



Greetings from LQIC!

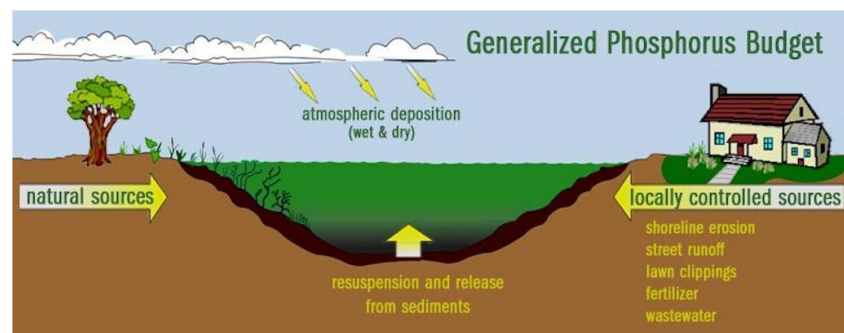
The Lake Quality Improvement Committee (LQIC) has membership from both sides of Lake Hayward. The goal of the *Gazette* is to foster communication between the east and west sides of the lake by sharing with you some informative, interesting, and fun events happening around the lake.

SO, WHERE'S THE ALGAE???

Shhh! I don't want to jinx us, but have you noticed how clear the water has been? We measured the clarity last week and could still see the Secchi disk down to a depth of 6.2 meters – that's more than 20 feet and the best we've measured on September 1 for the past several years! And no reports of any significant algae bloom scum this season!

What's going on?

Well, nature has performed an experiment for us. Since early June, we've only had about 2½ inches of rain (of course it's raining as I write this – 6" so far). The obvious downside is that the lake water level is the lowest I've ever seen. Our working theory is that the major



external source of nutrients (most importantly phosphorous), carried in by streams and overland water flow, has dried up with the lack of rain – diminished nutrients mean no algae. Of course, we continue to get nutrients internally from the lake sediment, but our deep-water testing has not shown anything unusual that could reduce that source. We still need to see the lab results from our water samples to be certain.

All of this tells us that a focus on the quality of water in our streams and from overland water flow (i.e., rainwater that drains off our lawns and properties) is likely to help us succeed in controlling the algae.

The locally controlled sources in the diagram above can be managed to a certain extent, and there are a few things in the works to do just that. Of course, all of us can help minimize those sources through

- Regular septic system pumping and maintenance,
- Careful use of fertilizer, and
- Properly disposing of leaves and grass away from the lake and streams.



LQIC has been sampling key streams for phosphorus and nitrogen since last year and has identified the largest sources. One of the largest sources of phosphorus is stream Watershed 2 (W2). This stream flows into the lake next to first beach. Our friends on the west side have purchased land behind the tennis courts and have just completed a biodetention

basin (photo above) to intercept a portion of the water entering the lake through W2. This biodetention basin should help reduce stream flow and nutrients that enter the lake from this stream.

Next year, we will also test the use of EutroSORB

<https://eutrosorb.com/>

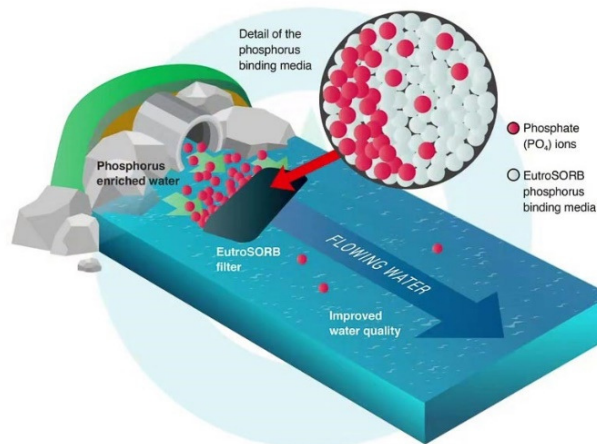
to absorb some of the phosphorus nutrient flowing through two other phosphorus-rich streams to see if it is worth application on a larger scale. What is EutroSORB? It is simply a porous bag that contains a media that absorbs phosphorus –

the most impactful nutrient contributing to algae and invasive weed growth in the lake. Next year, we will be placing these bags near the mouth of the test streams and monitoring the water before and after. Please do not disturb these bags! The results of this test will help us all.

But of course, please note that EutroSORB is not a cure. While we hope it will help absorb enough phosphorous to limit algae blooms, it is only a bandage and it comes at a monetary cost to us all. This does not solve the root cause of the problem. We must all still do our parts to limit phosphorous release into the environment.

Wolf Koste

LQIC



2022 WEED TREATMENT

LQIC has annual contracts with SOLitude Lake Management to survey the whole lake and spot treat invasive weeds. The primary invasive weed of interest is fanwort. This year's treatment was done on June 27. LQIC members were unhappy to note that there appeared to be no reduction in the amount of fanwort in certain locations. We have discussed this with SOLitude and are considering ways to improve the effectiveness next year.

NEAR WATER SAMPLING REPORT

The Northeast Aquatic Research (NEAR) 2021 Lake Hayward Water Quality Summary Report makes several recommendations. That report is attached. We will continue to sample the lake and key streams to see how nutrient levels are affected and have added E. coli testing of certain streams. Algaecide treatment will not be pursued at this time due to uncertainty with effectiveness, cost, and a degree of uncomfortableness with adding more chemicals into the lake. It is better to deal with the sources of nutrients to control algae. We've already discussed the EutroSORB recommendation, above.

UPDATE ON THE PROPOSED REPAIRS TO THE LAKE HAYWARD DAM - AUGUST 24, 2022

On August 21st, the membership of the Property Owners of Lake Hayward (POALH) voted to invest \$29,500 to fund the engineered dam repair drawings required by DEEP and to fund the permit applications to both DEEP and the Army Corps of Engineers as required by the state of CT. This is the initial step required to launch the dam repair project. This will be a long-term effort:

- Sep-Dec 2022 – Timeframe needed to develop the repair drawings and permit applications
- Jan-Dec 2023 – Timeframe needed for DEEP and Army Corps to review, analyze, and hopefully issue permits for the dam repair work to be done.
- March 2024 – Ask three dam contractors to submit construction bids per the specifications outlined in engineered drawings. The pricing quotes need to reflect projected labor and materials costs for work to be done in the spring of 2025.
- Apr-Jun 2024 – POALH dam committee will review the bids submitted, interview each contractor, and recommend a contractor, cost projection, and bid award to the POALH Board in June 2024.
- July 2024 – Residents on both sides of the lake will be able to meet with the recommended contractor for an informational Q & A; a discussion at a date and time to be identified.
- August 2024 – The POALH membership will vote to fund or deny funding to make repairs to the dam.
- March 2025 – With a vote to fund the project, repairs to the dam will get underway.

Big Picture View

Is the dam in danger of imminent failure? Unlikely. All of the dam repair discussions are of a maintenance nature, albeit a long-term and an expensive one. After all, the dam has some history.



In History of the Towns of Haddam and East Haddam, written in 1814, there is data suggesting that a grist mill was located at the southern end of the lake that pre-dated the Revolutionary War. The lake's namesake evolved from Nathaniel Hayward's involvement in attempting to develop the south end area as "Haywardville" at the beginning of the Civil War.

Mr. Hayward made designs for the improvement of the waterpower and local development, including the opening of a general store. Hence, the current name of the road along the southern border of the lake. The frame for the building was raised on December 27, 1860. The dam was rebuilt and raised to increase the flow and quantity of water formed in the lake reservoir.

A mill building was built with a large capacity for the storage of grain and flour. A variety of mills and milling facilities were placed upon the first floor. Grains of all types could be ground into flour meal of the finest quality. It is alleged that it was the finest milling establishment ever seen in this section of the state. In the basement of the mill building was the first sawmill in town using a circular saw for sawing large logs into timbers, boards, and planks. Subsequent repairs and maintenance done to the dam are not as well documented.



"Show me the money!"

This infamous quote was made by Tom Cruise in the 1996 movie Jerry Maguire. At this point there is no firm project cost estimates or forecast. During a site visit with two interested contractors this spring, each commented that an accurate cost calculation would be driven upon receipt of the engineered drawings approved by DEEP outlining the repairs needed. These numbers will be shared with you as they become a reality. Most assuredly it will be a six-figure number.

To date, the last two years of voluntary lake quality donations from eastside residents of the lake have been placed in the POALH capital reserves fund to be allocated to repairs to the dam. The total amount set aside thus far is \$11,000.

Many thanks to each of you that have contributed.

As the cost projections to repair the dam firm up, it is likely that a special east-side fundraising effort will be forthcoming probably in the summer of 2024 requesting a fair, equitable, appropriate level of participation by east-side residents.

In the meantime, please continue to contribute every year in the ongoing efforts to preserve this incredibly special place we call Lake Hayward.

But wait...There's more

There is another player in the dam repair mix. The town of East Haddam.

There are four vertical stonework walls adjacent to culverts on either side of Haywardville Road. The Town owns them and all need repointing - placing hydraulic cement into the stonework joints. Additionally, there is rainwater runoff coming off Haywardville Road eroding the northern vertical headwalls of both the east and west spillways. That water needs to be diverted using road curbing, catch basins, or grading.

A member of the dam committee has had a preliminary discussion with the public works department and their recommendation is that they explore undertaking their work once the repairs to the dam have been made. A goal of the dam committee is to improve upon that suggested timeframe.

Lastly, I have reached out to the fire department to explore the installation of a dry fire hydrant as part of the dam repair project. A dry hydrant is a non-pressurized pipe extended into the lake from the dam by which the fire department can draw water out of the lake for fire suppression purposes. That concept is on hold until the dam repairs project gains more traction.

Tim Pelton

Chairman, LH Dam Repair Committee

One of the goals of the East Shore Gazette is to provide information to you on the role of the Lake Quality Improvement Committee regarding the stewardship of our fabulous lake.

We also appreciate learning more about your questions, thoughts, and comments.

Is there something more that you would like to learn about the mission and vision of the committee or our activities in, on, or around the lake?

If so, please drop any of us an email or feel free to stop by and speak to us directly.

Jeanine Gouin	jbarmstrong9@comcast.net
Wolf Koste	wolfkoste@gmail.com
Marlee Mooney	marlee1952@aol.com
Tim Pelton	tim@timpelton.com
Rick Reed	whatif55@gmail.com