

## Updates

This season, over 80 volunteers were recruited for our HABs Monitoring Program! These volunteers will monitor approximately 45% of the Cayuga Lake shoreline weekly. The start date for monitoring will be on July 8th, but that does not mean that harmful algal blooms will not appear before then! If you see a suspicious bloom, report it to [habshotline@gmail.com](mailto:habshotline@gmail.com) with the *location* of the bloom, the *date and time*, and *pictures*.

## Cayuga Lake HABs Monitoring Program

So how does the Cayuga Lake HABs Monitoring Program work? Every week, HABs Harrier volunteers patrol designated stretches of the Cayuga Lake shoreline and report whether or not a harmful algal bloom is observed. If a suspicious HAB is observed, the trained volunteer will rush a water sample to the Community Science Institute (CSI) lab in Ithaca. At the lab, CSI analysts perform a microscopic analysis to determine the cyanobacteria taxa present, the concentration of total chlorophyll-a as a measure of bloom biomass, and the concentration of microcystin toxin.

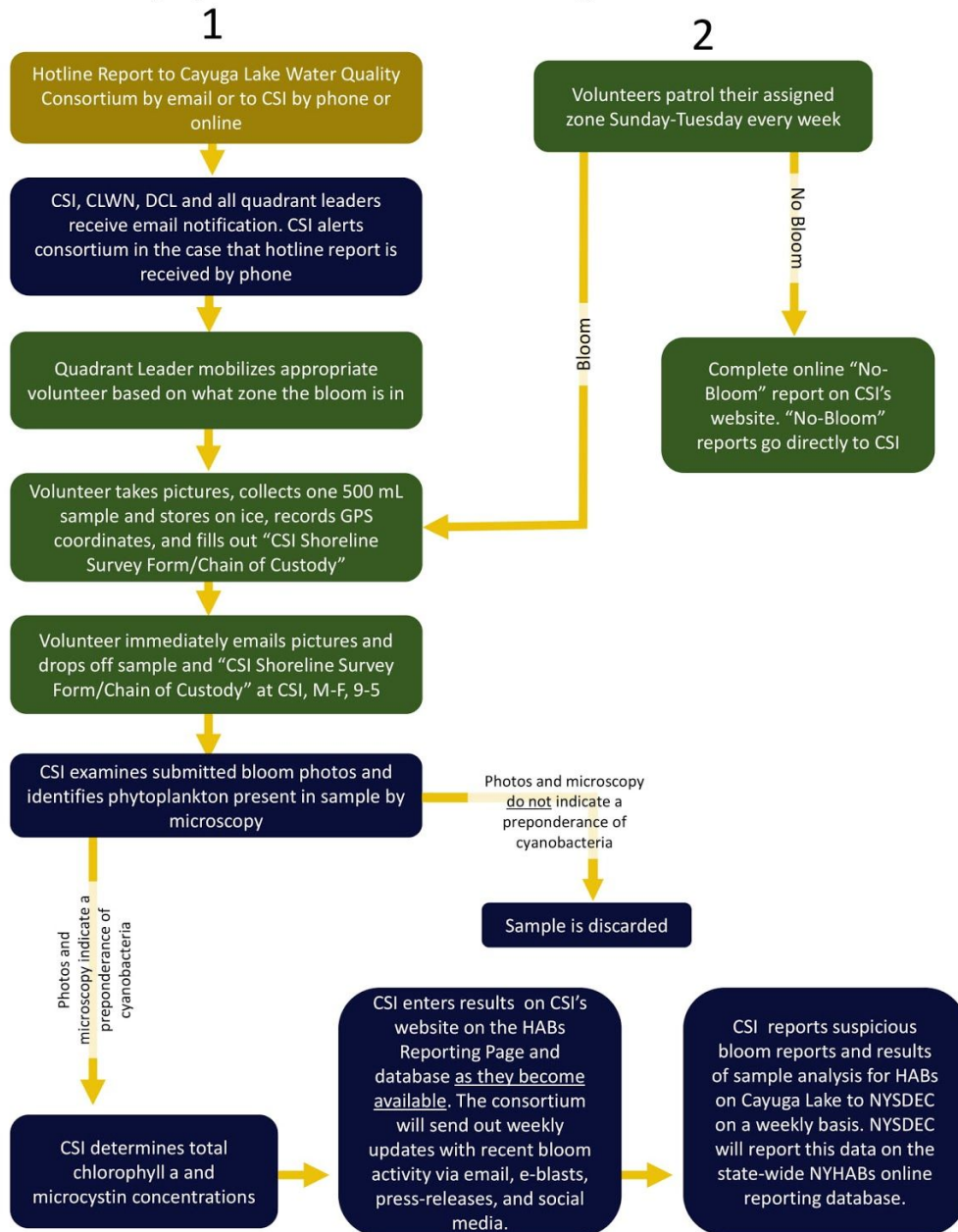
The Cayuga Lake HABs Monitoring Program is unique in that it is the only volunteer HABs monitoring program in the state that includes a lab certified to conduct the microcystin toxin analysis. Having a local certified water testing lab allows the program to quickly report the results of bloom sample analysis. After a suspicious bloom has been reported, and a sample has been sent to the lab, results of sample analysis are posted on CSI's online HABs Reporting Page within 24-72 hours at [www.communityscience.org](http://www.communityscience.org).

The goals of the monitoring program can be summarized as follows:

1. To quickly provide information and alert the public of cyanobacteria bloom occurrences on Cayuga Lake in order to help manage the risks that these blooms may present.
2. To develop information on HABs occurrences in order to better the understanding of HABs and the factors which may promote their development on Cayuga Lake.

Below is a flow chart demonstrating the two routes in which suspicious HABs may be reported, either by trained volunteers or to the public, to the Cayuga Lake HABs Monitoring program.

## 2019 Cayuga Lake HABs Monitoring and Hotline Process



## 2018 Monitoring Program Results

Monitoring HABs occurrences is essential for understanding when and where HABs occur on Cayuga Lake. In 2018, 40 cyanobacteria blooms were recorded on the lake, helping to better the understanding of HABs and the factors that promote them on Cayuga Lake. Within the data gathered, a few observations have been made.

With only 7 blooms found in 2017, it seems there was a sharp increase in the overall number of cyanobacteria blooms in that occurred on Cayuga Lake in 2018. However, it is possible that this increase may be a result of establishing the HABs monitoring program and increased surveillance of the lake. Additionally, toxins were much higher in cyanobacteria blooms that occurred in September compared to blooms that occurred in August or July of 2018. Finally, 77% of HABs with high toxins (microcystin levels at 4 ug/L or greater) were observed in the northern half of Cayuga Lake in 2018. Detailed data from last season can be found in [this spreadsheet](#). These are important observations that we are interested to compare with what may be found during this upcoming monitoring season. Thank you to everyone who volunteered to monitor HABs in 2018. We are looking forward to learning even more about HABs on Cayuga Lake at the end of the 2019 monitoring season!

*If you have any questions regarding HABs in Cayuga Lake, please send them to [habsintern@gmail.com](mailto:habsintern@gmail.com) with the subject line HABs Q&A to be featured in next week's newsletter!*

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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) and the State University of New York Environmental School of Forestry (SUNY-ESF).

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