LAKE WINNIPESAUKEE ALLIANCE
OUR LAKE. OUR FUTURE.

WINNIPESAUKEAN

SPRING 2025

ICE-OUT TRIGGERS LAKE-WIDE WATER QUALITY SURVEY

Ice-out on Lake Winnipesaukee was officially declared at **7:02 a.m. on April 16**, and by April 21, LWA had launched a lake-wide water quality sampling effort—its first early-season survey since 2015. This crucial spring window, when the lake is still fully mixed from top to bottom, allows scientists to assess baseline conditions before summer stratification sets in.

In partnership with NHDES, UNH, local marinas, and volunteers, **eight field teams visited 12 deep-water sites,** collecting data on **temperature, dissolved oxygen, total phosphorus (TP), and clarity.** Phosphorus levels are especially important, as excess nutrients can lead to algal blooms and declining oxygen in deeper waters, threatening cold-water fish and overall lake health.

As spring progresses and the sun warms the surface, the upper layer of the lake becomes less dense than the colder, deeper water below. This difference in density causes the warmer water to remain suspended above the cooler layer, forming a physical barrier.

LWA's Conservation Program Manager Bree demonstrates how to use a plankton net to Kyle Gassman of Freedom Boat Club

This process, known as thermal stratification, limits vertical mixing and reduces the transfer of oxygen from the atmosphere to deeper waters. By late summer, this can lead to declining oxygen levels near the bottom, affecting cold-water fish habitat and overall water quality.

Conducting this ice-out sampling strengthens LWA's ability to monitor seasonal dynamics and long-term trends in lake health. The only other early-season sampling efforts on Winnipesaukee were conducted in 2010 and 2015. Under guidance from the New Hampshire Department of Environmental Services (NHDES), ice-out sampling is recommended every five years, but the 2020 sampling window was missed due to COVID-19 restrictions, resulting in a 10-year gap.

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MESSAGE FROM THE PRESIDENT

Office: 45 NH Rte. 25,
Unit A-2
Meredith, NH 03253
603-916-2010

Dear Friends and Supporters,

As we welcome the spring of 2025, we find ourselves navigating a time of change and uncertainty in the nonprofit world. Across the country, many organizations are grappling with the loss of federal grant funding, creating significant challenges for programs that serve the public good. While the Lake Winnipesaukee Alliance (LWA) has thus far retained its EPA funding, recent developments—such as the suspension of AmeriCorps—remind us that this support is never guaranteed.

At the state level, a budget freeze in New Hampshire has placed additional strain on critical environmental programs, including the Harmful Algal Bloom (HAB) initiative. This program was already limited in resources, and the recent departure of its manager, Kate Hastings, leaves an even greater gap. In light of this, LWA's ability to quickly identify and respond to cyanobacteria blooms is more important than ever.

Despite these challenges, we remain focused and optimistic. In 2025, the LWA is expanding and strengthening our water quality monitoring program. We are adding new tributary sites, collecting temperature and dissolved oxygen profiles at our deep lake locations, and increasing the frequency of plankton tows to better understand the dynamics of the lake's microscopic life over the summer season.

We are also pleased to welcome two summer interns whose support will be vital in scaling up our monitoring efforts. Their work will help us respond more rapidly to cyanobacteria blooms, provide greater technical assistance to shoreline landowners, and enhance our outreach across the watershed.

Lake Winnipesaukee holds a special place in the hearts of so many—residents, visitors, and businesses alike. With your continued support, and through the dedication of our volunteers, partners, and community members, we are working every day to ensure that this iconic lake remains healthy and vibrant for generations to come.

Thank you for standing with us.

Pat

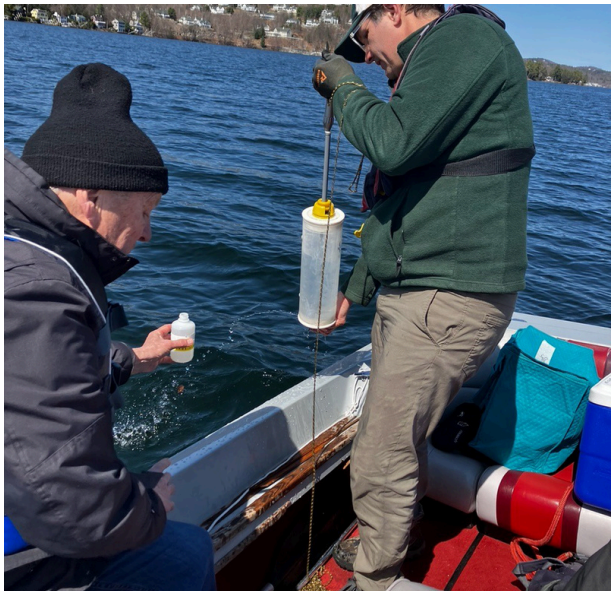
Patricia Tarpey, President

ICE OUT SAMPLING (continued)

Key Findings from 2025 Sampling:

- **TP levels ranged from 5.6 to 8.6 µg/L**, with most sites staying below the 8 µg/L threshold for oligotrophic (low-nutrient) status.
- **Moultonborough Bay Inlet** recorded the highest TP **at 8.6 µg/L**—above the threshold but lower than 2010's peak.
- **Alton Bay** showed the greatest increase over time, rising from **5.5 µg/L in 2015 to 7.7 µg/L** in 2025.
- **Paugus Bay** remained elevated, with values of **7.1 and 6.4 µg/L** at two stations.
- **Meredith Bay** showed a gradual increase from **5.6 µg/L in 2010 to 6.5 µg/L in 2025.**

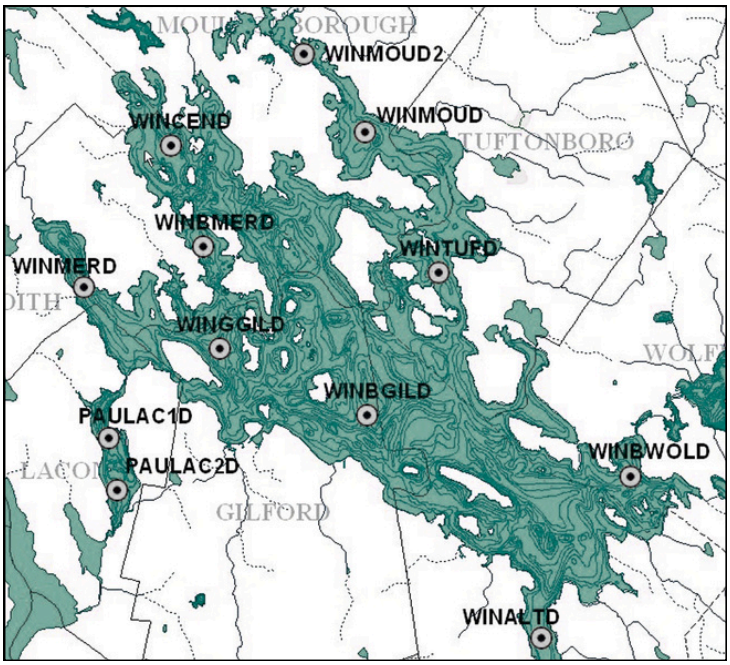
These results suggest localized trends influenced by both natural and human activity. This data, combined with ongoing monitoring, will help LWA and partners track changes and inform watershed protection strategies.



Meredith Rotarian Gary Dehnel (left) and NHDES Staff Harvey Pine (right) collecting samples in Meredith Bay.

		Total Phosphorus (µg/L)			
STATION ID	STATION NAME	2010	2015	2025	TREND (2015-2025)
PAULAC1D	PAUGUS BAY-STATION 1 DEEP SPOT	6.3	6.2	7.1	↑
PAULAC2D	PAUGUS BAY-STATION 2	7.3	6.0	6.4	↑
WINALTD	ALTON BAY-DEEP SPOT	5.4	5.5	7.7	↑
WINBGILD	BROADS-DEEP SPOT	6.7	6.3	5.6	↓
WINGGILD	GOV ISLAND-DEEP SPOT	5.4	6.0	5.6	↓
WINBWOLD	WOLFE. BAY-DEEP SPOT	5.4	5.2	6.0	↑
WINTUFD	COW ISL.-DEEP SPOT	6.3	5.9	5.7	↓
WINMOUD	MOULT. BAY-DEEP SPOT	6.5	5.6	6.6	↑
WINMOUD2	MOULTONBOROUGH INLET DEEP SPOT	8.9	7.9	8.6	↑
WINCEND	CTR HARBOR-DEEP SPOT	5.8	4.9	5.7	↑
WINBMERD	BEAR ISLAND DEEP SPOT	5.6	7.1	5.9	↓
WINMERD	MEREDITH BAY-DEEP	5.6	5.9	6.5	↑

🙏 Special thanks to **Freedom Boat Club, Irwin Marine, NH Fish & Game, NHDES, UNH Lakes Lay Monitoring Program, Meredith Rotary Club, and the Laconia Conservation Commission** for making this large-scale effort possible.



Deep Site Monitoring Locations

If you're interested in learning more about the sampling results, please contact Bree Rossiter at brossiter@winnipesaukee.org.

SCIENCE AT THE SOURCE: MONITORING STREAMS THAT FEED THE LAKE

This year, LWA has introduced an exciting initiative to monitor twelve major streams that flow into our lake, made possible through our collaboration with the New Hampshire Department of Environmental Services Volunteer River Assessment Program (VRAP). These streams will be monitored throughout the year, as conditions permit.

These tributaries serve as essential pathways in our watershed, transporting runoff, nutrients, and pollutants directly into the lake. By assessing the water quality of these inflows, we can gain valuable insights into potential problem areas. In conjunction with the watershed-based plans, we can prioritize actions and projects based on actual conditions.

Map identifying the 12 focus streams.

Other partners including the Alton and Laconia Conservation Commissions, Wolfeboro Waters, and the Wentworth Watershed Association are monitoring streams in their respective communities. These initiatives not only contribute to a comprehensive understanding of watershed conditions but also enhance local partnerships, ensuring that science and stewardship work hand-in-hand throughout the region.

The parameters tracked provide a clearer understanding of how each stream may impact lake conditions.

The outlet of Lake Kanasatka flowing into Lake Winnipesaukee during the cyanobacteria bloom of 2023 (Moultonborough).

Key indicators include:

- **Phosphorus**: Acts as fertilizer for aquatic ecosystems, promoting the growth of algae, invasive plants, and cyanobacteria.
- **Temperature and Dissolved Oxygen**: Essential for assessing the overall health of the water for aquatic life.
- **Turbidity**: Indicates the amount of sediment or runoff entering the stream, often associated with erosion or storm events.
- **Specific Conductance**: Indicates the presence of road salt and other dissolved pollutants, particularly in developed regions.

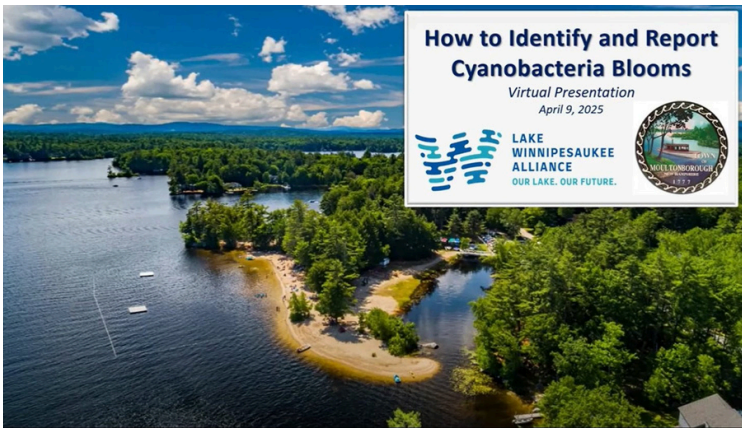
LWA Staff scouting sampling locations on Poor Farm Brook, Gilford.

EYES ON THE WATER: COMMUNITIES UNITE AGAINST CYANOBACTERIA

As cyanobacteria blooms become more frequent in New Hampshire, communities around Lake Winnipesaukee are stepping up—and the Lake Winnipesaukee Alliance (LWA) is helping lead the charge.

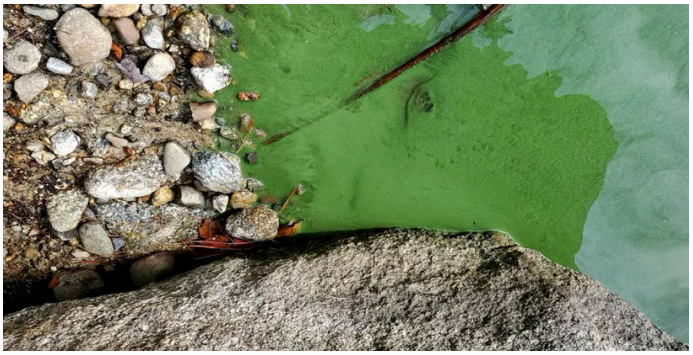
Local cyanobacteria committees are forming in towns across the region, empowering volunteers, expanding monitoring, and raising awareness. These efforts align with the state's Cyanobacteria Plan, which emphasizes education and early detection to reduce health risks.

In 2024, Moultonborough launched its Cyanobacteria Committee through the Conservation Commission. A key project is the Cyanobacteria Watcher Program, which trains residents to spot and report potential blooms. Volunteers from Lake Kanasatka, Lee's Pond, and Lake Winnipesaukee are now actively contributing, supported by NHDES and LWA. The committee also hosted two public presentations —now available on LWA's YouTube channel.



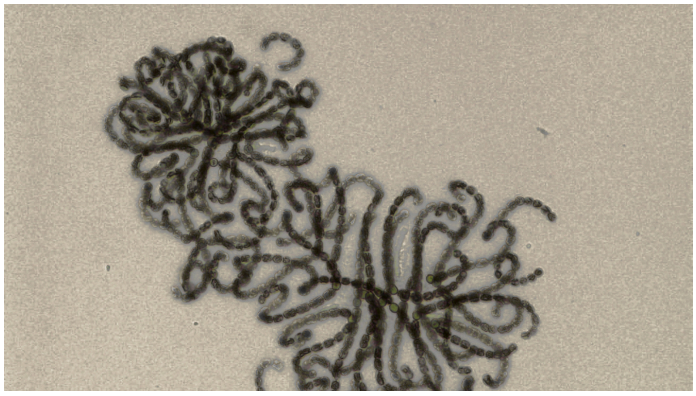
Meredith followed in 2025, establishing its own committee and Watcher Program. With members from the town, Windy Waters, the Waukewan Watershed Advisory Committee, and LWA, the group is bringing new energy and coordination to bloom monitoring.

Meanwhile, Wolfeboro Waters has been actively promoting water quality education and community action since 2019. Appointed by the Town of Wolfeboro, the committee addresses a range of water concerns with LWA providing scientific support and regional coordination.



Example of a Cyanobacteria Bloom.

Cyanobacteria blooms threaten more than just lake ecology—they impact recreation, tourism, and our local economy. These grassroots initiatives are boosting detection, speeding up response times, and building a stronger culture of lake stewardship.



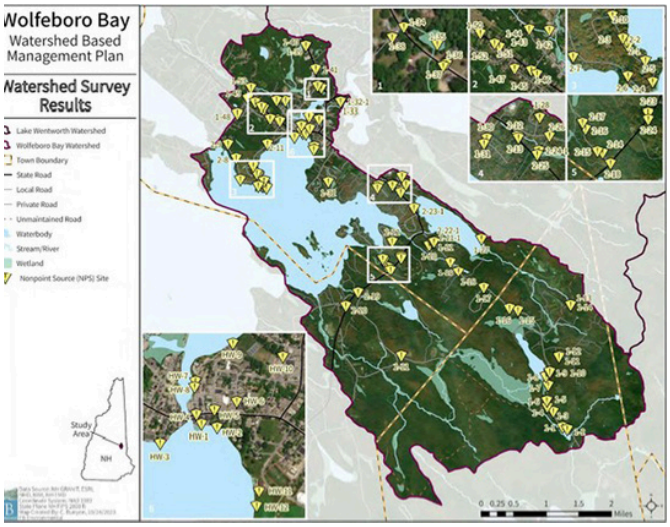
Cyanobacteria (Dolichospermum) under the microscope.

Together with local partners, LWA is creating a more responsive and resilient strategy to protect our waters from harmful blooms.

NEW PLAN CHARTS PATH TO A CLEANER WOLFEBORO BAY

LWA is excited to announce the completion of the Wolfeboro Bay Watershed Management Plan, a collaborative effort with the Town of Wolfeboro, LWA, and FB Environmental Associates. This science-driven plan outlines targeted strategies to reduce pollution and protect water quality across the 36,784-acre Wolfeboro Bay watershed.

Wolfeboro Bay and its upstream waterbodies are vital for recreation, tourism, and wildlife—but face growing threats from phosphorus pollution, shoreline erosion, and stormwater runoff. This plan identifies pollution hotspots and recommends practical, community-supported solutions.



Map of Identified Restoration Sites. Courtesy of FBE.

Key Recommendations:

- **Best Management Practices (BMPs):** 90 sites were identified in need of mitigation. Many of the recommendations involve restoring vegetated buffers, installing stormwater treatments, and stabilizing erosion-prone areas.
- **Community Engagement**: Educate residents on sustainable land use.
- **Policy Updates:** Strengthen local ordinances to support watershed health.

Dockside Parking Lot. (Wolfeboro) Courtesy of FBE.

A top-priority site is HW-1 (Town Docks and Boat Ramp)—a heavily used, impervious area where untreated runoff flows directly into the lake. Recommendations include:

- Replacing failing drain inlets with deep sump catch basins.
- Installing a new outfall pipe.
- Adding trench drains or speed bumps to redirect runoff for treatment.

These improvements are part of Phase IV of the Town's Capital Improvement Plan.

This is the seventh subwatershed plan facilitated by LWA, advancing our regional strategy for clean water. Ongoing collaboration among towns, partners, and local residents will be key to turning this plan into action.

📄 To learn more or read the full plan, visit LWA's website at www.winnipesaukee.org.

PARTNERING FOR CLEAN WATER: RESORT ON THE BAY TAKES ACTION IN LANGLEY COVE

Paugus Bay plays a vital role in our region—supplying drinking water to over 7,000 Laconia residents and offering prime opportunities for boating, swimming, and fishing. But like many developed areas around the lake, it faces increasing pressure from polluted stormwater runoff. That's especially true in Langley Cove, a shallow, sheltered inlet where runoff from Langley Brook carries sediment and nutrients into the bay, degrading shoreline conditions and contributing to water quality concerns.

To tackle this issue, Resort on the Bay is partnering with LWA on a stormwater improvement project, funded through the 2025 NH Source Water Protection Grant Program. Focused on Lot 3, a sloped, compacted area with beach frontage and direct drainage to the lake, the project will install key Best Management Practices (BMPs) to reduce runoff and protect drinking water:

Resort on the Bay Project Location in Laconia.

1.) A portion of the sandy beach will be removed and replaced with lawn and native vegetation to reduce erosion and surface flow.

2.) Construct a grass-lined swale to slow and direct runoff.

3.) Install a bio-infiltration basin to filter and absorb stormwater.

Erosion present from stormwater on Weirs Blvd. to Langley Cove.

The Resort will oversee construction, permitting, and long-term maintenance.

Meanwhile, water quality monitoring in Langley Cove is resuming this season, supported by the Laconia Conservation Commission, to assess the effectiveness of the new BMPs.

This effort highlights how shoreline property owners and local partners can work together to make lasting, science-based improvements that safeguard both the lake and the community.

📍 Learn more about our stormwater efforts at LWA's website.

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Upcoming Events
Row for Winni – June 2025
Be Septic Smart – June 14
Meredith Lake Assoc. Presentation – June 18
Twin Barns Release Party – July 20
LRCT Kayak Paddle – July 23
LPC Cyanobacteria Presentation – July 24

THANK YOU TO OUR 2025 SPONSORS

We're deeply grateful for the continued support of our donors, businesses, and community partners. These collaborations reflect a shared commitment to protecting Lake Winnipesaukee. Over the past year, LWA has grown our team, reach, and impact—but there's still more to do. Strengthening community ties and building new partnerships is essential to our mission. Reach out to Joanne at 603-505-2937 to become a Lake Ally.