
PRP Association 2021 Newsletter

President's Message

People who spend a lot of time on a lake feel it's theirs whether they're year-round residents, seasonal, or summer renters who look forward each year to a much-anticipated week here. Special memories are made when you spend time on a lake, and enjoy new experiences such as learning how to swim and paddle, ski or board, drive a boat, bait a hook, build a campfire, play cribbage, and the meaning of the loon calls - it's a never-ending experience. Does it have something to do with the clean NH air, or is it that relaxed feeling you get when you arrive? Whatever it is, being here makes you feel good.

PRP is special, so let's ensure that our kids and grandkids can enjoy PRP as we do. We recently benefited from increasing property values, and according to local real estate professionals, PRP is highly desirable because of its strong lake association, a credit to those visionaries who established the organization in 1986. We need to continue the stewardship of our founders by paying attention to what the lake is telling us. In our crystal-clear water, deeper issues are looming. While our water quality tests are consistent with past years, changes in the lake are clearly telling us that something's happening.

Prevention is the most effective form of management. No one will dispute that preventing the introduction of invasive species is preferable to managing it once it's established, or that eliminating nutrient sources in the watershed is better than trying to control algae and cyanobacteria after they develop. The unfortunate reality is that when warning signs go unnoticed, we must take action to preserve desirable conditions and prevent further deterioration. With our Watershed Plan, we will have a long-term management and water quality protection plan.

You'll find lots of technical information in this Newsletter about what we're doing for the lake. You're encouraged to attend the Annual Meeting in July to hear the conversation about water quality issues, and to ask questions.

We have many opportunities if you'd like to get involved. We make volunteering easy, enjoyable, and compatible with the skills you have to offer. Look over the committee list on Page 3, consider where your interests intersect, and get in touch with the chairperson.

Reach out to any new neighbors to let them know about the lake association. It's a good bargain at \$30/year, and is the only way to stay well informed about what's going on with PRP. Send them to our website at www.pineriverpond.org to find the membership application form, or to get in touch with any questions.

Be safe and have a wonderful summer!

Membership Renewal

Renew your membership today! The new year begins on July 1st. Mark up your renewal form with any changes to your information and mail it with your check or drop it off at the PRP Store where you can pay by check, cash, credit card, or Venmo. If you use the ramp on Lord Road, you may include your \$25 donation, and we'll get it to the PRA. Also please consider a donation for the fireworks show.

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Important 2021 Dates

Annual Meeting - July 10th, 9am at 71 Chandler Ln. Rain date July 17th same time and location.

Waterfront Concert - Date, time, and location will be announced in the eNews.

Fireworks - July 10th at dusk, mid-lake. Rain date July 17th

Boat Parade - September 5th, 2pm. Rain date September 6th, 10am.

Watershed Planning

In March, Don Kretchmer, a Certified Lake Manager from DK Water Resource Consulting LLC conducted the core sediment sampling of the lakebed in seven locations through the ice. Thanks to Denny Miller and Jeff White for their assistance in making that happen in one day. Don provided us with a Sediment Analysis Technical Report that explains the results, how the information relates to current water quality, and potential watershed management and in-lake actions.

Although PRP's long-term phosphorus levels have been on a downward trend since 1987, the low Dissolved Oxygen (DO) levels present a problem that requires increased monitoring, and our water quality testing plan for the 2021 season has been revised accordingly. Under low-oxygen conditions, phosphorus can be released from the sediments. Over the last nine years, data show that DO and phosphorus in our water remains well balanced. Don's technical report tells us that 1) most of nutrients (phosphorus) are likely sourcing from the watershed (externally) and from leaking septic systems; 2) while phosphorus is present in PRP's sediment, much of it is currently bound by aluminum or tightly bound to organic matter and is not releasing; and 3) it is likely that watershed phosphorus loads are an order of magnitude that is higher than the current internal load.

This is essentially good news, but now is the time to get aggressive with our efforts to prevent nutrients from entering the lake. External sources of phosphorus from the watershed and shorelines are the primary issue that needs to be addressed, and there is no scenario where more phosphorus entering the lake is good. Watershed planning will help mitigate some of these effects, and the recommended steps are to 1) revise and implement our monitoring water quality plan; 2) continue to evaluate major changes within our watershed; and 3) implement the Watershed Plan recommendations upon its completion.

On May 7th, volunteers walked the shores of PRP to identify signs of active soil erosion, which contributes to the external sources of phosphorus. When the Survey results are compiled, we will get a Watershed Survey Report from Acton Wakefield Watersheds Alliance (AWWA) in the fall containing technical recommendations for identified sites where stormwater is entering and destabilizing the lake. If a property owner wishes to implement a recommendation, they may choose to do so themselves, contract out the work, or consider having AWWA evaluate the site for a Youth Conservation Corps project. Lakefront property owners are a first line of defense against nutrient loading to the lake.

During the 2021 spring semester, UNH Professor Alison Watts, Ph.D taught a Water, Watersheds, and Society course and with agreement from NHDES, Alison connected with the PRP Association to use our watershed planning work as the class project to give the students actual experience. The class collected the environmental data for the Lake Loading Response Model (LLRM) and has input the information into the LLRM. The information that the class researched and compiled has accelerated the progress of our watershed planning work, which now only requires a quality control check. We hope to have the Watershed Plan completed by the summer of 2022.

The NHDES Watershed Management Bureau has advised us that with the completion of our Watershed Survey, and because of the advanced progress stage of our Watershed Plan, we now qualify to work with them and AWWA to write a Section 319 Grant Proposal for the AWWA 2022 Youth Conservation Corps season to implement projects for erosion control identified through our Watershed Survey. The 319 grant would cover AWWA labor, material costs, and would involve a match-cost share. As more details emerge, we will keep you informed about it.

Water Quality

Water quality testing with the Lay Lakes Monitoring Program (LLMP) will continue under UNH-established COVID protocols in 2021. Last summer, the LLMP season was restricted to two testing events due to the pandemic so the 2020 data set is limited.

For 2021, the sampling plan for PRP has been expanded to include 1) increased upper layer total phosphorus sampling at the extreme ends of the lake to gain a better understanding of what's going on in the lake; 2) supplemental temperature, dissolved oxygen, and conductivity profiles; and 3) additional small stream sampling near Wentworth Cove.

The LLMP also samples the streams that feed PRP. Extremely dry conditions in 2020 elevated the Specific Conductivity levels in some of the feeder streams that we are monitoring in 2021. Specific Conductivity is a general measure of the water quality that tends to have a relatively constant range of conductivity and, once established, serves as a baseline for comparison. A significant change in conductivity can be an indicator that a pollutant is making its way into the water. In 2021, we will sample upstream locations in attempt to isolate the cause of the elevated conductivity.

Cyanobacteria

In 2020, 100% of PRP's shoreline was visually surveyed for benthic cyanobacteria mats. These slow-growing mats have likely been around for years, especially in the small stagnant coves. Phosphorus and nitrogen that enters the lake in stormwater runoff and leakage from failing septic systems are the fuel that allows these benthic cyanobacteria mats to flourish.

The NHDES Harmful Algal and Cyanobacterial Bloom Program advises to avoid areas with known mats. We will continue to monitor the PRP shoreline for the mats, and update the locations in the weekly eNews. If you have questions or concerns about this, contact clpfeiffer9@gmail.com or president@pineriverpond.org.

Lake Host Program

Prevention is the most effective way to manage invasive species. No one can dispute that preventing the introduction of invasive plants and animals is preferable to managing the growth after the invasive species is established.

The Lake Host Program is the first line of defense to remain invasive-free. Lake Hosts inspect watercraft, trailers, and gear for invasive plants and animals, and spread the word about Clean, Drain, & Dry to prevent the spread of invasive species.

The Lake Host Program, sponsored by NH Lakes, is entering its 11th year on PRP. From 2011 through 2019, lake hosts completed an average of 288 inspections each season. In 2020, the Lake Hosts inspected 999 watercraft! With the increase in inspections last year, we received a \$1700 grant from NH Lakes for the 2021 Lake Host program, and we're anticipating another busy summer.

Annual Macrophyte Survey

For several years, the PRP Association has contracted with SOLitude Lake Management to conduct a macrophyte (aquatic plant) survey of the lake. In September of 2020, they surveyed along the shoreline with rooted vegetation (the littoral zone) to assess vegetation growth.

Generally, PRP supports moderate plant growth up to depths of about 15 to 18 feet. Consistent with past years, bladderwort, bushy pondweed, ribbon leaf pondweed, and sago pondweed were found in sparse to moderate density (25-65%) throughout most of the littoral zone with scattered, low-density growth along the more exposed shoreline areas at depths of 13 to 18 feet.

Whorled watermilfoil, which is native to NH but not native to PRP, is in several locations as reported in previous years. Growth in the lagoon with the floating island near Sleepy Hollow Road is most dense, and growth in the

Committees

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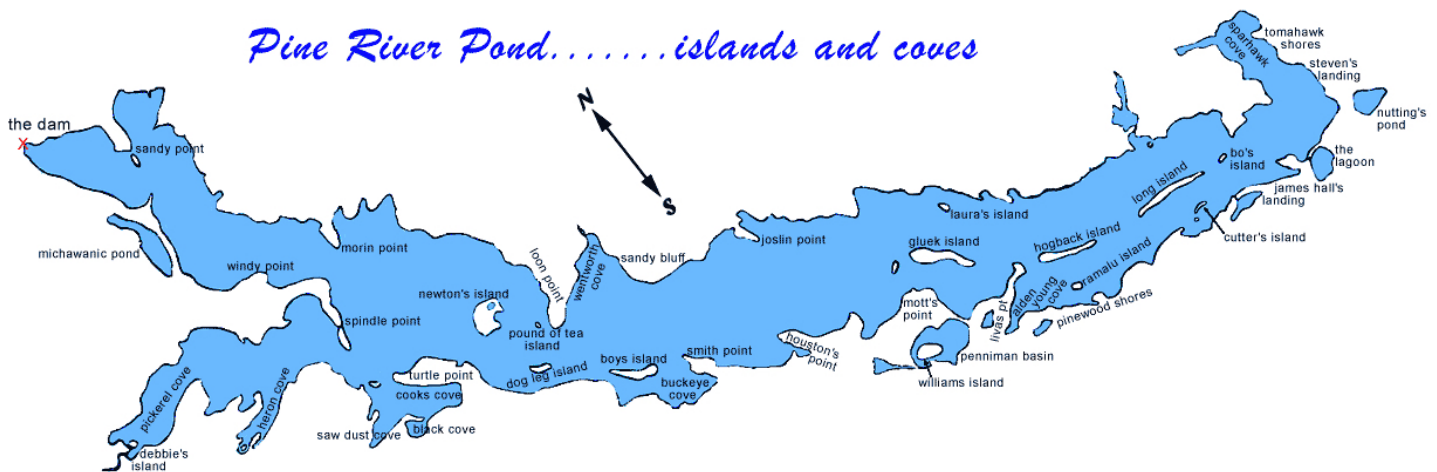
cove between Bo's Island and Fay Way is sparse-moderate density. A few whorled watermilfoil were found just north of Lee's Way, and east of the island in Penniman's Basin. This is the first time that milfoil has been found in Penniman's Basin.

The Board of Directors is considering the management recommendations from SOLitude.

The proximity of PRP to known non-native plant infestations creates a high likelihood of infestations. The fact that no non-native species were found is, according to SOLitude, "undoubtedly due to the lack of suitable public boat access and the weed watching efforts of the PRP Association."

Spread of Whorled Watermilfoil in PRP

Dense growth of the whorled watermilfoil in the lagoon and the cove between Bo's Island and Fay Way mentioned above is a concern because it is spreading. When traveling into the lagoon or the cove, be aware that whorled watermilfoil is catching on boats and ski craft and is being dragged out of these areas into the rest of the lake. If you must travel into these areas, please check to ensure you have no hitchhiking plants before entering the main lake. Thank you!



In memory of our neighbors who are no longer with us...

Buddy Day from Black Cove Rd and Woburn, MA passed away on November 3, 2019.

Walpurga Willim from Lord Rd passed away on April 17, 2020.

Virginia Atwood from Pinewood Shores passed away on June 9, 2020 at the age of 100.

Mary Ann Creighton from Olde Pine Road passed away on June 20, 2020.

Steve Ives formerly of Pinewood Shores Rd, passed away on July 5, 2020.

Malcolm Hunt from Berand Dr, passed away on November 1, 2020.

Patricia Lilly from Grenier Rd, passed away on November 5, 2020.

Martha Towle from Grenier Road passed away on December 27, 2020.

Herbert Carey Jr from Chandler Lane passed away on March 21, 2021.

Bill Oatis, Editor