



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.

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Thank you for your cooperation – every little bit helps!

IMPERVIOUS SURFACES – WHAT THEY ARE, WHY THEY MATTER, AND WHAT CAN BE DONE ABOUT THEM

What Is an Impervious Surface?

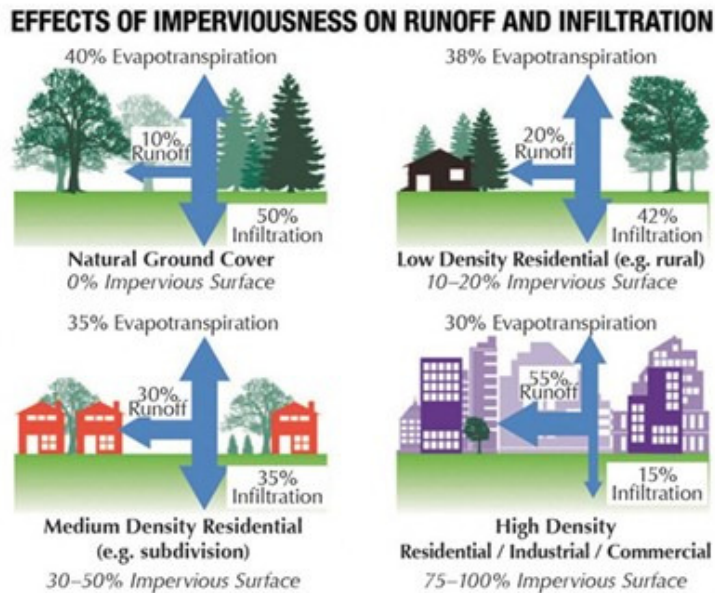
Impervious surfaces are an important aspect of lake health. A surface is impervious if it prevents storm water from soaking into the ground. Except for large rock outcroppings, nearly all impervious surfaces are manmade. They include your roof, pavement, most patios, and walkways – and yes, even unpaved parking areas and East Shore Drive where cars have compacted the soil!

What's The Problem with Impervious Surfaces?

Well, if rainwater can't soak into the ground, some of it will become surface runoff. Surface runoff can carry material, pollutants and nutrients into the lake which reduces water quality, causes sedimentation, and - you guessed it – **feeds algae blooms!** On the right is a map of the Lake Hayward watershed showing impervious



surfaces in white. Most of these surfaces are clustered near the edge of the lake, but those further away can also impact the streams that form an express lane into the lake.



On the left is a graphic (from the Washington D.C. Dept. of Energy & Development) that shows the relationship between the percent of impervious surface and surface runoff. Even low and medium density residential areas can double or triple the amount of surface runoff, compared to natural ground cover.

You can calculate your percent impervious surface by adding up the area of all the impervious surfaces on your property, dividing by the total area of your property and multiplying by 100%. I calculated mine including the

house, detached garage, deck (it has a plastic rain cover underneath), walkways, patio, parking areas and East Shore Drive. Though compacted lawns may be impervious, I didn't include my small lawn because I aerate it occasionally and I've never noted any runoff during heavy rain. Yikes! I thought my property was fairly wooded. My property is 28% impervious! This puts it at the low end of medium density residential with 30% runoff – three times as much runoff as it had prior to development!

What Can I Do About It?

You can't do much about your lot's impervious percent. You're not going to tear down your house or block East Shore Drive traffic. You can be aware of the issue when planning future projects so as not to make things worse, however. For example, there are pervious (allowing rainwater to soak in, the opposite of impervious) alternatives to paving a patio or parking area. See one example of pervious pavers to the right. Some walkways by Third Beach have this design.



While it's hard to reduce your impervious area, there are a number of things you can do to manage the resulting runoff. Walk your property during a hard rain. Note where water flows, concentrates, or causes erosion. If it goes directly into or flows to the lake, stream or storm drain, that should be addressed first. And directing it to your neighbor's property is not a solution!

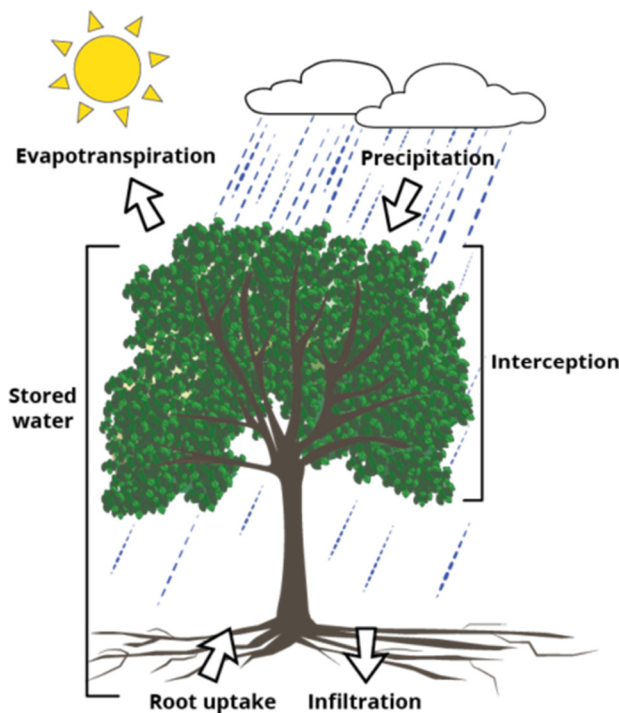
Often, downspouts or the drip line of a roof without gutters can be a problem. You will be amazed how much water comes off your roof from even a mild rain. Can you reroute it to a pervious grassy or wooded area where it can soak in? Consider using a rain barrel to collect and reuse the water for gardening. This can also help reduce the load on your well. You can get a rain barrel for under \$200 from [Amazon](https://www.amazon.com).

Sometimes, overland flow can be intercepted by a [rain garden](https://stormwater.allianceforthebay.org/take-action/installations/rain-gardens) (see <https://stormwater.allianceforthebay.org/take-action/installations/rain-gardens>). This is a shallow depression filled with permeable soil and native grasses and plants that collects runoff and gives it time to be absorbed by the soil and plantings. A rain garden is more labor intensive or costly than rerouting downspouts or adding a rain barrel, but it can be very effective and looks pretty nice.

Another possibility is to leave as wide a buffer of native plantings along the edge of the lake or stream as you can to intercept some runoff. Though not as engineered as a rain garden, it can be much less expensive. Just let it grow. It also has the added benefit of discouraging geese from invading your property. Mostly due to laziness, I did this in 1999 when I built my house and I have never had any geese on my property.

“I think that I shall never see
A poem as lovely as a tree”
Joyce Kilmer

Wait! Before you take down that tree, consider this!



The primary benefit of trees is from the prevention of water pollution through reducing the amount of rain that falls directly on impervious surfaces. When water hits leaves instead of pavement — called interception — more of it can be detained and gradually released through evaporation and transpiration.

For the water that hits the ground, tree roots help the water infiltrate the ground. From there, soils filter out nutrients and this water flows to recharge the groundwater, instead of running off and carrying those nasty nutrients to feed the algae in the lake.

A healthy 100-foot-tall tree has about 200,000 leaves. A tree this size can take 11,000 gallons of water from the soil and release it into the air again, as oxygen and water vapor, in a single growing season.

I hope what I learned here also helps you understand that impervious surfaces and how we direct runoff play an important role in the health of the lake and our enjoyment of it.

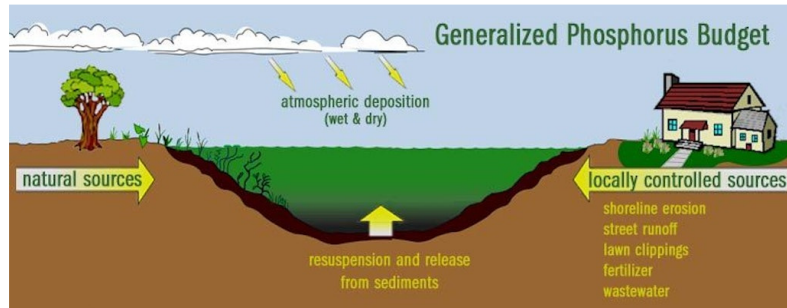
Wolf Koste, LQIC

SO, WHERE'S THE ALGAE???

Shhh! I don't want to jinx us, but did you notice how clear the water was last year? We measured the clarity bi-monthly 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 that season!

What's going on?

Well, nature has performed an experiment for us. Between early June and September, we only had about 2½ inches of rain. The obvious downside is that the lake water level was 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 over land water flow, dried up with the lack of rain – no 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 are still waiting to see our contractor's (Northeast Aquatic Research) 2022 report to be certain.



All of this tells us that a focus on streams and overland water flow is likely to help us succeed in controlling the algae. The locally controlled sources in the diagram above can be controlled 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 managing runoff (see article above), proper septic system pumping and maintenance, careful use of fertilizer, and properly disposing of leaves and grass away from the lake and streams.

This does not mean that there will be no more algae blooms. 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 you do see a bloom, the common-sense advice is to stay out of the scum! 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!

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.

GEESE MITIGATION Q & A – SUNDAY, JUNE 25

POALH hired Lynette from Nutmeg Farms to locate goose nests and replace eggs with ceramic ones. We found one on the east side in the same area near what used to be called the icehouse. She also comes out and harasses them off the beaches. She will talk about how to look for nests and how to keep geese off your property. If you would like to learn more regarding geese mitigation, have questions or would like to learn how to help, she will be available to answer questions following the POALH Association Meeting on June 25, 2023, at the First Beach pavilion. The estimated start time is noon. This is an issue which affects the entire lake - all are welcome.

WEED TREATMENT – TUESDAY, JUNE 27

We are scheduled to have the lake treated by SOLitude Lake Management on June 27, 2023. A pre-application survey of aquatic plants has been done so that we can spot treat only 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 the date of treatment. Please follow the restrictions posted on the signs for the day of and days following treatment. Any unexpected changes of this date will be communicated to homeowners.

LQIC members were unhappy to note last year that there appeared to be little reduction in the amount of fanwort in certain locations. We have discussed this with SOLitude and are considering ways to improve effectiveness this year.

LAKE HAYWARD DAM REPAIR PROJECT UPDATE

Progress...sort of. No, correction, one step forward, two steps back.

This report follows a recent discussion and update from the consulting dam engineer Karl Acimovic.

In the spring, the Connecticut Department of Energy and Environmental Protection (DEEP) Invertebrate Entomology Division had some preliminary concerns over some insects that reside near the boat launch at the north end of the lake. This concern has

some history since it is always a discussion point when the POALH seeks to renew its permit to treat the lake for the invasive aquatic weed fanwort. Based on the location of the dam and the proposed related work, the dam project was felt to not have an impact on the bugs at the north end of the lake.

But... There Always Is a But!

The DEEP Fisheries Division was not so quick to sign off on the initial conceptual design regarding dam repairs. DEEP has been evaluating which dams in CT could be removed to enhance the spawning of salmon, shad, herring, and bass upstream in CT rivers and streams. This effort facilitates the fish being able to return to their previous spawning grounds. The theory being that the historical dams in question are no longer necessary to produce electricity or to be used for industrial purposes. There was no question about removing the Lake Hayward dam, however DEEP pondered if a "fish ladder" should be built into the proposed dam upgrade to allow fish heading north up Lake Hayward Brook to get to Lake Hayward. The Fisheries Division felt that a fish ladder was not needed. At this point, for whatever reason, DEEP does not seem to be concerned with the spawning of salmon, shad, herring, and bass and their ability to proceed upstream toward and into Lake Hayward.

Now It Gets Interesting

That said, DEEP has expressed concern over the needs of the American Eel and its ability to be able to get to Lake Hayward. To that end, they have requested Karl Acimovic to design an "eel ladder" into the dam repair design. DEEP is proposing an eel ladder to be located only on the dam's western discharge into Lake Hayward Brook. The eastern spillway is about a 9-10 foot drop to the brook and an eel ladder simply doesn't work.

This topic is still under discussion. The outcome will be shared with the residents on both sides of the lake at that time. At the POALH Annual Meeting, a revised proposed timeline regarding the dam project will be presented for discussion, if required.

Tim Pelton
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. 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 in the enclosed envelope 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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