



Northeast Aquatic Research

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TO: Lake Quassapaug Association
ATTN: Matt Holloway & Ingrid Manning
FROM: Hillary Kenyon, CLM
DATE: March 2, 2020
RE: **Description of Cyanobacteria Monitoring Visit on June 11, 2019**

This memo serves as a description of the June 2019 cyanobacteria monitoring at Lake Quassapaug.

On June 7, 2019 we were sent two photos (below) of potential cyanobacteria scum in shallow water at Lake Quassapaug. We followed up with the LQA President, Matt Holloway, to briefly discuss the potential cyanobacteria bloom and made arrangements for an emergency sampling visit.



On June 11, 2019, Northeast Aquatic Research staff performed the emergency water quality monitoring. On this visit, we performed the routine water quality monitoring at the Deep Hole monitoring station and also collected water clarity measurements and algae samples at four locations throughout the lake. At the time of the visit, the water clarity was 4.3 meters at the Deep Hole monitoring station and there were no obvious signs of a lakewide cyanobacteria bloom. Small amounts of yellow-green scum had accumulated along the windblown shoreline, but it was apparent that there was not a lakewide immediate public health threat at the time of sampling.

Water clarity on the wind-blow side of the lake was reduced to 4.1 meters due to accumulation of particles in the water column. Upon microscopic examination, the dominant water column particles were simply pine pollen. While cyanobacteria (genus *Dolichospermum*) was present in each sample in low amounts, the samples were made up of mostly pine pollen and non-toxic algae species. We determined that there was no need for formal identification and enumeration at that time and only charged LQA for the brief cyanobacteria microscopic screening, instead of a formal counting analysis (\$50/sample instead of \$120/sample). These samples have been preserved and will be held at the NEAR office for at least two years. Formal counting and ID can be performed on these samples if LQA desires.

At this time, we would like to mention that the photos sent to us on June 7th do appear to be cyanobacteria scums, and it was the correct action to have us come out for an emergency testing. After seeing the lake and documenting lake-wide water clarity, we expect that if the accumulation was localized instead of a lake-wide event. Small scale cyanobacteria blooms are possible after disturbances of sediment, such as through suction harvesting or hydro-raking in the coves. This is because cyanobacteria cells resting on the sediment surface may be disturbed all at once and float to the surface. This type of small bloom is not a lake-wide event and is different than the traditional cyanobacteria blooms that are widely monitored. A small bloom could still produce toxins at levels harmful to human or pet health, but they typically last only a few hours and it is easy to avoid water contact for that amount of time. Additionally, the day of sampling was very windy and it is possible that any shoreline accumulations of cyanobacteria prior to June 7th had been dissipated by strong wave action.

At last, we would like to mention that shoreline accumulations may be both pine pollen and cyanobacteria together. If a shoreline scum appears more yellow than green, it is likely pine pollen. If an accumulation is more green, blue, or white it is much more likely to be cyanobacteria. Though again, microscopic screening is the only way to achieve positive identification and it is much better to send us a sample just in case.

Sincerely,
Hillary Kenyon
Certified Lake Manager
Northeast Aquatic Research, LLC