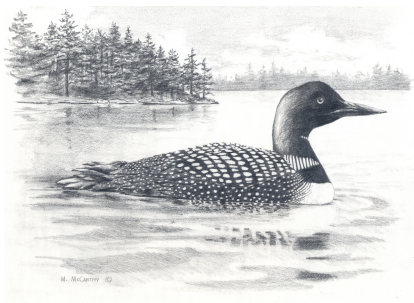


PRP Association NEWSLETTER

Spring 2020

"Dedicated to promoting the welfare of Pine River Pond and its environs."



President	Patty Philbrook	603-944-5685 president@pineriverpond.org
Vice President	John Myers	617-852-0920 vicepresident@pineriverpond.org
Secretary	Phil Valenti	603-520-8883 secretary@pineriverpond.org
Treasurer	Howie Knight	603-522-3097 treasurer@pineriverpond.org

President's Message

I hope that this finds you well, and enjoying the beginning of the summer.

Water quality is our top priority, and we constantly engage with experts to know what's happening. We've included articles on the Cyanobacteria and Watershed Study so that you can understand where we are, what we need to do, and where we are headed from here.

The Wakefield lake associations have gathered together to form the Greater Wakefield Lakes Associations. We meet and share information that benefit all the associations. Through this alliance, we've been able to adapt a package for new members of the PRP Association that we are polishing up.

For years, many of us have greatly appreciated the kindness of the PRA in letting us launch our boats on what we know as the Lord Road boat ramp under a good-neighbor policy. Use of that access point is essential for those who have no launch capability from their property. This year they are asking those who use the ramp for a \$25 donation to raise funds for work needed on the ramp that AWWA will design and execute with the Youth Conservation Crew (YCC). It can be paid online at www.pineriverassociation.net. If you use that ramp, please do

the right thing and pay the \$25. The work to be done will have a positive impact on water quality, and this is a great way to show respect for and recognize their generosity over the years for the use of their property.

It's shaping up to be a very busy summer on the lake. Please be mindful and courteous if you're anchoring near someone's property. Be sure your family and friends know NH's boating laws and have a fun-filled summer!

Membership Renewal

With this Newsletter is your Membership Renewal Form. Please update it if needed, and **RETURN BEFORE JUNE 30th with your payment, and please don't forget your fireworks donation!**

We are discontinuing the discount coupons. Given the recent stay-at-home guidance and business shutdowns, the Board of Directors voted to curtail the coupons.

If you have a new neighbor, share a copy of this Newsletter with them, and put them in touch with John Myers at vicepresident@pineriverpond.org so we can welcome them.

Cyanobacteria

Last year, upon discovering the we have benthic cyanobacteria mats, we learned a lot. They are photosynthetic bacteria that have been on Earth, and in all water bodies to some degree, for a very long time. Most are a healthy part of the environment. In warm conditions they can form blooms that survive both at the bottom of a water body and on the surface. Some cyanobacteria have the gene for producing toxin but not necessarily be actively producing the toxin, so the mat can test negative for the toxin one week and produce toxins the next. Experts have yet to understand why. We had one area of confirmed cyanobacteria that "morphed" into iron deposits and disappeared, surprising everyone. Cyanobacteria does not go away if dried out or frozen and can reconstitute following wintertime.

We are fortunate to have access to cyanobacteria experts Amanda McQuaid of New Hampshire Department of Environmental Sciences (NHDES) and Dr. Jim Haney of the UNH Biological Sciences. Jim's research projects deal with cyanobacteria and biotoxins in lakes, lake management and the factors regulating water quality in NH lakes. Doctors and scientists at Dartmouth College and UNH have teamed up to explore whether cyanobacteria may be linked to ALS and other neurodegenerative diseases because findings show chronic exposure to something in the cyanobacteria may trigger the disorders. Jim and Amanda are among the 50 scientists working on this project. Their preliminary research has raised concerns over potential exposure to aerosolized cells of cyanobacteria and their toxins. They know that toxins may be transferred to crops if irrigated with water that has experienced blooms of cyanobacteria. This is why anyone living in an area where benthic cyanobacteria mats were located

should avoid drawing water off the lake for use in their homes and avoid activities that can aerosolize the water such as water skiing and boarding. Here are the locations of known mats:

- Meadow Brook where it enters PRP (confirmed);
- Michawanic Condo docks nearest the dam between the docks and shore (confirmed);
- all of Sawdust Cove off Crew Rd North and Crew Rd (suspect pending confirmation/viewed by Amanda);
- unnamed cove north of Sawdust Cove;
- Black's Cove off Crew Rd;
- Quimby Brook where it enters PRP; and
- unnamed brook in the corner of Wentworth Cove between Camp Rd and Lord Rd where it enters PRP.

This summer, we will continue to search for additional areas and the company performing our annual lake survey will be on the lookout. We will advise through the eNews when additional locations are found.

Unfortunately, the benthic mat-form that we have is not typical for NH, and State protocols for managing them and issuing of warnings are not well suited to deal with our situation. A warning is not in place for PRP because they are not a problem if the mats remain undisturbed. However, if they are disturbed and dislodge, or start to form bubbles or rise toward the surface, we need to notify State officials immediately as that could adversely impact human health, and everything downstream of us.

You can still engage in recreational water activities in these areas, but you should watch for any changes in the mat's appearance. The mats in PRP appear dark brown to black usually covered by lake debris. They can exhibit holes on their surface that resembles holes in overstretched dough and can appear an iridescent bright green to blue-green color that reflects when viewed from a certain angle. Use of polarized sunglasses aids in seeing them. Be aware of the location of known blooms and be wary of any changes that suggest the mat has been disturbed or have formed bubbles and are rising.

Contact with a mat may cause skin rashes, nausea, stomach cramps, tingling and numbness around the mouth and fingertips. If you have these symptoms and believe you had contact with a mat, seek medical care.

Much more research is needed before the State can advise us on what can be done. PRP is a public water body so NHDES determines any measures to be taken. By embarking on a watershed study, as explained in the next section, we are laying out the path necessary for PRP to be eligible for State assistance in dealing with the cyanobacteria.

Watershed Survey

At the heavily attended 2019 fall PRP Association Board meeting, AWWA's Executive Director, Jon Balanoff, discussed the value and the need to do a watershed study. PRP has never done one and will become eligible for grant money when we complete it.

The watershed region for PRP, the area that drains into the lake, is an 11 square mile area, and part of the Saco River watershed. A watershed survey is designed to locate sites where erosion threatens water quality and raise awareness about runoff and erosion.

We will partner with AWWA and the NHDES to conduct the survey, and a Steering Committee has been formed. It will begin meeting this summer to learn more about the process.

The total estimate for the watershed study is around \$10,000 with an out-of-pocket expense to the PRP Association of \$6,000 for work by AWWA. We will perform the remaining \$4,000 of work with 30-40 volunteers. If you are interested in helping, contact John Myers at vicepresident@pineriverpond.org. Training workshops for volunteers will provide background information needed to identify and record information. Following training, the volunteers will be divided into groups, paired with a technical leader, and assigned a survey section.

While the best time to conduct the survey is in the spring, it can be done from spring through autumn. Runoff and rainstorms happen all the time, giving survey teams opportunities to look for signs of erosion from road washouts and exposed soils.

The survey will mainly take place on private property, and it's important to note that results are not collected or used for enforcement purposes. The spirit of the survey is to work cooperatively with land owners toward a common goal of preserving water quality long term. Before the survey begins, all landowners will receive a letter offering the option to opt-out of the survey if they don't want their land included.

Core sampling will be done at the lakebed to measure the phosphorus levels. Bob Craycraft of the UNH Lay Lakes Monitoring Program (LLMP) will assist with this task.

Once all the data are compiled, a report will be produced that summarizes the findings but will not contain names or addresses of landowners. Landowner will receive letters that identify erosion problems. They will be encouraged to address the issue and provided access to the necessary resources.

The information gathered from the watershed survey will be used to create a watershed-based management plan that can be used by the PRP Association in conjunction with AWWA to apply for grants to help landowners and road associations fix larger erosion problems identified in the survey. Once we complete these steps, and the sources of phosphorus entering PRP are addressed, we will be eligible for state or federal funding that may be available to deal with the cyanobacteria.

Weed Watch

The Weed Watch team will monitor the shoreline through September. Additional volunteers are always welcome. Volunteers need a kayak or canoe to get close to the shoreline. Pick a day each month during June through September, and devote a few hours a month to monitor a section of the shoreline. If you can help out, contact **Cindy Pfeiffer** at clpfeiffer9@gmail.com.

Water Quality

Our dedicated and proficient water quality committee works with Bob Craycraft from the UNH Cooperative Extension, LLMP to take water samples each summer.

PRP's Water Quality Reports can be found online at <https://extension.unh.edu> (type Lay Lakes Monitoring Program Lake Reports in the Search box), and use the filter Pine River Pond to extract ours.

Our long-term trends from 1987 to 2019 indicate that:

- water clarity, measured as Secchi Disk transparency, display a trend of decreasing water clarity but it is still rated as excellent;
- total phosphorus concentrations, the nutrient most responsible for microscopic plant growth, displays a trend of decreasing nutrient concentrations but is also still rated as excellent;
- chlorophyll, a measure of microscopic plant life within the lake, has oscillated between fair and excellent while the long-term trend is stable.

Here is our recent 5-year snapshot:

	2015	2016	2017	2018	2019
Water Clarity shown in m	5.4 exc.	5.8 exc.	4.9 exc.	5.7 exc.	5.5 exc.
Total Phosphorus shown in ppb	7.5 exc.	6.7 exc.	7.1 exc.	5.9 exc.	5.9 exc.
Chlorophyll a shown in ppb	2.7 exc.	2.5 exc.	3.9 fair	1.9 exc.	3.0 fair
Dissolved Oxygen shown in mg/L	0.8 poor	0.2 poor	1.7 poor	1.7 poor	0.3 poor

Poor dissolved oxygen levels have been a continuing area of concern. A concentration of 5.0 mg/L is considered the threshold for excellent growth and reproduction of cold-water fish. 2.0 to 5.0 mg/L is considered fair, and below 2.0 is poor. Our dissolved oxygen profile was collected on July 1 and September 9, 2019. The 2019 PRP Water Quality Report notes that the late season dissolved oxygen concentrations near the lake bottom were extremely low.

Algal growth is promoted by phosphorus, which increases chlorophyll. Low dissolved oxygen levels can kill or stress organisms and release phosphorus from sediment that further degrades water quality. Low dissolved oxygen levels in PRP's deep layer indicate the potential for internal phosphorus loading, which could result in degraded water quality.

Lake Survey

SOLitude Lake Management will perform an aquatic vegetation survey for PRP again this year. The survey will take place in late August or early September.

Lake Hosts

Lee and Liz are back on the ramp again this year as our first line of defense against AIS so be sure to take advantage of their courtesy watercraft inspection. Each inspection they do to help us qualify for the grant money from NH Lakes that partially funds the program. The time you take to allow for a courtesy boat inspection by our Lake Hosts is greatly appreciated.

When Lee & Liz return to school, we need volunteers to cover the late summer shifts. The training is online and you volunteer when your availability allows. It's a great way to help out, and to get to know others in our PRP community.

Loon News

If a chick is born this year, Ken Cobb will organize the Loon Watch Volunteer Program to shadow the baby chick as it grows, and we will let you know about it in the eNews.

PRP Store

The Store must comply with COVID-19 guidelines to operate, and that's a challenge with our limited space. To make shopping easier, the complete inventory can be seen online at www.pineriverpond.org under the PRP Store tab. You can decide on products, then call Shelly at 978-495-2913 or email her at shellydaniels4@gmail.com with your choices or any questions, and she'll assist you with your order, and arrange for payment and pickup at curbside or dockside.

The Store is open from Memorial Day through Labor Day, on Saturday and Sunday from 10am to 2pm. Look for updates or specials in the eNews or posted on Facebook.

For anyone visiting the Store, we ask that you comply with the signs posted to maintain the required distancing. One item that will not be stocked this year is ice cream, which makes everyone sad.

The PRP Store is located at 500 Pinewood Shores. By boat, it's mid-lake, just south of the sandbar (look for the open flag hanging on the dock). Credit cards, PayPal, Venmo, checks and cash accepted.

Safety

The Safety Committee continues to work with local officials to set up emergency rescue and evacuation points at locations on the east (near Route 153) and west (near Route 16) sides on PRP. If an emergency occurs on the water, these points will enable rescue personnel to get help to a victim as fast as possible. More details will be provided as they finalize the details.

Shoreline Erosion

If you are experiencing erosion (outside of the areas identified by the Watershed Survey), especially undermining of your waterfront, please get in touch with Howie Knight at treasurer@pineriverpond.org. We need before and after photos to build a repository of evidence to deal with the problem. If you have photos or are interested in helping compile the data please let Howie know.

In Memory Of

We extend our sympathy to the family and friends—

Allen Torsey of Sleepy Hollow Road passed away on April 15, 2020. Allen was a resident of PRP since 1970. He enjoyed his summers and weekends at camp with his family and putting around with various projects including his ham radio. He is survived by his wife, Tina, sons David and Mark, three grandchildren, and his chocolate lab Bruin.

Ellen Johnson of Lake Road passed away on March 14th, 2020. She was a dedicated RN for over 40 years, and upon retiring, relocated to Wakefield. She enjoyed knitting, wildlife, and spending time at PRP with her family and grandchildren who knew her as “Sashi.” She is survived by her husband Ralph, son Scott, and daughters Bonnie and Linda.

Joseph Luis of Pickerel Point Road passed away on December 28, 2019. He built his summer home on PRP in 1975, and retired there in 2003. He operated a bakery and worked as a chef in MA before opening a restaurant in Ossipee. He is survived by his wife Kathleen, daughter Brenda, and son Joseph.

Important Dates

Event	Date	Raindate	Where
Annual Meeting	Jul 11th 9am	TBA	TBA
Fireworks	Jul 11th ±9pm	Jul 18th ±9pm	Sandbar
Boat Parade	Sep 6th 2pm	Sep 7th 10am	Sandbar

Details for the above will be in the weekly eNews.

Committees

Each year, we fine tune the list of committees to align with our operations. Here's the current list along with their Board of Directors liaisons.

Committee	Coordinator	BOD Liaison
Boat Parade	Tracey Kolb	John Dailey
Communications - eNews - P. Philbrook Newsletter - Bill Oatis	Amy Burkam	John Myers
Erosion	Howie Knight	Patty Philbrook
Fireworks	Doug Stewart	Joe Carriere
Heritage/History		John Myers
Invasive Species - Cyanobacteria Testing Weed Watch	Cindy Pfeiffer	Patty Philbrook Doug Stewart
Lake Host	Paul Romano	Patty/Howie
Lake Survey	Doug Stewart	Patty Philbrook
Loon Protection	Ken Cobb	John Dailey
Membership	John Meyers	Phil Valenti
PRP Store	Tom & Shelly Daniels	Howie Knight
Safety	Guy Philbrook	Phil Valenti
Water Testing	Dave Boisvert	Patty Philbrook
Watershed Study	John Myers	Patty Philbrook

Bill Oatis, Editor