Photo from CLWN website

HABS WEEKLY NEWSLETTER

2022 CAYUGA LAKE HABS MONITORING PROGRAM

AUGUST 11, 2022
by CLWN Staff Intern Maria Lee

THIS WEEK'S CONTENTS:

HABs Update

Over the weekend, the Community Science Institute received **two** Harmful Algal Bloom reports in the **Northeast Quadrant** of Cayuga Lake. While their lab results have not come back yet, there are cyanobacteria present in both the blooms, making them potentially harmful.

On the next page, view the HABs information chart for a closer look at the reporting details, and keep reading to page 3 for a Creatures of Cayuga Lake update featuring an invasive species that may be contributing to the prevalence of HABs.

To keep up with the HABs reports that might come in during the week, you can monitor the Community Science Institute's HABs Reporting Page.

If you missed last week's HABs Harrier interview and Creatures of Cayuga Lake highlight, you can view that newsletter as well as previous ones at our website's 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).

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

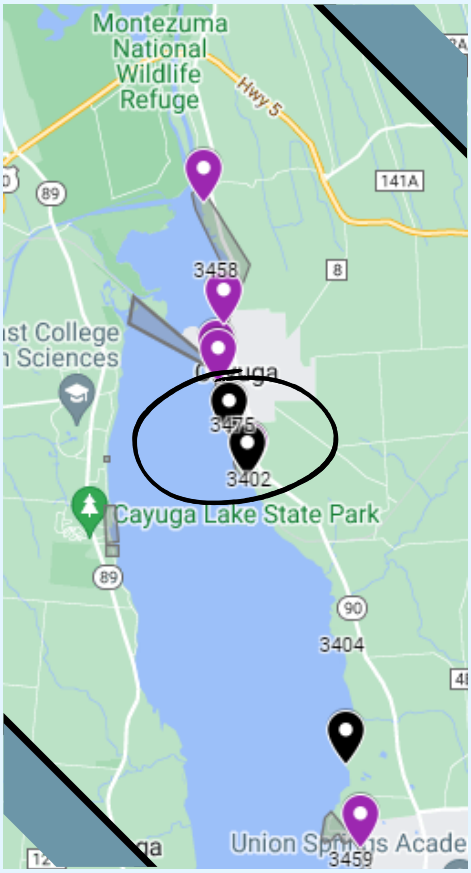
Blue pins: Suspicious HAB

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



Black circle indicating this week's reported HABs

HABs Information Chart 8/4 to 8/11

Dates presented are the date the sample was received at the CSI lab.
Total chlorophyll 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
22-3475-B3	8/5	bloom observed along shoreline near Lower Lake Drive and Manitau Rd	Small localized	**sparse/moderate Microcystis**	results pending	results pending	**Cyanobacteria are present in bloom (HAB) sample.** Potentially toxic/harmful
22-3402-B3	8/5	Bloom observed in a small bay along a private shoreline on Lower Lake Road	Large localized	**dense Microcystis, sparse/moderate Dolichospermum**	results pending	results pending	**Cyanobacteria are present in bloom (HAB) sample.** Potentially toxic/harmful

Creatures of Cayuga Lake

An invasive species is a newly introduced species that causes harm or damage to its new environment. Their presence can have negative effects on both local ecosystems and economies. One study suggests that invasive species costs the U.S. about $21 billion annually.

Zebra mussels, a species of Dreissenid mussel, are tiny creatures with a big impact. Originating in the Caspian Sea in Europe, they were introduced to the Great Lakes in the 1980s. Since then, these mussels have become a common nuisance in the Finger Lakes.

Zebra mussels can attach themselves to hard surfaces using filamentous proteins called “byssal threads”. They can impede water movement by attaching to water intake systems.

Image credit: USFWS

ZEBRA MUSSLES CAN ALSO HAVE AN IMPACT ON HARMFUL ALGAL BLOOMS!

Illustration by Duane Raver from Cayuga Nature Center. Visit their Biodiversity of Cayuga Lake webpage for more information!

Mussels are filter-feeders, meaning that their diet consists of small plankton floating in the water. The cyanobacteria (Microcystis) that cause HABs are also a small plankton, however, Dreissenid mussels tend not to feed on Microcystis. By feeding on other plankton and algae and leaving Microcystis alone, the mussels reduce their competition. With less competition, Microcystis can dominate the area, which can lead to an increase of Harmful Algal Blooms.

To learn more about invasive species and their impact on Harmful Algal Blooms, check out this recent video by the New York Invasive Species Research Institute and New York State Water Resources Institute!

We want to hear from you!

Email habs.newsletter@gmail.com with feedback on the weekly HABs newsletters, suggestions for future topics, your favorite creatures in Cayuga Lake, or HABs stories you would like to share!

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:

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Discover Cayuga Lake
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Photo by Bill Hecht