

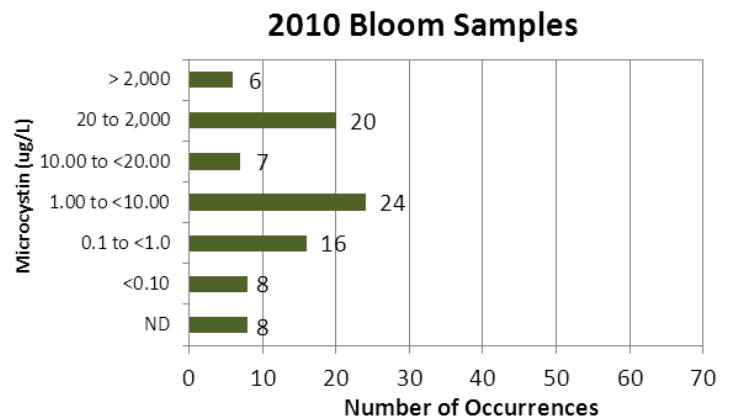
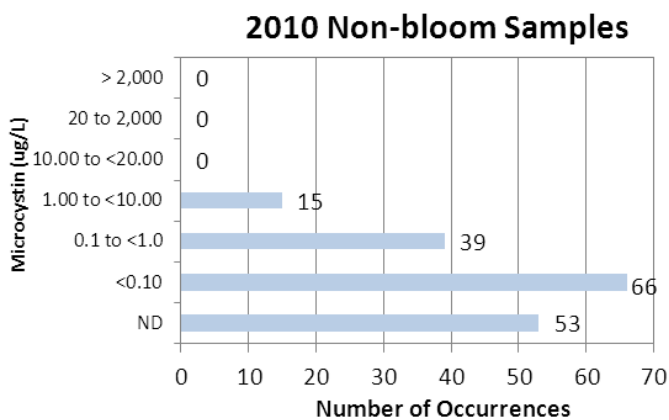
Harmful Algae Bloom (HAB) Citizen Statewide Lake Assessment Program (CSLAP) Results Summer and Fall 2010

Results for your lake:

All data collected for your lake during 2010 under the NYS Department of Health's (NYS DOH)'s Cooperative Agreement grant with the Center for Disease Control (CDC) are presented in the table below. Microcystin values represent the total of particulate and dissolved fractions as measured using the ELISA method. The toxin values are expressed as micrograms per liter (ug/L), which is also often called parts per billion (ppb). Regular HAB samples were collected at the same time and location as the regular CSLAP monitoring station upper water column sample. Samples that are marked as "bloom" were collected when the CSLAP volunteer observed a HAB bloom accumulation along a shoreline. These samples were generally collected at points of maximum accumulation and/or locations such as beaches where there are elevated concerns for human/animal exposures.

County	Lake Name		Date collected	Total Microcystin (ug/L aka parts per billion)
Jefferson	Hyde Lake	non-bloom	8/1/2010	0.000
Jefferson	Hyde Lake	non-bloom	9/12/2010	0.497

Microcystin frequency graphs for all data collected during year 2: The graphs below summarize the result from all HAB samples collected during 2010, not just your lake. The bars on these graphs represent the number of HAB samples that are in the microcystin ranges shown on the left axis of the graph. For example, the bottom most bars indicate microcystin was not detected in 53 non-bloom samples and 8 near-shore bloom samples.



The frequency graphs for 2010 are very similar to those from 2009, with near shore blooms only being observed and sampled during some of the monitoring dates. As expected, microcystin levels were lower

at the regular open water monitoring sites, and non-bloom samples never exceeding 10 ug/L (ppb). In contrast, microcystin levels were higher in places where volunteers collected near-shore bloom samples. Thirty-three of the near-shore bloom samples (37.1%) showed microcystin concentrations greater than 10 ug/L , and 26 of the near-shore bloom samples (29.2%) showed microcystin concentrations greater than 20 ug/L. All of these samples showed an obvious blue/green color and often a thick accumulation of algae.

A Brief Discussion of HAB Exposure Guidance Values:

The North American Lake Management Society (NALMS) published an article¹ listing various guidance values and action levels related to recreational HAB exposure for 19 states and the World Health Organization (WHO). These guidance measures attempt to define HAB conditions and toxin levels that show the potential for an increased risk of causing illness and use a combination of qualitative observations and quantitative data. The presence of a potentially dangerous bloom is defined by visual observation, cell counts, chlorophyll and total phosphorus concentrations, and measured toxin concentrations. Guidance values for recreational water advisories and closures for microcystin range from 6 to 20 ug/L, with 20 ug/L being the most common value.

The NYS DOH recommends avoiding contact with all dense blue-green algae blooms regardless of measured microcystin concentrations, because other toxins (e.g. dermal and/or neurotoxins) could be present and bloom density and/or toxicity can change rapidly. There are currently no formal numerical guidance values for microcystin exposure in NYS or the United States as a whole, and the NYS DOH's HAB Workgroup is still investigating published numeric guidance values and other measureable bloom characteristics for their use in issuing recommendations and advisories regarding HAB contact. Regardless, microcystin concentrations alone may not be the best way to make recreational contact safety decisions.

1 Graham et al. (Summer 2009). Monitoring Recreational Water. Lakeline. pg. 16-22.
(<http://ks.water.usgs.gov/studies/qw/cyanobacteria/LLsummer-graham2.pdf>)