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.

Get the Gazette Electronically!

Help save our publishing costs and avoid potential litter if you are not here for paper delivery. Just send your **email address and house number (*so we don't deliver a paper copy as well*) to wolfkoste@gmail.com**. You will get the annual edition and any special editions electronically. Photos look much better! By not subscribing, you missed several editions last year!

Thank you for your cooperation – every little bit helps!

LAKE SPEED LIMIT PASSES

The East Haddam ordinance establishing a Lake Hayward speed limit of Slow No Wake (basically 6 MPH) passed last October 28 with a unanimous vote of those present at a town public meeting. Sailboats are exempt from this speed limit. About 20 people from both sides of the lake attended.

This change was prompted by the development of high-power electric motor driven watercraft that can reach high speeds that violate the intent of the original internal combustion motor ban. It had the support of the vast majority of Lake Hayward residents, LQIC, POALH, the East Haddam Board of Selectmen, and the CT DEEP.

Thanks to all that voted to make this happen and special thanks to Paul Gouin for initiating the ordinance and following through.

Here is the final and complete ordinance:

Chapter 171
Boating

Article I
Lake Hayward
[Adopted 8-20-1964]

§ 171-1 Use of vessels powered by internal combustion engine prohibited. [Amended 10-28-2021]
Under authority of the General Statutes of the State of Connecticut, the use of any vessel powered by an internal combustion engine, whether inboard or outboard, is prohibited on Lake Hayward (Shaw Lake), East Haddam, Connecticut.

§ 171-1(a). Speed limits. [Added 10-28-2021]
Except for motorboats that are being operated solely under sail, no person shall operate a motorboat in excess of Slow-No-Wake, where the definition of motorboat shall be as stated in Section 15-127 of the General Statutes and the definition of Slow-No-Wake shall be as stated in Section 15-121-A1 of the Regulations of the Connecticut State Agencies.

§ 171-2 Penalties for offenses. [Amended 3-28-2018]
Any person or persons violating this article shall be subject to a fine not exceeding $250.

Here are some definitions from the CT General Statutes that will help you understand this ordinance:

- “vessel” means every description of watercraft, other than a seaplane on water, used or capable of being used as a means of transportation on water
- “motorboat” means any vessel, not more than sixty-five feet in length and propelled by machinery, whether or not such machinery is the principal source of propulsion (note that this includes sailboats with an auxiliary motor, whether or not the motor is running)
- "Slow-No-Wake" means that a vessel shall not produce more than a minimum wake and shall not attain speeds greater than 6 miles per hour over the ground unless a higher minimum speed is necessary to maintain steerageway when traveling with a strong current. In no case shall the wake produced by the vessel be such that it creates a danger of injury to persons, or will damage vessels or structures of any kind.

WHAT SHOULD I DO IF THERE IS AN ALGAE BLOOM?

This is a worthy health and safety reprint. Algae blooms have been observed in Lake Hayward after mid-July over the last several years.

Algae blooms, unfortunately, are becoming more and more common at many lakes. Climate change may be a factor. Lake Hayward is no exception and has had blooms over the last several summers. They may be over the whole lake or they may come and go many times in many different locations on the lake. Wind tends to sweep algae into "scums" that may collect along the downwind shore. The algae seen and sampled by LQIC over the last two summers consist of potentially harmful blue-green algae, also known as cyanobacteria. Cyanobacteria can and have produced toxins that are harmful to humans and animals. This is called a harmful algae bloom (HAB). LQIC continues to work with our consultant to better understand the complex dynamics of life and nutrients (nitrogen and phosphorus) in the lake, and the impact on algae blooms.

How to Recognize a Cyanobacteria Bloom

These are some pictures of algae scum seen on Lake Hayward over the last few years. You will find an excellent guide for identifying cyanobacteria blooms at this link. We encourage you to watch it. https://www.youtube.com/watch?v=8nL_s77FV-o

If It's Green and Yucky, Stay Out!

This is important! The common-sense advice is to stay out of the scum! We have detected high quantities of cyanobacteria cells and high levels of toxins in scum at Lake Hayward. Keep yourself, your kids, and your dogs away from the scum. Alert your neighbors. If scum gets on skin or fur, rinse thoroughly with clean water. Don't let your dog lick its fur. See a doctor or vet if there is any sign of illness and tell them that there was possible exposure to cyanobacteria toxins.

Even if there is some scum along the shore, it is generally safe to swim elsewhere or off your pontoon boat in the middle of the lake – **IF** the water there is clear of any scum. Yay!

Report It

If you do spot a bloom as described in the video, snap a picture and send it to me in an email to wolfkoste@gmail.com with the date/time and location of the sighting. A house number or description of the location will suffice. We are trying to track blooms.

HOW DO I FERTILIZE MY LAWN WITHOUT FEEDING LAKE ALGAE?

This applies whether or not you have lakefront property. Everything in the watershed drains into the lake, and streams/storm drains are express lanes to the lake.

As you can see from numerous Gazette articles, algae feed on nutrients in the lake. The nutrients of interest are nitrogen and phosphorus, with phosphorus being the most important. Lawn fertilizer contains nitrogen, phosphorus, and potassium as active ingredients. It is therefore important that fertilizer be kept out of the lake and the streams that feed the lake.

One alternative is not to fertilize your lawn. This is totally acceptable and free. Minimal lawn mowing required!

But what if you want a more attractive lawn? Fortunately, there are ways to feed your lawn without feeding the algae.

Sample Your Soil

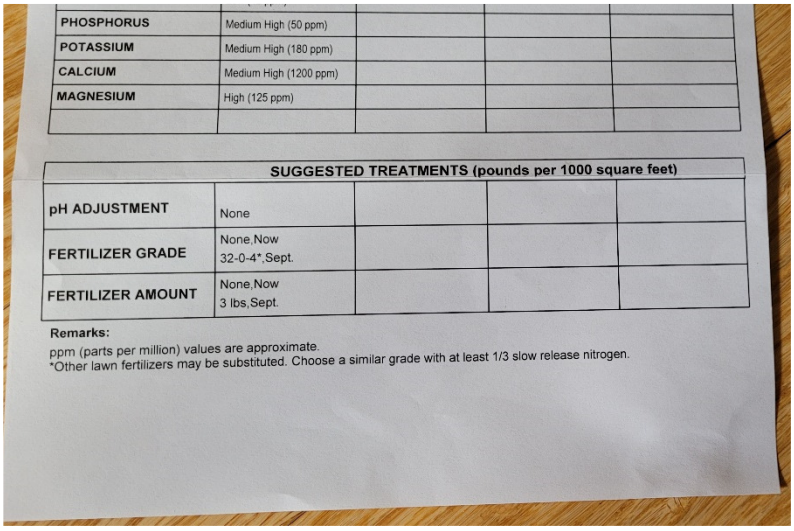
The first step is to have your soil analyzed. If you over-fertilize the lawn, the excess will run off into the lake. A soil analysis will tell you exactly how much of what fertilizer to use. The simplest way to get your soil analyzed for free is with the Connecticut Agricultural Experiment Station. The only cost is to mail your sample to them. They have detailed instructions online at:

https://portal.ct.gov/CAES/Soil-Office/New-Haven/Soil-Testing-Office-Instructions-New-Haven

There are other totally acceptable ways to do it, but this is how I gathered the sample. All you need is a hammer, pliers, screwdriver, quart container and a 4”-5” length of pipe. Bang the pipe 4” into the ground with the hammer. Pull it out with the pliers and scrape the soil out of the pipe into a container with the screwdriver. Repeat in multiple locations of your lawn until you have a total of about a pint of soil. Try to spread out the locations so the sample represents an average of all your soil. Mix it and, if wet, dry it. Put it in a baggie inside an envelope and mail it to the Connecticut Agricultural Experiment Station.

The Results

In a week or two, they will mail you the results. Here's mine this Spring. They are not the same every year. You can also ask for organic fertilizer recommendations. The Suggested Treatments on the bottom is what they recommend I do. They are telling me I don't need to adjust the pH with lime, and I don't need any fertilizer at all until September! This means that if I just automatically apply fertilizer every Spring, all the nutrients would run off to feed the algae this year. Not good!



PHOSPHORUS	Medium High (50 ppm)			
POTASSIUM	Medium High (180 ppm)			
CALCIUM	Medium High (1200 ppm)			
MAGNESIUM	High (125 ppm)			

SUGGESTED TREATMENTS (pounds per 1000 square feet)				
pH ADJUSTMENT	None			
FERTILIZER GRADE	None,Now 32-0-4*,Sept.			
FERTILIZER AMOUNT	None,Now 3 lbs,Sept.			

Remarks:
ppm (parts per million) values are approximate.
*Other lawn fertilizers may be substituted. Choose a similar grade with at least 1/3 slow release nitrogen.

In September, the recommendation is 3 lbs. of 32-0-4 per 1000 square feet of lawn. What does this mean?

Well, my lawn is 1250 square feet, so instead of 3 lbs. of fertilizer, I would use:

3 lbs. X 1250 / 1000 = 3.75 lbs.

The 32-0-4 is the standard way of saying the fertilizer contains 32% nitrogen, 0% phosphorus (as phosphate) and 4% potassium (as potash). Every bag of fertilizer has this three number designation in the same order – though it may be in the fine print. Note that there is 0% phosphorus. That's a good thing because algae just love phosphorus. Pretty much all fertilizer for established lawns has no phosphorus just for this reason. You should rarely need any phosphorus as long as you mulch grass clippings and recycle them back into the lawn. New grass may need some phosphorus.

Application

What if you cannot find 32-0-4 fertilizer? Alright, there's some math here – but it's not that complicated. You can do it! First of all, if any phosphorus (the second number) is recommended, I would absolutely not exceed the recommended pounds of phosphorus. Next, I would focus on nitrogen – the first number. The bottom line is that I need 3.75 lbs. X 32% = 1.2 lbs. of nitrogen. I would adjust lbs. of fertilizer so that the total weight of nitrogen equals 1.2 lbs. The following examples all work.

3.75 lbs. of 32-0-4	(3.75 lbs. X 32% = 1.2 lbs.)
7.5 lbs. of 16-0-2	(7.5 lbs. X 16% = 1.2 lbs.)
7.5 lbs. of 16-0-4	(same as above, the potassium is not as critical)

What if your lawn is adjacent to the lake, storm drains or streams? to prevent algae growth in lakes like ours, Connecticut law prohibits the following:

(1) the application of fertilizer that contains phosphate to an established lawn, except when

(a) A soil test approved by the Commissioner of Agriculture (such as the CT Agricultural Experiment Station) and performed within the previous one hundred eighty days indicates the soil is lacking in phosphorus and fertilizer containing phosphate is needed for the growth of such lawn, or

(b) such fertilizer containing phosphate is used for establishing new grass or repairing such lawn with seed or sod.,

(2) the application of fertilizer that contains phosphate to any lawn from November fifteenth through March fifteenth, and

(3) the application of fertilizer that contains phosphate to any portion of a lawn that is located within twenty feet (or 15 feet with special application methods) of any body of water.

This means that you may not apply fertilizer containing phosphorus within 20 feet of the lake, streams, or storm drains!

Enjoy your summer!

THE DEEP WATER AND STREAM TESTING PROGRAM

After our first major algae bloom, LQIC began an extensive annual testing program at the deepest point of the lake in 2019 under the guidance of Northeast Aquatic Research (NEAR). In 2021, we added nutrient (phosphorous and nitrogen) testing of certain streams where they enter the lake. NEAR also did detailed testing of the lake in 2000/2001.

This year we will continue our efforts to learn more about algae formation by continuing the deep water testing and monitoring select input streams around the lake. We are looking for the nutrients phosphorus and nitrogen which are known contributors to this problem. We will also be monitoring select streams to detect E.coli bacteria. LQIC will be collecting water 1-2 times per month for E.coli testing. The testing will be performed by a CT state approved lab, reporting back the E.coli levels.

NEAR has not yet completed their report for 2021. The results will be shared with you on a future electronic

East Shore Gazette Newsflash. Don't get the Gazette electronically? Sign up as described in the box on the first page.

As residents surrounding Lake Hayward, we all need to make every effort to control/reduce the amount of nutrients entering the lake via water runoff from our streets and homes. Here are some key tips:

- ✓ Please have your soil tested first to see if and how you need to fertilize your plants or lawn, (see article above)
- ✓ Have your septic tank pumped every 2-3 years. If the lawn gets a little soft after the big family gathering picnic, some sort of repairs may be in order.
- ✓ Try to dispose of grass clippings, pine needles, and fallen leaves off site.
- ✓ Avoid pouring grease or hazardous materials down the drain.
- ✓ While space may be at a premium, try to avoid parking cars, installing patios, or placing a shed over the septic tank leach field.
- ✓ Try to avoid adding impermeable surfaces, such as pavement or patios, to your property. This inhibits the natural absorption of rainwater by the soil.
- ✓ Consider planting a rain garden to help absorb runoff (see google).

WEED TREATMENT – MONDAY, JUNE 27, 2022

We are scheduled to have the lake treated by SOLitude Lake Management on June 27, 2022. Prior to that you will see a survey of our weeds being performed in mid-June. It could be performed in a gas-powered boat so don't be alarmed that day if you see one on the lake. This survey is done so that we can spot treat where needed.

There will be signs posted throughout our community a few days prior to treatment to alert residents and visitors and will remain posted for seven days after date of treatment. Please follow the restrictions posted on the signs for the days following treatment. Any unexpected changes in this date will be communicated to homeowners.

LAKE HAYWARD DAM REPAIR PROJECT UPDATE

At the August 2021 annual west side Property Owners Along Lake Hayward (POALH) meeting the membership approved a motion for the dam committee to solicit three bids from dam repair contractors to repair the dam. An inquiry determined that the CT DEEP has regulations on all kinds of environmental projects, but they do not maintain a list of registered or certified dam repair contractors.

In January 2022 three CT-based dam repair firms were provided with a copy of the 2019 DEEP Lake Hayward dam inspection report to explore their interest. The firms were Mohawk Northeast Inc. based in Plantsville, Macknik Construction in Old Lyme, and Schumack Engineering located in Clinton.

In February both Macknik Construction and Schumack Engineering expressed interest in learning more about the project. Each contractor was provided with the proposed basic engineering dam repair specifications. Each vendor was invited to a site visit in March once the snow had melted. In March, independent site visits by both contractors were completed and they met with Tim Pelton and POALH V.P. Corrine Halliday. The feedback from each vendor was very congruent:

- **Preliminary project cost estimates range from $125,000 to $130,000.**
- The dam repair project is very straightforward.
- Both contractors have extensive dam experience, have worked with design engineer Karl Acimovic, and feel he is a highly qualified engineer.
- Timeframe to complete all the repairs is 60-90 days.
- The lake may need to be drawn down 8-12 inches during construction.
- Each spillway will be repaired independently to assure that in the event of a major rain event, one spillway will always be operational.
- Final cost projections will be provided upon review of the engineered construction drawings and an estimated cost of materials at the time of construction.
- Road runoff from Haywardville Road is undermining the northern headwalls on both the eastern and western spillways. Note: it is the position of the POALH that the Town owns the stone headwalls on either side of Haywardville Road since they are an integral part of the culvert infrastructure running beneath the road.
- The southern headwall of the eastern spillway is also in need of repair.

In addition, this project is the perfect opportunity to install a dry fire hydrant at the dam while the dam repairs are underway. Tim Pelton has contacted the East Haddam Fire Chief requesting dry hydrant design specifications that the Town requires as well as

requesting the Town fund the installation as part of the Town's commitment to public safety.

Next Steps

The POALH Board has authorized the dam committee to request Dam Engineer Karl Acimovic to submit a price quotation to prepare the engineered construction drawing outlining the specific dam repairs that are needed. That request is currently being worked on.

But… (there's always a but!)

It was recently discovered that the anticipated timeline for this work needs to be extended. The time to create the engineered repair drawings (if approved by the POALH membership), to complete the regulatory plan review and approval by CT DEEP, then followed by Inland Wetlands approval by the Town will take at least 12 months. As an optimist, I am hopeful we can have 'shovels in the ground' in the fall of 2023.

In the Meantime

While the dam committee seemingly now has some 'extra time on its hands,' select members of the dam committee have elected to explore with the Town Public Works Dept. their interest and/or ability to correct the water runoff from Haywardville Road undermining the dam's headwall stonework and making the necessary repairs. In addition, the southern headwall of the eastern spillway needs repair. This effort is just getting underway. Nothing ventured, nothing gained.

Tim Pelton
LH Dam Committee Chairman

PLEASE HELP PRESERVE OUR LAKE!

Invasive weed treatment, deep water sampling, stream effluent sampling, expert consultants, dam repair, public outreach – in addition to the dedicated volunteers' work, these lake preservation projects require money.

West side residents contribute to lake preservation through annual tax assessments paid to the Property Owners' Association of Lake Hayward (POALH), but we also know that residents on both the east and west side benefit greatly when the lake is healthy and property values are retained. Annual contributions by East Shore Drive residents have helped fund lake preservation and help to demonstrate to town and state officials that the entire lake community is interested in a healthy lake. Thanks to hard work by our residents, the town of East Haddam budgets to support some water quality and education activities at the three major lakes in town. To further offset these costs, LQIC

has applied for various grants available from the State and other organizations. Please consider starting or increasing your donation to help fund these worthy activities.

Please continue to contribute what you can to help preserve our lake…perhaps a $75 check. Of course, how much and when you contribute is up to you.

Make your check payable to POALH and designate "Lake Preservation" in the memo line. Your money will go into a special account dedicated to lake preservation. Mail your check to: POALH – P.O. Box 230 - Colchester, CT 06415.

"It's One Lake - It's Our Lake" Thank You!

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.

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