



Environmental Committee Update



Cupsaw Lake is Facing TWO main Water Quality Issues:*

Problem 1: Threat of a Harmful Algal Bloom (HAB)

- A HAB would result in the closure of Cupsaw Lake for a period of time, which would mean no swimming or floating
- The potential of a HAB is increased by having excess nutrients in the lake
- The primary nutrient that is an issue is PHOSPHORUS
- HABs can pose potential health risks, which is why the State monitors algae levels

Problem 2: An excessive amount of MUCK

What's up with MUCK?

- It forms from leaf debris, dormant *Lyngbya* (that hairy looking algae you saw in September 2024), dead plants, and sediment runoff
- Resuspended MUCK contributes nutrients to the lake (see Problem 1)
- Excessive MUCK can make certain areas of the lake less usable, 20 inches of MUCK makes it tough to walk in the North Coves.
- Aesthetically, it isn't pleasant to look at!

PHOSPHORUS?

- An element required for LIFE!
- The excessive amounts come from several sources:
 - Our drinking water
 - Ground water
 - Lawn fertilizers
 - Poorly performing septic systems
 - Resuspended muck
- We currently use chemicals to bind phosphorus and sink it to the bottom of the lake to make it unavailable for use

So, What Do We Do?

Currently:

- We contracted with Northern Lights for a fall removal of the excessive *Lyngbya* (gross hairy algae) from the surface of the lake—4 trailers full of material was removed
- We are working with lake professionals to use chemicals to treat the lake each season to reduce the available phosphorus, which limits the algae's ability to grow and reproduce
- We are working with NJIT to research additional methods to reduce phosphorus input from poorly performing septic systems
- We are researching aquatic plants to use as competition with algae by absorbing some of the excess nutrients (phosphorus)
- We are investigating the cost and effectiveness of a large scale de-mucking initiative (we are revisiting the prospects of dredging the lake—but those prospects are not good)
- We leverage sonic devices to reduce the amount of harmful algae

Flip over to see how you can help!

* For a detailed 2-5 yr plan please reach out to environmentcommittee@cupsawlake.org



Scan QR Code for [Cupsawwatch.com](https://cupsawwatch.com) for more detailed plans and information

What's the Timeline on Seeing Improvement?

We did not have a HAB in summer of 2024 which I would count as a SUCCESSFUL SUMMER! Aesthetically, could Cupsaw Lake be better? Sure! But unlike many lakes in NJ, we were able to remain open and usable for our full season. The below timeline is NOT set in stone or a guarantee that any items will occur, it's an estimate based on what we know so far.

Fall/Winter 24-25 <ul style="list-style-type: none"> Plan aquatic plant recommendations Purchase additional water mover Clean out catch basins to reduce sediment inflow 	Fall 25 <ul style="list-style-type: none"> Lake is lowered: mechanical removal of accessible MUCK Refurbish Turtle Island
Spring 25 <ul style="list-style-type: none"> Plant aquatic plants along shorelines and in water Early chelated copper treatment of <i>Lyngbya</i> Obtain baseline levels of phosphorus for summer treatments 	2026 <ul style="list-style-type: none"> Possible new treatment options available with updated technologies Large-scale fall hydro-raking? Depends on cost analysis and feasibility
Summer 25 <ul style="list-style-type: none"> EutroSORB Treatments to reduce phosphorus Targeted water mover use Shoreline <i>Lyngbya</i> removal with homeowners 	2027 and Beyond <ul style="list-style-type: none"> Continued or updated treatments to control phosphorus NJIT project: septic effluent treatment installations begin

Ok, How Much Does All This Cost?

CLIA did NOT raise dues for 2025, but if you would like to contribute in some way, estimated costs for some items are presented below (please note—this is not the full Environmental Committee budget):

- Weed Harvesting: \$15K +
- Hydro Raking (not including disposal): > \$10K (Lake Management Services [LMS] - our lake professional - estimated over \$20K to make any significant dent in the North End)
 - Disposal: ~ \$1-2K per day (conservative estimate based on conversations with LMS)
- Water Movers: \$12K per Otterbine (large donut ones)
- Annual Contract with LMS: \$13K
 - Chemical Treatments: \$100 - \$3K per treatment depending on product
- Sonic Solutions: ~\$12K (we own them now - they produce sound waves that prevent certain HABs)
- Aeration: \$5K
- Goose Control: \$7K (if we were to discontinue our harassment program)
- Full-Scale Lake-Wide De-Mucking: \$80K+
- Full Lake Dredging: \$2M +

Contributions can be made in several ways:

- When paying annual dues, a contribution line has been added. You can adjust your total invoice to include any donation amount desired (please note - these contributions are not tax deductible)
- Via Check (made out to CLIA with Environmental Committee on the subject line)
- Via Venmo—@CUPSAW-CLIA (Environmental Committee in the Note section)

For any and all Questions, Comments, or Concerns; please email:
environmentcommittee@cupsawlake.org



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