



# HABs Weekly Newsletter

A product of the 2021 Cayuga Lake HABs Monitoring Program

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Photo of Myers Point by Bill Hecht

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## *HABs Update*

by CLWN Staff Intern Alora Cisneroz

As I am starting the Fall semester this Thursday, this will be the final HABs Update Newsletter for the 2021 season. I hope you all have enjoyed these newsletters as much as I have writing them. Please continue to use the HABs resources available to you ([such as CSI's HABs Reporting Page](#)) to stay safe. Even though this newsletter may be ending here, the HABs will continue. So stay vigilant!

Speaking of continuing HABs, even though we had a wonderfully HAB-free period last-week, they have returned with a vengeance. As of Monday, there have been eight reported HABs and two reported suspicious blooms. Be sure to check out the table and map on the next page.

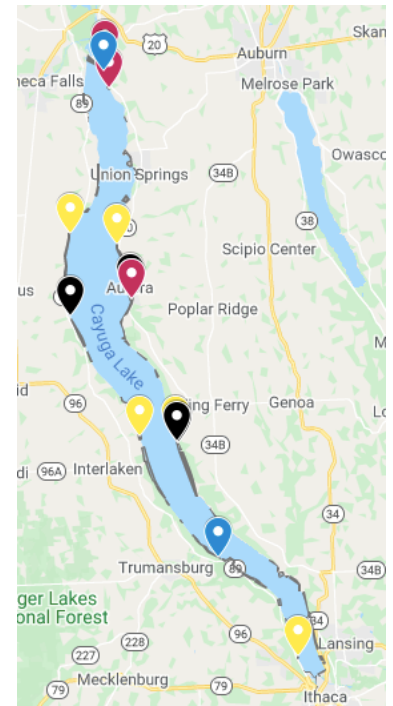
For more reading material, [CSI's Nate Launer did an interview with WSKG](#) on how the recent storms are connected to HABs.

# HABs Update

(Update for 8/16 - 8/23)

As you can see, we are back to big HABs charts. This large increase in blooms is likely connected to the massive runoff into Cayuga Lake that was created by recent storms. As I've mentioned in earlier newsletters, when excess nutrients (such as Phosphorus and Nitrogen) are carried into Cayuga Lake from runoff, blooms are more likely to occur.

If you are having trouble reading the chart, try downloading the newsletter and re-opening it. This usually provides a better quality image than reading it in the pdf preview in your email.



Map indicating the locations of the recent blooms on Cayuga Lake. Credit: CSI's HABs Map

## HABs Technical Chart

Bloom Code	Date Sample Received at CSI Lab	Location Description	Bloom Extent	Microscopy	Total Chlorophyll (ug/L)	Microcystin Toxin (ug/L)	Bloom Status
21-3402-B1	8/20/2021	Bloom located along the shoreline of waterfront properties located on Lower Lake Rd. in the Village of Cayuga.	Large Localized	Dense colonies of <i>Microcystis cyanobacteria</i> .	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3458-B4	8/20/2021	Bloom located along the shoreline of waterfront properties located on Water St. in the Village of Cayuga.	Large Localized	Dense colonies of <i>Microcystis cyanobacteria</i> and moderate to sparse colonies of <i>Dolichospermum cyanobacteria</i> .	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3436-B3	Sample Not Yet Received	Bloom located on the shoreline of waterfront properties on Waterfront Rd. roughly 0.5 miles north of Taughanock State Park.	Small Localized	Sample Not Collected. No Laboratory Results Available	Sample Not Collected. No Laboratory Results Available	Sample Not Collected. No Laboratory Results Available	<b>Suspicious Bloom:</b> Based on field reports and photographs, this does look to be a harmful algal bloom (HAB). Avoid the suspicious bloom and keep kids and pets away.
21-3460-B4	8/20/2021	Bloom located on the shoreline of waterfront properties on Powers Rd. in King Ferry.	Small Localized	Dense colonies of <i>Dolichospermum</i> and sparse colonies of <i>Microcystis</i> .	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3475-B1	8/21/2021	Bloom located at the swimming area of Harris Park in the Village of Cayuga.	Large Localized	Results Pending	Results Pending	Results Pending	<b>Suspicious Bloom:</b> Based on field reports and photographs, this does look to be a harmful algal bloom (HAB). Avoid the suspicious bloom and keep kids and pets away.
21-3408-B2	8/20/2021	Bloom located near the Wells College Dock and public swimming area in Aurora, NY.	Small Localized	Dense colonies of <i>Dolichospermum</i> .	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3400-B3	8/23/2021	Bloom located on the shoreline of waterfront properties on Lakeview Lane in Romulus.	Large Localized	Results Pending	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3460-B5	8/23/2021	Bloom located along the shoreline of waterfront properties on Powers Rd. in King Ferry, NY.	Large Localized	Results Pending	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3439-B1	8/22/2021	Bloom located on the shoreline of waterfront properties on County Rd. 153 in Interlaken.	Large Localized	Results Pending	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.
21-3486-B2	8/22/2021	Bloom located on the shoreline of waterfront properties on Route 89 in Romulus.	Widespread	Moderate colonies of <i>Dolichospermum</i> and very sparse colonies of <i>Microcystis</i> .	Results Pending	Results Pending	<b>Cyanobacteria Bloom (HAB):</b> Cyanobacteria are present in bloom (HAB) sample. Microscopic examination indicates the presence of cyanobacteria and therefore the potential for the bloom to be harmful.

## *An Interview with Prof. David Wolfe*

Prof. David Wolfe is a recently retired Professor from Cornell's School of Integrative Plant Science Horticulture Section. His research and teaching has largely focused on soil health, water management, and climate change. Specifics about his research can be found on the [CALS website page here](#). **We are very lucky that Prof. Wolfe was recently elected as Chair of the Cayuga Lake Watershed Network by the Board of Directors.** I asked him a few questions to get a sense for his focus, expertise, and interests.



**As you will soon be the chair of CLWN Board of Directors, what are some priorities you see for the coming year?**

First I have to say how much I have enjoyed being a part of the CLWN—working with members who want to protect this beautiful region as much as I do. I moved here over 35 years ago, and swimming in Cayuga Lake and hiking the many trails in our forests and grasslands is the reason I wouldn't want to live anywhere else.

In the past year, under the leadership of our out-going chair of the Board of Directors, Deb Grantham, we went through a well-executed strategic planning process, and this really got all of us on the Board reinvigorated and more focused in our thinking. Perhaps the most overarching new priority we identified was to better integrate the challenges of climate change into all of our programming. This is right up my alley because climate change has been a big part of what I've worked on at my "day job" at Cornell for the past few decades.

As the Board has discussed this issue among ourselves and with many in our network of collaborators, we've realized that reaching a broader audience than we have in the past will be important for us to be most effective at addressing some specific challenges climate change brings to protecting the lake and resources of the watershed. This would include youth audiences, farmers and other land managers, and also those who, for a variety of reasons, have not yet been able to take advantage of our amazing Cayuga Lake and streams or the many wonderful trails for hiking or other recreation. The limited public access to the lake is one thing that has come up numerous times.

There also are "climate justice" issues we don't want to ignore. Not everyone in our watershed will be equally vulnerable to climate change impacts such as more frequent and expanding zones of flooding risk, more days of extreme heat and humidity in summer, etc. In the coming year we will be gathering input to determine the most effective role for the CLWN in addressing some of these issues, while not being redundant with what other groups and government agencies are already doing.

## What specifically do you think are some of the major water challenges for the Cayuga Lake Watershed, and is there a climate change connection to some of these?

Right now as I respond to this question, Cayuga Lake is at flood stage, and in some places within the watershed, both near and far from the lake, this is more than just a nuisance. It is having economic impact. So, too much water, as well as too little water in summer months that can dry up creeks and fields and lead to substantial crop losses for farmers, both come to mind as major water challenges for our region.

The climate change connection in this case is substantial, and is based on historical weather records of the past several decades, as well as climate model projections for the future. The Northeast US in general has had more than a 60% increase in the frequency of heavy rainfall events (more than 2 inches in 24 hrs) since the 1950s. Essentially, with a warmer world, more of our planet's water is in the air as water vapor, so when there is an upper atmosphere cooling event to cause rain, it can come down like a deluge. And while we are very lucky that the NE is not predicted to have the kind of multi-year prolonged droughts they are seeing in parts of the western US that lead to major lakes and reservoirs drying up, the risk of short term agricultural droughts is projected to increase in frequency as well. Coping with these new challenges will require new guidelines for development and protection of resources, as well as some costly repairs and adaptations over the long term, such as improved storm drainage and flood control systems, and expanded irrigation capacity for our farms.

A very different, but very important challenge I must mention will continue to be the threat of exotic invasive pests. These can severely disturb the function and health of aquatic ecosystems, and sometimes create problems for recreation, or even direct impacts on human health. Over the years, Hilary Lambert, our Executive Director and Steward, has been particularly effective at finding funds and also mobilizing volunteers to deal with invasives of all kinds. The aquatic invasive "weed" hydrilla, has been particularly problematic, and despite impressive success at local eradication at times, this is the kind of work that needs to continue.

In just the past few years the cyanobacteria causing HABs has become a very serious issue in Cayuga Lake. When a significant bloom is observed, swimming becomes a health risk for humans and pets. As readers of your Newsletter column will know, the CLWN has played a major role in forming a multitude of "HAB Harrier" volunteers who now monitor a significant fraction of the lakeshore on a weekly basis, and communicate the findings to the public. These volunteers are trained to collect samples if warranted, and our partners at the CSI confirm whether HABs are indeed present, and also test for toxicity.

## Previous Question Cont'd.

Not all invasive pest problems can be linked to climate change, but in the case of HABs we have reason to believe that warmer water temperatures and heavy rainfall events that result in more nutrients flowing into the lake (both increasing in frequency with climate change) can contribute to the blooms showing up. There are many groups and government agencies, such as our New York State Soil and Water Conservation Districts, working with farmers other land managers to come up with effective and economic ways to reduce nutrient loading into the lake by carefully timed and efficient use of fertilizers, and new approaches to manure management and runoff.



*Prof. Wolfe after a cross-lake swim, enjoying one of the many recreation benefits Cayuga Lake provides for the community*

**A new UN Intergovernmental Panel on Climate Change (IPCC) report has been in the news lately. Is there anything in that report that you wish was discussed more in the national coverage?**

It has been more than six years since we've had one of these comprehensive reports from the IPCC, which involves many hundreds of scientists representing most of the nations of the world. For the first time, the scientific community now has enough decades of data to draw conclusions not just about the "average global temperature" increase (which the media still seems to focus on), but about the role climate change is having on the frequency, intensity, duration, and clustering of extreme events, such as heat waves and heat stress, flooding, and drought. The living world does not respond to "average temperature" but much more to these extreme events that cross thresholds with negative effects on our health and well being. Of course, even before humans were affecting the planet, "extreme" events have happened now and then. But what the new data analyses show us is that what we can attribute to climate change is that the magnitude or intensity of these events is well beyond "normal bad weather", as well as the frequency and duration of these events. That is what we have to prepare for, and also what should inspire us to try to slow the pace of climate change by reducing emissions of greenhouse gases by improving energy efficiency and moving away from reliance on fossil fuels.

# FAQs

## What is the HABs Monitoring Program?

The Cayuga Lake HABs Monitoring Program is a collaborative effort led by a local consortium of three nonprofits: the Community Science Institute (CSI), the Cayuga Lake Watershed Network (CLWN), and Discover Cayuga Lake (DCL), working in collaboration with the New York State Department of Environmental Conservation (NYSDEC). Through this monitoring program, volunteer harriers monitor the shoreline for HABs, collect samples of suspicious blooms, and deliver them to CSI's lab in Ithaca.

## How can I know if there is a HAB near me?

The fastest way is to [look at CSI's HABs Reporting Page](#), which provides an updated map with all the critical information. NY's Department of Environmental Conservation (DEC) also [maintains a HABs map](#). Additionally, this email newsletter will also communicate any reported HABs for the past week.

## Where can I report a potential HAB?

[Use this form](#) or email [habshotline@gmail.com](mailto:habshotline@gmail.com). Please be sure to include all of the information required: personal information (your name, email, and phone number), bloom information (observation date and time and location of the bloom), and two pictures (one close up to show bloom composition and one from far away to show bloom extent).

## Where can I easily view past HABs newsletters?

The CLWN website posts each weekly newsletter under the [2021 HABs Update page](#).

## If I have more questions, who can I contact?

### Cayuga Lake Watershed Network (CLWN)

CLWN Executive Director, Hilary Lambert: [steward@cayugalake.org](mailto:steward@cayugalake.org)

607-319-0475

### Community Science Institute (CSI)

[info@communityscience.org](mailto:info@communityscience.org)

HABs Monitoring Program Coordinator, Nathaniel Launer:

[nathaniel.launer@communityscience.org](mailto:nathaniel.launer@communityscience.org)

607-257-6606

### Discover Cayuga Lake (DCL)

(607) 327-5253