

Clough Pond Association

Report to the Board of Directors Cyanobacteria Bloom August 5, 2019

On June 27, 2019 a regular kayaker to the pond alerted me to the presence of suspicious material floating in the pond water adjacent to the Fish & Game Boat Ramp. I took a sample to the State of NH, Department of Environmental Services lab for analysis and was immediately informed that this was in fact cyanobacteria and they were going to issue an Advisory. At 3:06pm that same day they issued that Advisory as follows:

Concord, NH- A cyanobacteria bloom has been observed on Clough Pond in Loudon, NH. Samples collected from the boat launch on 6/27 exceeded the State threshold of 70,000 cells/ml of cyanobacteria. The bloom appeared bright, blue-green with white clouds and streaks on the surface. Samples contained 490,000 cells/ml of the cyanobacteria taxa, Anabaena/Dolichospermum. Surface blooms can rapidly change and accumulate in various locations around a waterbody. As a result, the New Hampshire Department of Environmental Services (NHDES) has issued a cyanobacteria advisory for those who use the waterbody for recreation.

When they issue an Advisory they issue it for the pond and not just the specific location where the cyanobacteria was found. They do not close the pond or any area of the pond. They just advise.

When I left the lab they had given me three (3) red placards that could be posted around Clough Pond advising folks that they had issued the Advisory. They had not yet issued the Advisory but were in the process of making it official.

I proceeded to the Fire Station to advise Chief Blanchette about the situation and seek his permission to post the signs at the ramp and at the town beach. He was not there at that time but he was contacted and I was given that permission.

I posted two of the signs at the ramp where the bloom had been spotted and proceeded to the town beach to post the third at the entrance to the beach. At the beach I first informed all the beach goers about what was happening and showed them the sign while explaining as much as I knew about the situation. Needless to say this did not make them happy but they were most grateful for the information being offered to them. I posted the sign.

When the official Advisory reached Chief Blanchette he then directed that a copy of that official Advisory be posted at the beach and at the ramp on saw horses making it even more obvious to visitors that they needed to pay attention.

Originally it was expected that the ramp and other areas of the pond would be tested a week later to see if the cyanobacteria had cleared. The Chief worked with the lab to get a retest done sooner since the 4th of July was coming up and everyone was hoping that the Advisory could be lifted before then.

About noon on Tuesday, July 2, 2019 the state took samples to again test for cyanobacteria. They sampled at the ramp, at the town beach, and near a property off Berry Rd. By 3:18pm they had lifted the Advisory. Recreation in Clough Pond over the 4th of July was saved.

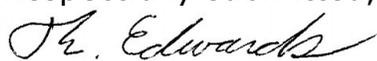
There has been some discussion about what might have caused the cyanobacteria bloom especially since this is not a common problem at Clough Pond. I do not know what caused this one. I don't believe there is a way to determine the actual cause of this bloom.

From what I understand, however, blooms can occur when:

- There is an overabundance of nutrients, usually phosphorus and nitrogen, in the water, often coming from rainwater runoff;
- There is a flow of water up and down the water column, often temperature driven, in the pond since there is always cyanobacteria at the bottom of the pond and this can bring it up to the surface;
- A septic system has failed and is providing the necessary nutrients to support a bloom;
- Higher temperatures of the water, anything above 77°F will encourage its growth. It should be noted that on July 24 our VLAP sampling recorded water surface temperatures of 80°F and deep spot bottom temperature of 41°F; or
- Other causes beyond my knowledge and beyond the scope of this report.

Subsequent to the actual cyanobacteria bloom, on Sunday, July 21, a race day at NHMS which would have Chief Blanchette very busy, I was advised by our Lake Host that there was again some suspicious green substance in the water at the ramp. While it did not look like cyanobacteria to me, I recognize that I am no expert on this. It was suspicious mainly because it was in the same place as the cyanobacteria before the 4th. I took some photos, reluctantly reached out to Chief Blanchette and then sent them to him so he could forward them for review by the folks at the labs. A short while later the suspicious substance had cleared. I so informed the Chief. I heard no more after that, nor did I expect to. I do not believe that was cyanobacteria but simply some green algae.

Respectfully submitted,



Tom Edwards