reports.

Index of pin color and meaning:

Purple pins: Unsafe bloom! Microcystin toxin concentration exceeds the limit for contact recreation (4.0 µg/ L).

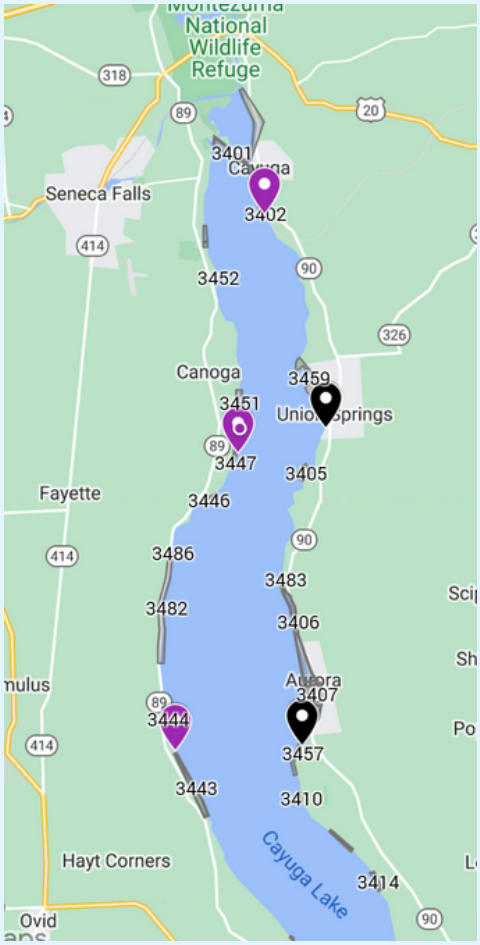
Black pins: Cyanobacteria are present in bloom (HAB) sample. Potentially toxic/harmful bloom. No sample collected.

Blue pins: Suspicious HAB

Green pins: Cyanobacteria bloom with a microcystin toxin concentration less than the drinking water limit (0.3 µg/L).

Yellow pins: Cyanobacteria bloom with a microcystin toxin concentration in between the drinking water limit (0.3 µg/L) and the limit for contact recreation (4.0 µg/L).

Small green circle: Indicates that the bloom reported is an extension of a previously reported bloom.



To navigate the HABs map up close, visit CSI's 2022 Cayuga Lake HABs Reporting Map

HABs Information Chart: 9/3 to 9/9

Dates presented are the date the sample was received at the CSI lab.
Total chlorophyll a is used to estimate the biomass of the cyanobacteria bloom
Microcystin is the harmful toxin that cyanobacteria produce. Microcystin toxin levels are used to measure toxicity of a bloom.

Bloom Code	Date	Location Description	Bloom extent	Microscopy	Total Chlorophyll (ug/L)	Microcystin Toxin (ug/L)	Bloom Status
22-3457-B1	9/3	Sunset Beach Drive, Aurora	Large localized	**no sample**	no sample	no sample	**Cyanobacteria are present in Bloom (HAB).** indicated by photos and field reports.
22-3448-B1	9/7	Westfall drive, south of Canoga	widespread	**dense Microcystis, sparse Dolichospermum, Oscillatoria present**	sample unanalyzed	sample unanalyzed	**Cyanobacteria present in Bloom (HAB).** Extension of 22-3448-B1.

Bloom Code	Date	Location Description	Bloom extent	Microscopy	Total Chlorophyll (ug/L)	Microcystin Toxin (ug/L)	Bloom Status
22-3448-B1	9/7	Canoga Shores Dr in Seneca Falls	widespread	**Dense Microcystis, sparse/moderate Dolichospermum**	results pending	2978 µg/L	**Cyanobacteria Bloom (HAB).** indicated by photos and field reports.
22-3449-B1	9/7	Bull Farm Road, Cayuga Lake	widespread	**Dense Microcystis, sparse Dolichospermum**	sample not analyzed	sample not analyzed	**Cyanobacteria Bloom (HAB).** Extension of 22-3448-B1
22-3400-B2	9/7	Shoreline at end of Lakeview Ln in Romulus	small localized	**moderate Microcystis**	results pending	387 µg/L	**Cyanobacteria are present in Bloom (HAB).** indicated by photos and field reports.
22-3402-B5	9/7	private shoreline near Lower Lake Rd on a small bay, south of Ida Machine	small localised	**dense Microcystis, sparse Dolichospermum**	results pending	618 µg/L	**Cyanobacteria are present in Bloom (HAB).** indicated by photos and field reports.
22-3400-B3	9/7	shoreline along Cayuga Street north of Allens Point	large localized	**dense Microcystis, sparse Dolichospermum**	results pending	results pending	**Cyanobacteria are present in Bloom (HAB).** indicated by photos and field reports.

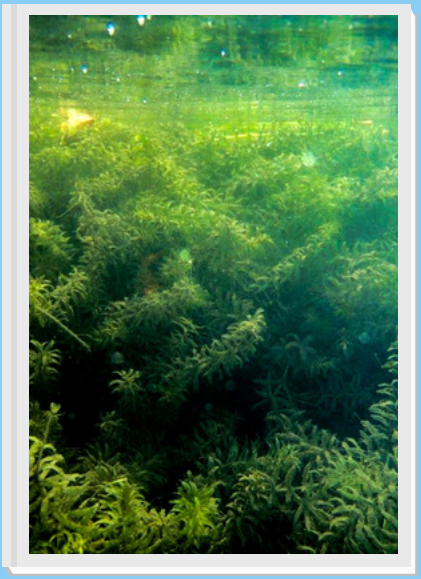
Some of this week's blooms. Photo Credits: Left, Charlie Cappellino, Right, Bill Ebert. HABs Harriers

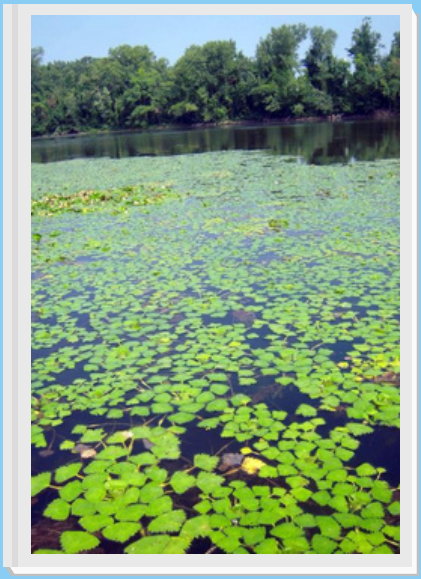
***Aquatic Vegetation in Cayuga Lake*: What's growing and how its managed**

Nuisance aquatic plants have been a problem, particularly in the North End of Cayuga Lake, since the early 1900s.

What aquatic vegetation can you find on Cayuga?

Both native and non-native species grow densely on Cayuga Lake. The most common aquatic vegetation to see is freshwater eel grass (*Vallisneria*) and various types of pondweed (*Potamogeton*). Some non-native species of concern are Hydrilla, Eurasian watermilfoil (*Myriophyllum spicatum*), Starry stonewort (*Nitellopsis obtuse*), and European waterchestnut (*Trapa natans*). The proliferation of non-native species has led to the decrease in biodiversity of aquatic vegetation as native species are lost to the competition in some places. This is just a short list of the hundreds of species that grow in the lake!.





From left: Eelgrass, Hydrilla, waterchestnut

Nuisance Vegetation

Nuisance aquatic plants have been a problem in Cayuga Lake, since the early 1900s. Growth is enhanced by the addition of sediments, and nutrients such as nitrogen and phosphorus. Overgrowth of aquatic weeds creates dense mats of vegetation that interfere with recreational activities on the lake—swimmers struggle through them, and boats can get caught. These mats occur on the surface when the plant dies, parts become detached from their roots in the sediment, and float to the surface in a tangled mass.

Aquatic Vegetation Continued:

A brief history of non-native plants

Historically, Eurasian watermilfoil and Hydrilla have been the largest threats to lake health. Both are non-native species that have grown and spread as a nuisance weed. In 1972, Tropical Storm Agnes brought Cayuga Lake water levels up by 3 feet for two weeks, killing a significant quantity of native plant biomass, and allowing the Eurasian watermilfoil to grow in size and range in 1973. Eurasian watermilfoil had an unexplained decline over the course of the 90s, possibly due to growth control by insects. Unfortunately, as of 2016, watermilfoil has begun to creep back into Cayuga Lake.

Eurasian watermilfoil

Aquatic weed harvester

Management

Cayuga County and Seneca County have both had vegetation management programs. Harvesting is typically done in the summer, from July to September, peak aquatic vegetation growing season. The weeds are removed from the lake with a harvester, which cut weeds below the surface of the water, collect them out of the water with a conveyor belt, and then bring them onto shore. In Seneca County, the weeds are then brought to several farms in the area to be combined with manure and turned into compost.

Use caution when entering water with dense vegetation! It can be difficult to identify HABs in the weeds, and the reduced waterflow through the weeds may cause accumulation of HABs and their toxins.

FAQs

Where can I look for HABs updates near me?

To keep an eye out for HABs in your area or anywhere around Cayuga Lake, visit the CSI's HAB's Reporting Page. In addition, this newsletter will contain weekly updates about reported HABs.

Where can I report a HAB or a suspicious HAB?

Please fill out the HAB Report form with the required information or email us at habshotline@gmail.com. When you are sending in a report, please make sure to include your contact information and photos of the bloom (one close-up for detail and one further away to show the extent of the bloom), location, date, and time.

Safety Tips:

1. Stay away from any suspicious blooms
2. Never swallow untreated lake water.
3. Don't swim in cloudy, discolored, or suspicious-looking water - it could contain microorganisms that are harmful to humans
4. Make sure to wash your hands after contact with water before you eat, or shower after swimming

KNOW IT, AVOID IT, REPORT IT!

Questions? Contact:

Cayuga Lake Watershed Network (CLWN)
Liz Kreitinger, Steward/Executive Director: steward@cayugalake.org

Community Science Institute (CSI)
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607-257-6606

Discover Cayuga Lake
607-327-LAKE/5253

Photo by Bill Hecht