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A Message from the President

In the two weeks since I drafted this letter, much has changed in our lives with the COVID-19 spread in New England and the US. I encourage you to listen to our medical experts and do what you can to help flatten the curve and protect yourself and those around you. We are all in this together and what we choose to do as individuals does make a difference in controlling its spread in this unprecedented time.

It has been a relatively mild winter at Province Lake. Folks have been enjoying the lake for all it has to offer during the quiet beauty of winter- skating, fishing, snowmobiling, snowshoeing and cross-country skiing. Ice in was on December 1 and ice out looks like it will occur any day in spite of the 7 inches of snow we received on March 24. The migrating water fowl are back, the bird sounds have started, and the early buds of spring leaves are appearing.

The PLA has been active as you will see in the articles that follow and we hope you find this Spring issue of our newsletter to be informative. At this time, we are still planning for our usual activities related to keeping Province Lake healthy such as the NH Lake Host program, Weed Watchers, water sampling, and our Annual Meeting on Saturday, July 18, 2020, at Edge Lake Farm. We will advise you of any changes given what the summer ahead may hold for us.

A reminder that our annual Spring membership drive information will be coming soon. We understand in this time of COVID-19 that your focus is on you and the health of your loved ones, but we invite you to be a PLA member in 2020. Your membership makes all the difference and information can be found on our website provincelake.org. And you can always contact us at president@provincelake.org or provincelakemembers@gmail.com.

Our lake and surrounding nature can be a tonic and help bring some calm during times of uncertainty, so we hope you are able to enjoy what it has to offer while following all guidelines to stay healthy.

Wishing good health to all,
Lorie for the PLA



Your PLA at Work

Beavers and Lake Level: The PLA has a monthly beaver monitoring plan in place. At this time, there is no beaver activity obstructing flow into or out of the lake. The lake level (measured March 9) is about 5 inches below what it typically is this time of year. The Town of Effingham (thank you!) has also cleared debris from the culvert at the Bailey Road bridge, which has improved the outflow of water from the lake.

Sediment and Phosphorus Loading Model Study

Results: The Sediment and Phosphorus Loading model study results were reported by Don Kretchmer (DK Water Resource Consulting LLC) to the PLA in early December. Many thanks to Steve Craig who assisted Don in collecting the data in conditions that were less than optimum.

The findings are:

- There is a lot of phosphorus and other nutrients from the watershed and septic systems in the lake system, including in the bottom sediments.
- The lake stratifies for short periods each year and phosphorus is released from the bottom sediments to thin layer of water near the bottom.
- Wind event mixes this water and phosphorus up into the water column and cyanobacteria blooms kick off several days later.
- Cyanobacteria blooms are mixed down in water column and cells die off causing turbidity but not a proportional amount of chlorophyll a is present, which is somewhat unusual.
- Wind events likely resuspend nearshore sediments as well but more confirmation is needed (limited event data).

- Boat impacts on water quality were not demonstrated (limited event data).

Don will present his findings at our Annual Meeting on Saturday, July 18 (further details to be provided). [More information can be found on our website.](#) The major finding from the study is that Province Lake will be continually and increasingly challenged with high phosphorus levels and resultant cyanobacteria blooms. The report details can be found on our website at

Our work to mitigate phosphorus and other nutrients through implementation of our 2014 Watershed Plan by addressing septic, roads & erosion, Best Management Practices, and land conservation is still critical. Although a lot of work has been done thus far, further study work could better define which factors to focus on that provide the most mitigation.

In that regard, the PLA will meet with Acton Wakefield Watersheds Alliance and NH Department of Environmental Services to review our existing Watershed Plan and outstanding items in light of this study's results. We will develop additional monitoring and work plans as appropriate, including identification of additional grant funding to bring to the PLA Board for consideration.

Cyanobacteria

Before summer arrives, we wanted to remind you about the cyanobacteria blooms that could occur in Province Lake. Cyanobacteria is a bacterium that can produce toxins that adversely affect people and animals. Should you see a bloom, you should avoid going into it and especially keep people and pets out of it.

If you suspect a bloom is occurring, please call the NHDES Cyano hotline immediately at (603) 848-8094; Amanda McQuaid (NHDES Beach Inspection) at (603) 271-0698, and the PLA at (207) 200-3243. Samples will be obtained and advisory signs will be posted if necessary.

[You can find more information and photos on cyanobacteria on the NHDES website.](#)

Articles



Enjoy mud season and protect our lakes!

by Andrea LaMoreaux, NH LAKES

In New Hampshire, we take mud season and winter storm damage clean-up in stride. Despite the complaints, I think most of us actually *enjoy* mud season—often referred to the ‘fifth season’ in New England. Mud season typically starts in March and extends through April, and is advertised by the gaudy orange load limit signs that are posted on many town roads. After a long winter, mud season brings a welcomed opportunity to go outside and get some fresh air, sunshine, and exercise—just what the doctor ordered for a bad case of cabin fever. It is a time to clean up the yard, plan home improvement and landscaping projects, and guess when ice-out will occur on the lake.

If you are looking for an excuse to get outside this spring and enjoy what mud season has to offer, here are a few things you can do to clean up your property and protect the health of local lakes, ponds, rivers, and streams...

- **Sweep your driveway, walkways, and steps to remove leftover sand.** Sand used to help keep roadways, driveways, and walkways passable during the icy and snowy winter months can cause serious problems when washed into waterbodies by spring rains. Sand deposited in aquatic environments can destroy fish spawning or nesting sites and sand particles suspended in the water can clog fish gills. Deposited sand also causes waterbodies to become shallower, often facilitating plant and algal growth—while having some plants and algae in a lake is a good thing, too much of either is not good for the health of the lake, or our enjoyment of the lake.
- **Survey your property for areas where runoff water has caused erosion.** Take a walk around your property to see if recent rains have created any gullies or other eroded areas. If possible, fix eroded areas before the next rainstorm occurs. If you aren’t sure how to fix an erosion problem, contact a local landscaper or NH LAKES to get pointed in the right direction.
- **Remove storm debris in accordance with the Shoreland Water Quality Protection Act.** If your property is located within 250 feet of a lake or river, downed and damaged trees and trees posing an imminent hazard or threat may be felled and removed. But, be sure to leave the stumps in the ground since stumps do a very good job preventing soil from being eroded off of the landscape and polluting the water (and, it is also illegal to remove the stumps). Trees and storm debris from severe weather events can be removed from water bodies.

If equipment is necessary for the removal of debris from a waterbody, be sure to monitor the equipment for fluid leakage and use temporary work pads to lessen the impacts to the shoreline. The New Hampshire Department of Environmental Services recommends that property owners take photographs of damaged trees and structures for documentation.

For the sake of our lakes—and for my mental health!—I'm looking forward to the next warm day to get outside and clean up my driveway and yard. Are you?

NH LAKES is the only statewide, member-supported nonprofit organization working to keep New Hampshire's lakes clean and healthy, now and in the future. The organization works with partners, promotes clean water policies and responsible use, and inspires the public to care for our lakes. For more lake-friendly tips, visit www.nhlakes.org, email info@nhlakes.org, or call 603.226.0299.

This article was originally published by NH LAKES



Winter at Province Lake

By Donna Luce

David and I have just finished our second winter here at Province Lake and are now watching a Spring snowfall. It is mostly "ice out" today (March 23, 2020) but there is still ice at the boat launch and the cove on Sunset Road. There's one large piece of ice in front of our home that resembles the shape of New Hampshire! We experienced a cryoseism or frost quake in early January in the middle of the night. It happens when moisture in the ground freezes quickly, expands, builds up pressure and causes a sonic boom. We heard the noise and felt the house shake! Another phenomenon was hearing the frozen lake make noises that is caused by major changes in temperature. Not only does the ice make a cracking sound, it also makes groaning and rumbling sounds that can continue for hours. I enjoy listening to the lake's noises as it replaces the call of the loons.

Winter has been a little disappointing with snow conditions not very good for cross country skiing, however, we have had the pleasure of hosting a pair of cardinals at our feeder. They arrived in October and never left. Being a little bit of a coffee snob by making a latte each morning, I have enjoyed drinking my latte and watching Mr. & Mrs. Cardinal, the juncos (snowbirds), chickadees, woodpeckers, nuthatches, and goldfinches just to name a few.

Hopefully soon, I will be sitting down by the lake drinking my latte, watching the loons and some of you kayaking or boating by us.

The South River, Which Runs North

by Thom Townsend

You may recall that last Fall we included an article about the outflow dam on the South River that helps control the water level of Province Lake. As the article stated, the dam was built in 1995 to keep the lake from going too low in mid-to-late summer, as it had been since the Town of Effingham installed the Bailey Road culverts too low in the late 1980s.

Last year, we began with a normal lake level in early Spring, which was then followed by a very, very wet period during which time the lake went quite high. A number of our members sustained shoreline damage. Docks were delayed in going in. Although all of the boards were removed from the dam, the outflow of the South River just couldn't keep up. This was heavily impacted by hard working beavers in the river that felt it was their responsibility to build numerous dams and slow the flow.

The Association contracted with a State-approved trapper to remedy the problem last Spring, but over time, those problems returned. Without unrestricted flow, the lake level is very slow to drop. In late summer, following a dry period, two members of the PLA board took their kayaks down the river for about 1.5 miles, and found four small dams and two substantial dams had been re-built. Not wanting a repeat of last Spring, the PLA hired the trapper to canvas the river monthly and take appropriate action, beginning last Fall. This winter, he removed beavers starting to dam the Bailey Rd culvert and the Town of Effingham was then able to remove debris and improve the culvert flow- through from the lake.

This year with our minimal snowpack and early ice-out, we are hopeful that the actions taken will result in a well managed lake level. In addition, the Town of Effingham, approved a 2020 Warrant Article (10) to raise and appropriate funds to develop a plan to replace the failing Bailey Rd culvert and address the South River flow in a more environmentally sustainable fashion.



PLA Facebook Page



PLA Website

Links to our partner websites,



[Acton Wakefield Watershed Alliance \(AWWA\)](#)



[Moose Mountain Regional Greenway](#)



[NH Lakes Lay Monitoring Program](#)



[NH Lakes](#)

About the PLA

Membership in the PLA is open to anyone who has a love and concern for Province Lake. The PLA has an active membership and we encourage all to become members by completing a brief membership form and paying annual dues. Click here to join and to see membership information. 100% of PLA membership

fees and donations go into projects and related work focused on Province Lake water quality.

Our mailing address is:

Province Lake Association, PO Box 24, Effingham, NH 03882

Phone **(207) 200-3234**

PLA is a 501(c)3 charitable organization and as such all donations are tax-deductible to the full extent allowed by law. Our EIN is 23-7337832

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