

Water Quality

Water Quality Yearly Comparison	2020 - no data (COVID)	2025	2024	2023	2022	2021	2019	2018	2017	2016	2015
Water Transparency (meters)	Excellent > 4.0 - 7.0 Fair 2.5 - 4.0 Poor < 2.5	5.2	6.3	4.2	6.2	5.6	5.5	5.7	4.9	5.8	5.4
Total Phosphorus (ppb)	Excellent < 8.0 Fair 8.0 - 12.0 Poor > 12.0 - 28.0	5.7	5.7	7.2	6.5	6.8	5.9	5.9	7.1	6.7	7.5
Chlorophyll a (ppb)	Excellent < 3.3 Fair 3.3 - 5.0 Poor > 5.0 - 11.0	3.0	2.4	3.6	2.4	3.3	3.0	1.9	3.9	2.5	2.7
Dissolved Oxygen (mg/L)	Excellent > 5.0 - 7.0 Fair 2.0 - 5.0 Poor < 2.0	0.4	0.7	0.3	0.0	0.2	0.3	1.7	1.7	0.2	0.8
Specific Conductivity (uS/cm)	Minimally impacted < 50 Some human influence 50 - 100 Human disturbances > 100	49.9	49.5	51.1	57.4	56.4	55.6	55.4	51.6	53	51.4

The word for the 2025 water quality sampling results is consistent and indicates that the mitigation projects to prevent runoff from reaching the lake were effective. We will always see some fluctuations that relate to weather events like heavy rains and snowmelt. You can help these numbers stay consistent or improve by reaching out to AWWA for technical assistance or a site design (all for free) if there is a runoff problem on your property. Proper maintenance of septic systems is also critically important to water quality.

- **Water transparency** is influenced by nature (algal growth, suspended particles) and is associated with decaying vegetation and wetland influences. Wetter weather usually reduces transparency. Murkier waters make plants less likely to survive and result in less oxygen in deeper waters.
- **Phosphorus** gets into the lake in stormwater runoff.
- **Chlorophyll a** is influenced by water temperatures, amount of light in the water column, and nutrient concentrations.
- **Dissolved Oxygen (DO)** is a key indicator of lake health. Low DO is less hospitable to cold-water fish. When surface waters warm, the difference between the warm surface and cool bottom waters grows wider, and their densities differ. When these two layers stop mixing well, oxygen no longer reaches the deeper waters. When oxygen levels get too low, the fish can suffocate.
- **Specific Conductivity** measures salinity and Total Dissolved Solids. Lakes generally have a constant range of conductivity so outside the normal range may indicate pollution is entering the lake.

Stormwater Pollution is the #1 threat to NH lakes.

What can you do to help improve water quality?

- ✱ Plant a vegetation buffer along the shoreline to filter runoff.
- ✱ Use only approved fertilizer with “0” (zero) Phosphate (the middle number on the bag) on your property.
- ✱ Properly maintain your septic system with regular inspection and pumping.
- ✱ Scoop pet waste and dispose of properly so that it doesn’t run off into the lake.

AWWA offers **FREE** site visits to assess erosion problems and recommend solutions. Lake-friendly landscape designs are **FREE** and based on best management practices tailored to your property. Your project may also be a candidate for AWWA’s Youth Conservation Corps. The YCC provides the labor **FREE**, and you pay the material costs and maintain the project work. For more information, email info@awwatersheds.org, go to www.awwatersheds.org, or call 603-473-2500.

Lake Host Program - Why it's so important

For 16 years, the PRP Association has partnered with NH LAKES to run a Lake Host Program offering free inspections at the boat ramp on Lord Road to educate about the Clean, Drain and Dry method to prevent the accidental introduction of aquatic invasive species (AIS) attached to watercraft and trailers. ***Preventing the introduction of AIS is far more economical and environmentally sound because once introduced, AIS are expensive to control and nearly impossible to get rid of once firmly established.***

The PRP Association 2026 grant award from NH Lakes is \$1,650. This, along with a Town of Wakefield grant of \$3,000, assists in paying for the summer-long program. The Lake Hosts are employees of NH LAKES, which runs the statewide program under a grant from the NHDES. The Program has stopped 1,600 AIS from spreading in NH water bodies through Lake Host boat inspections.

The risks for PRP

Unfortunately, in 2025, NHDES confirmed the presence of Brittle Naiad in nearby Belleau Lake. Brittle Naiad forms dense mats at the water's surface, outcompetes native plants, and harms wildlife habitat. It rapidly and continuously grows and produces seeds in the fall that spread through auto-fragmenting carrying the seeds on water currents. The seeds are nearly impossible to spot, can stick to boats, get in bilge water tanks, and can be spread further when waterfowl eat and deposit them to germinate elsewhere. Rough estimates to manage brittle naiad can be between \$200 and \$2,000 per lake-acre each year, and lead to significant property value losses. Experts agree once established, it is virtually impossible to eliminate Brittle Naiad. Click on the NHDES Environmental Fact Sheet to learn more.



How to help

Learn to **recognize Brittle Naiad**, and report any sightings to either us or NHDES. There are similar plants that can be mistaken for Brittle Naiad, but it's better to confirm the growth even if you're unsure. Prevention is essential with Brittle Naiad.

If you travel to or from other waterbodies, the Top Cat Car Wash on Route 16 in Ossipee, open 24/7, has a boat-friendly car wash bay. Rinsing your boat, trailer, and gear is the most effective way to prevent the spread of AIS.



Brittle Naiad

Species description

Brittle naiad is a submerged aquatic plant with substantially branched stems that easily fragment. The leaves are curled, recurving (curled backwards) with age, and approximately one inch long with a noticeably serrated leaf-edge. The branching and curled leaves give brittle naiad a bushy appearance.



Brittle Naiad (*Najas minor*)

Brittle naiad can grow to a length or height of approximately 2.5 meters. Tiny flowers are produced in the leaf axils, which fertilize and mature into oblong seeds. Brittle naiad also reproduces and spreads with auto- and artificial-fragmentation. The plants are annual, not persisting past late fall, and depend on seed germination for continual infestation. It can form dense shoals and surface mats in water 12 feet deep. Brittle naiad is often confused with coontail, native naiad, and some macroalgae, such as *Chara*. Native naiad can be distinguished through its thicker, broader leaves and spiny texture.

Life cycle

As an annual, brittle naiad rapidly and continuously grows until the parent plant dies in late fall. Tiny flowers are produced in leaf axils around July, which fertilize and develop seeds from September through October. Auto-fragmentation occurs with the seeds still attached and the fragments disperse using water currents. The seeds are then deposited in the fall after the plant dies or throughout the growing season by waterfowl defecation, and they germinate in early spring to late summer.

Species range and U.S. distribution

Brittle naiad grows natively throughout various countries in Europe and Asia. The Eastern U.S., California and Ontario, Canada consider brittle naiad as an exotic invasive species. It has potential to proliferate in water bodies throughout the U.S. Brittle naiad is currently found in nearly 20 New Hampshire waterbodies.

How was brittle naiad introduced?

Brittle naiad was initially brought into U.S. waterbodies as a food source for waterfowl, a popular idea in the 1930s. These birds consume brittle naiad throughout the year, spreading and establishing new populations through defecating viable seeds and dislodging seeds from the main plant as they eat.

Where does brittle naiad invade?

Brittle naiad can grow as deep as 15 feet and prefers calm environments. Areas with heavy boat traffic usually fragment established brittle naiad with propeller-activity and water current, preventing upward growth and spreading the

Weed Watch - Volunteers Needed

Weed Watch involves monitoring an area of shoreline once a month, and training is provided. It can be fun, educational, and character-building for the whole family while providing a most valuable service to the PRP community. You can monitor as much shoreline as is comfortable for you. It can be done by paddleboard, kayak, snorkeling, or canoe. If you're interested in volunteering, contact [Cindy Pfeiffer](#).

Arthur Fox Dam Reconstruction

The final phase of the NHDES Dam Bureau reconstruction work on the Arthur Fox Dam will be completed this summer. They will install a gate (using stoplogs to keep the work "in the dry") and install a gatehouse over the gate and stem to allow for control of the gate remotely at some time in the future.

The Road to Cleaner Waters: Partnering with the Acton Wakefield Watersheds Alliance (AWWA)

by Stacey Herbold, AWWA Outreach Coordinator

Our region's shifting weather pattern, with intense rainstorms followed by long dry spells and overall warmer temperatures, has accelerated erosion around PRP in recent years, worsening water quality issues. More sediment and nutrient-laden runoff started reaching the lake, fueling problems such as toxic algae blooms. As these conditions culminated in recurring cyanobacteria blooms in 2021, the PRP Association (PRPA) and the Acton Wakefield Watersheds Alliance mobilized quickly and took decisive action to protect the lake's water quality.

In May 2021, AWWA and a team of 30 volunteers from the community surveyed the watershed to identify erosion sources that contribute polluted runoff to PRP. They documented 185 problem sites, with dirt roads emerging as the largest contributors. Each site was a result of stormwater with nowhere to go, and the fix for some locations would be technical, structural, and costly.

PRPA and AWWA quickly developed a watershed management plan and partnered with road associations and private landowners to begin addressing the highest-priority sites. With matching funds from the road associations, **AWWA secured \$170,000 in grants** from the NHDES 319 Grant Program and the NH Lakes Association's American Rescue Plan Act funds. With these funds, three projects were completed. Major road repair and stormwater controls were installed at the Lord Road Boat Ramp, Pinewood Shores & Blaney Road, and Clearwater Lane.

Lord Road Boat Ramp Project

The top of the Boat Ramp sits at a natural low point where Lord Road meets Wilderness Loop. During heavy rains, stormwater would race down both roads, carving gullies as it went, and funnel straight toward the boat ramp, the path of least resistance. The unpaved ramp never stood a chance. Each storm sent another surge of runoff loaded with sediment directly into the lake. **This single site was ultimately identified as the largest source of sediment and phosphorus entering the lake and the largest sediment load AWWA has ever documented.**

A site plan was developed, and the solution required substantial hardscaping to slow stormwater and control erosion. In 2024, after heroic efforts by members of the Lord Road Community to raise additional funds, two concrete catch basins, each 10 feet deep and 3 feet wide, were installed. The roads and ramp were regraded, portions of both were paved, and a riprap swale was added to slow and direct runoff. This resulted in a massive reduction of over 100 lbs. of Phosphorus (the primary nutrient feeding cyanobacteria) from entering the lake each year.



Pinewood Shores and Blaney Road Project

A stormwater problem was also wreaking havoc on Blaney Road and Pinewood Shores and sending polluted runoff straight into the lake. Above Blaney Road, a ridgeline sheds runoff from a broad area downslope toward the road. During heavy rains, a neighbor's driveway and the road itself became the easiest route for the runoff to follow. Each storm would tear down the driveway, cut down Blaney Road, surge toward Pinewood Shores, slice through the road, and then rush across a neighbor's property before emptying directly into Alden Young Cove. The stormwater deposited significant loads of sediment into the lake.

AWWA developed a site plan, and the solution was put in place in 2025. A 100-foot vegetated swale with check dams was constructed along Blaney Road to slow and spread the flow. Several gravel-filled detention basins were installed at strategic points along both Pinewood Shores and Blaney Road to capture and further slow the stormwater. Finally, blueberry bushes were planted on the edge of a rip-rap-lined turnout close to the lake as one last measure to stabilize the area and treat runoff.

Pinewood Shores Before and After



Blaney Road Before and After



Clearwater Lane Project

Clearwater Lane is an old camp road carved into the hillside, creating a natural path for stormwater. The 1,000- foot road turns off Pine River Pond Road and slopes toward the lake before bending along the shoreline to access several waterfront homes. During heavy rains, stormwater behaved like water in a waterslide, rushing straight down the road, scouring its surface, and carrying chunks of gravel and soil with it. That sediment collected at the bottom of the hill, spilled into a homeowner's front yard, ran down the side of the house, and ultimately entered PRP.

AWWA and the road association partnered with a local contractor experienced in camp road management to design an effective solution. In 2025, the contractor installed riprap swales and detention basins to slow, capture, and redirect the flow before it could reach the lake.



The Future

The combined impact of these three projects, in conjunction with efforts to revegetate shorelines and upgrade outdated septic systems, is making a difference for PRP. There has been a significant decrease in polluted stormwater runoff entering the lake, and fortunately, limited cyanobacteria bloom reports for several years. The good news is that the PRP watershed and the surrounding areas remain largely forested, which helps address the challenge that many lakes are facing: the vulnerability of a network of roads that were never designed for today's more intense rainstorms or the added runoff created by new homes and driveways.

For 20 years, AWWA has been tackling stormwater issues property by property and camp by camp by providing technical assistance and through its Youth Conservation Corps Program. That work continues, but AWWA is also focusing its attention on working with road associations and, more recently, with town municipal leaders, to address high-priority dirt road problems. AWWA's next major project is already underway, partnering with the Town of Wakefield to address major erosion on Pond Road at Lovell Lake.

To learn more about AWWA, go to www.awwatersheds.org.

Rising Above Drought, Preserving Our History, and Strengthening Community

by *Patty Philbrook, President*

2026 was the second recent year in which PRP struggled to recover from the annual 8-foot winter drawdown. In 2022, drought kept the lake low as the summer began, making PRP one of only three lakes in NH so severely affected by the drought that it did not fill up by May. This year, the challenge continued with the driest January through April on record since 1895. Despite cautious forecasts from NHDES, generous rainfall brought the lake level up in June.

At the 2026 Annual Meeting, members discussed information provided by the NH Dam Bureau regarding a potential temporary adjustment to the drawdown. Following a thoughtful discussion, those present voted that it was not in the best interest of the PRP Association to pursue any change at this time.

This past year, I had the pleasure of reviewing decades of PRP Association archives — newsletters, studies, notes, and letters spanning our 40 years. These records, rich with information, highlight the dedication and foresight of our community. We are now working to organize, preserve, and digitize these records so they can be properly protected and made accessible for future generations. This includes addressing the realities of cybersecurity threats that increasingly target small non-profits like ours.

Among the treasures uncovered is a historic map of Lake Michawanic, found tucked in the rafters of the Knight's old camp (the former marina). It has been digitized and is currently being restored from years of water damage. This project will take time, so we ask for your patience. If you come across old photos, documents, or memorabilia while cleaning out camps or homes, please let us know — we'd love to consider them for our growing History and Heritage project.

None of our success would be possible without the many dedicated volunteers who have given their time and talent over the past 40 years. This summer, as you enjoy the lake, please take a moment to thank both our past and current volunteers, from our Weed Watchers to our Lake Hosts, those with eyes on the loons and eagle nest, the cyanobacteria and water sampling teams, our social event coordinators and committees, and especially the hardworking PRP Store team, whose efforts raise more funds than our member dues.

If you've ever thought about getting more involved, now is a wonderful time to reach out — we'd love to have you.

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Wishing everyone a safe, healthy, and happy summer, and a joyful celebration of America's 250th anniversary!

Patty

2026 Events

Fireworks - July 11th

Mid lake at dusk. Rain date 7/18

Surfhenge Concert - July 18th

North end of lake at Michawanic Dock

2026 Lakeside Classic Golf Tournament - July 31st

At Province Lake Golf Course to benefit AWWA

57th Annual Boat Parade - September 6th

Meet at Redneck Yaught Club Sandbar. Rain date 9/7 at 10am