Water Monitoring Summary

Lakes Environmental Association
2025

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LEA would not be able to test the 41 lakes and ponds in our service area without strong support from our surrounding community. Every year, we rely on volunteer monitors, lakefront landowners, summer interns, and financial support from lake associations and the towns of Bridgton, Denmark, Harrison, Naples, Sweden, and Waterford to continue to monitor and analyze lake water quality. Thank you for all your help!

2025 Volunteer Monitors and Lake Partners

Richard and Andy Buck

Bill and Barbara Findeisen

Steve Cavicchi

Jeff and Susan Chormann

Janet Coulter

Joe and Carolee Garcia

Carol Gestwicki

Ben and Tim Peierls

Keoka Beach Campground

Woods Pond Association

Island Pond Association

Hancock and Sand Ponds Association

Bill Ames and Paulina Knibbe

Bob Mahanor

Amy March

Julie and Dan McQueen

Bob and Barbara Mercier

Barry Patrie

Frank and Nancy Pike

Joe Nagy

Camp Wigwam

Keoka Lake Association

Trickey Pond Environmental Protection Association

Keyes Pond Environmental Protection Association

Five Kezar Ponds Watershed Association

Jean and Bill Preis

John Tucker

Linda and Orrin Shane

Foster and Marcella Shibles

Bob Simmons

Tom Straub

Shelley & Richard Hall

Camp Skylemar

Papoose Pond Campground

McWain Pond Association

Moose Pond Association

Peabody Pond Protective Association

LEA's 2025 Water Testing Team

Maggie Welch

Staff Limnologist

Dr. Ben Peierls

Research Director

Tim Blair

Field Technician

Catherine Wheaton

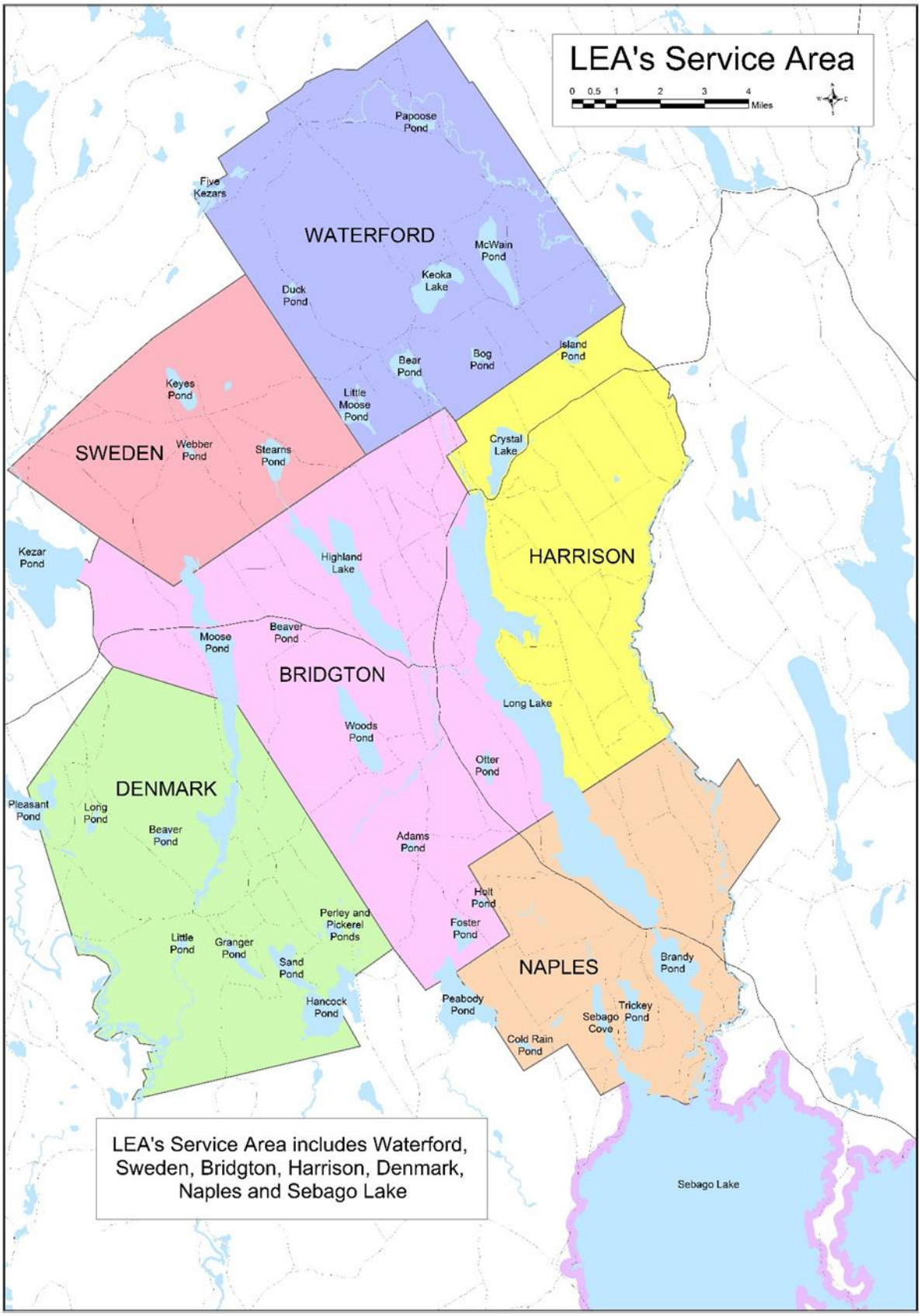
Billy O'Connor

Interns

Elly Burnham

Henry Baker

Interns


LEA's Service Area
0 0.5 1 2 3 4
Miles
WATERFORD
SWEDEN
HARRISON
BRIDGTON
DENMARK
NAPLES
Papoose Pond
Five Kezars
McWain Pond
Keoka Lake
Duck Pond
Bear Pond
Bog Pond
Island Pond
Keyes Pond
Little Moose Pond
Webber Pond
Stearns Pond
Crystal Lake
Kezar Pond
Highland Lake
Moose Pond
Beaver Pond
Long Lake
Woods Pond
Otter Pond
Pleasant Pond
Long Pond
Beaver Pond
Adams Pond
Holt Pond
Perley and Pickerel Ponds
Foster Pond
Little Pond
Granger Pond
Sand Pond
Hancock Pond
Brandy Pond
Peabody Pond
Trickey Pond
Sebago Cove
Cold Rain Pond
Sebago Lake
LEA's Service Area includes Waterford, Sweden, Bridgton, Harrison, Denmark, Naples and Sebago Lake

Introduction to LEA's Water Testing Program

Lakes Environmental Association (LEA) is a non-profit organization founded in 1970. LEA's mission is to preserve and restore the exceptional water quality of Maine's lakes, ponds, rivers, streams, and wetlands and the integrity of their watersheds. LEA works towards accomplishing this mission through our Courtesy Boat Inspector and Invasive Plant Programs, our land use and advocacy work, and watershed based educational programming. For more information about these programs please visit our website: www.mainelakes.org. This report focuses on the water testing programs that LEA reports on annually. Each program is represented by a unique image, described below and used on each lake page as a guide to what is reported.

Long-term Water Quality Monitoring

Water testing on 41 lakes and ponds in LEA's service area occurs every year through traditional and advanced testing initiatives. Data collected and summarized in this report contribute to our long-term understanding of lake/pond behavior and health. Our data are available to the public through Maine's Department of Environmental Protection and LEA's annual water quality reports.

High Resolution Temperature Monitoring

Water temperature is critical to the biological function of lakes, as well as the regulation of chemical processes. Each year, we attempt to capture the entire stratified period within the temperature record, from when stratification begins to form in the spring to when the lake mixes in the fall. With funding and support from local lake associations, LEA deploys temperature sensors at 16 sites on 13 lakes and ponds

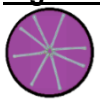
Winter Water Quality Monitoring

Monitoring what is happening in our lakes during the winter months can help us better understand lake patterns and conditions during the rest of the year. We also know that ice cover duration is decreasing for most Maine lakes. To document and understand how this will affect our waters, we monitor the larger lakes in our service area during the winter. Data from this program are summarized in a separate report published in the spring. LEA visits 13 lakes and ponds during winter.

Automated Monitoring Buoy

Each year, LEA deploys two fully automated monitoring buoys – one on Highland Lake and one on Long Lake (north basin). These buoys collect temperature, oxygen, and chlorophyll data at multiple depths every 15 minutes throughout the spring, summer, and fall. Because this data is live, we can see current conditions in the lake anytime.

Algae Monitoring/ Fluorometer



Algae either directly or indirectly support much of the life existing in a lake and are considered the foundation of aquatic food webs. LEA uses a fluorometer to measure chlorophyll fluorescence in the water column. Monthly fluorometer profiles are collected from participating lakes and ponds from May through September. LEA uses a flow cytometer to measure algal concentration and community composition in water samples.

You can support lake science by becoming an LEA member with a donation of any amount.

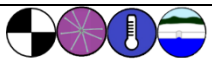
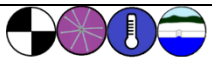
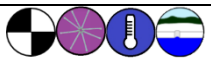
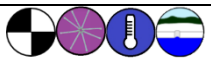
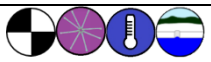
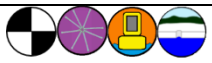
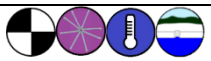
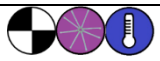
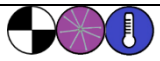
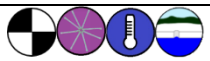
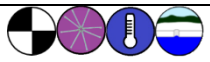
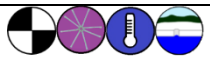
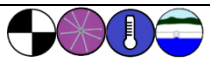
Just mail a check to LEA, 230 Main St., Bridgton, ME 04009 or join online at www.mainelakes.org.

Maine Lake Science Center

After water samples have been collected, they are brought back to LEA's Maine Lake Science Center for analysis. We produce all of our own data and perform our own lab analyses from basic water chemistry, like pH and conductivity to more complex processes like nutrient and chlorophyll-*a* concentrations. We also do algae identification, flow imaging microscopy, bacterial monitoring, and cyanobacterial toxin analysis.

Bi-Weekly Lake Index

This report focuses on the water testing programs that LEA reports on annually. Each program is represented by a unique image described on page 4

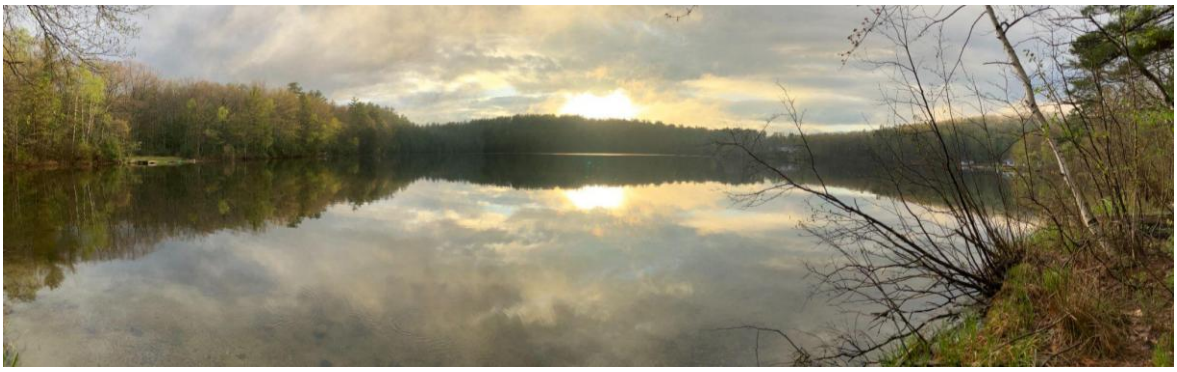
Biweekly Lakes			Change Over Time		
Lake	**Page**	**Analyses Reported**	**Total Phosphorus**	**Secchi Depth**	**Chlorophyll**
Adams Pond	22		Decreasing	Increasing	Stable
Back Pond	23 - 24		Stable	Increasing	Stable
Bear Pond	27 - 28		Stable	Stable	Stable
Brandy Pond	30		Stable	Decreasing	Increasing
Crystal Lake	32		Stable	Decreasing	Decreasing
Foster Pond	34		Stable	Decreasing	Stable
Granger Pond	35		Decreasing	Increasing	Stable
Hancock Pond	36 - 37		Stable	Stable	Decreasing
Highland Lake	38		Stable	Increasing	Decreasing
Island Pond	40 - 41		Increasing	Decreasing	Stable
Keoka Lake	43 - 44		Decreasing	Stable	Stable
Keyes Pond	45 - 46		Stable	Stable	Stable
Little Moose Pond	49		Stable	Decreasing	Stable
Long Lake (Middle)	51 - 52		Stable	Stable	Stable
Long Lake (North)	53		Stable	Decreasing	Stable
Long Lake (South)	54 - 55		Stable	Stable	Stable
McWain Pond	57 - 58		Stable	Stable	Decreasing
Middle Pond	59		Decreasing	Increasing	Decreasing
Moose Pond (Main)	60 - 61		Stable	Stable	Decreasing
Moose Pond (North)	62 - 63		Stable	Decreasing	Stable
Moose Pond (South)	64 - 65		Increasing	Stable	Stable
Peabody Pond	69 - 70		Stable	Increasing	Decreasing
Sand Pond	74 - 75		Stable	Decreasing	Stable
Stearns Pond	77		Stable	Stable	Stable
Trickey Pond	78 - 79		Decreasing	Decreasing	Increasing
Woods Pond	81 - 82		Stable	Stable	Stable

Annual Lake Index

This report focuses on the water testing programs that LEA reports on annually. Each program is represented by a unique image described on page 4

Annual Lakes			Change Over Time		
Lake	**Page**	**Analyses Reported**	**Total Phosphorus**	**Secchi Depth**	**Chlorophyll**
Beaver Pond, Bridgton	25		Stable	Increasing	Stable
Beaver Pond, Denmark	26		Stable	*	Stable
Bog Pond	29		Stable	*	Stable
Cold Rain Pond	31		Stable	Stable	Stable
Duck Pond	33		Stable	Stable**	Stable
Holt Pond	39		Stable	Stable**	Stable
Jewett Pond	42		Stable	Increasing	Stable
Kezar Pond	47		Stable	Increasing**	Stable
Little Pond	48		Stable	Stable**	Stable
Little Mud Pond	50		Decreasing	Stable	Decreasing
Long Pond	56		Stable	Decreasing**	Stable
Mud Pond	66		Stable	Stable	Decreasing
Otter Pond	67		Stable	Increasing	Decreasing
Papoose Pond	68		Stable	Increasing	Stable
Perley Pond	71		Decreasing	Stable	Stable
Pickerel Pond	72		Increasing	Stable	Stable
Pleasant Pond	73		Stable	Decreasing**	Stable
Sebago Cove	76		Stable	*	Stable
Webber Pond	80		Stable	*	Stable
*	Indicates that the Secchi disk visibly touched bottom most years. The resulting reading does not represent an accurate water clarity measurement and no long-term average nor trend is reported.				
**	Indicates that Secchi disk visibly touched bottom at least once between 1996 – 2025. Secchi disk readings that visibly touched bottom are excluded from long-term averages and trends.				

2025 Overview



This year, LEA welcomed back Catherine Wheaton from Reed College for her second season as water testing intern along with new interns Elly Burnham from Loyola University, Billy O'Connor from Villanova and Henry Baker from St. Lawrence University. Together, Catherine, Elly, Billy and Henry, with help from the Science Center team, collected hundreds of water samples which were analyzed for everything from basic water chemistry measures and chlorophyll concentration to more complex analyses like total phosphorus quantification.

There were multiple distinct warm spells, followed by cooler weather, throughout the summer. This resulted in a wider range of dates for peak water temperature than typically seen. About half of the monitored lakes recorded their seasonal temperature peaks in mid- to late July, while the other half saw temperature peaks in mid-August. Across LEA's service area, total phosphorus concentrations tended to be higher for the season. Water clarity was below average during the earlier, wetter part of the season but rebounded as the season progressed. Algal densities were highest in August, but there was a fair amount of variability in both high and low chlorophyll concentrations throughout the summer.

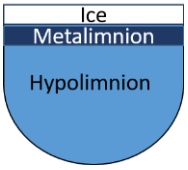
Rain events were more frequent during the spring and early summer and contributed to reduced water clarity and higher total phosphorus concentrations earlier in the season. However, as the season progressed, the Lake Region fell into drought conditions with very little precipitation. Overall, most measurements fell within the normal range for each lake. For the majority of lakes, water clarity, total phosphorus, and chlorophyll levels remained within the same water quality classification ranges as their long-term averages.

Thanks to those who facilitate our work by providing lake access and/or boat access to LEA staff!

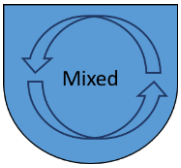
Introduction to Lake Science

Over the course of a year, many lakes shift between having a uniform temperature from top to bottom, to being separated into distinct, temperature-dependent layers (see figure). This layering, called stratification, occurs because water density changes with water temperature. The warmest, shallowest layer is called the epilimnion and is the least dense layer. The middle layer, is called the thermocline or metalimnion and is where water density and temperature changes rapidly. The coldest, deepest layer is called the hypolimnion and is the densest layer. The exact depths of each layer change over the course of the summer and from lake to lake and year to year.

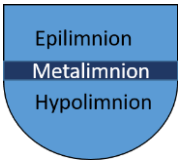
In a typical stratified lake, warm, shallow water stays separate from cold deep water, because density differences between the two layers prevents mixing. Stratification also prevents oxygen exchange between upper and bottom layers, which often results in significant differences in oxygen and nutrient concentrations. This is especially true in late summer and early fall when the well-oxygenated epilimnion and the hypolimnion have been separate for some time.



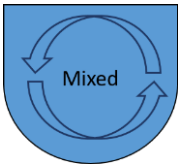
Winter - When air temperature drops below freezing for long enough, the surface of the lake can freeze over (ice-in). The lake stratifies into layers with coldest water near the ice and warmest (4 °C/39.2 °F) near the bottom. Ice and snow reduce the amount of sunlight reaching the water, though some plant growth does occur. With the water cut off from the atmosphere, oxygen concentrations will decline unless there is enough photosynthesis to replenish it.



Spring - After the ice melts (ice-out), rising air temperatures warm shallow waters until they are nearly the same temperature as deep waters. Then, aided by strong winds, shallow and deep waters mix together, redistributing nutrient and oxygen concentrations throughout the water column.



Summer - As air temperature increases, deeper lakes will gradually stratify into a warm upper layer and a cold bottom layer, separated by a thermocline (also called the metalimnion), a zone of rapid temperature change. The upper, layer is constantly mixed by winds, which "blend in" oxygen. The thermocline prevents colder, deeper waters from mixing with wind-mixed shallower waters. This can result in deep water oxygen depletion, which may negatively affect cold-water fisheries. Low oxygen levels at the bottom of the lake can also cause the release of sediment-stored phosphorus. If that happens, the lack of mixing due to the thermocline can lead to buildup of phosphorus in the deep waters.



Fall - As air and wind temperatures decrease, shallow waters cool until they are nearly the same temperature as deep waters. As in Spring, when water temperature is similar from top to bottom, strong winds cause the lake to turn over, which allows oxygen to be replenished throughout the water column. Any accumulated phosphorus also gets mixed up from the bottom.

Due to the nature of stratification, which does not allow for oxygen exchange between the top and bottom layers, oxygen and nutrient concentrations often differ significantly between the upper and lower portions of a stratified lake. This is especially true in late summer. Lack of nutrient and oxygen exchange has several consequences for the lake. Light penetration is greatest near the top of the lake, meaning that algae growth primarily occurs in the epilimnion. Algae growth will sometimes peak near the thermocline, often in lakes with deep light penetration and higher hypolimnetic phosphorus levels. Oxygen levels in the epilimnion are constantly replenished through wind mixing, but the hypolimnion is cut off from the atmosphere, leaving it with a fixed volume of oxygen, which is slowly used up over the summer. This can affect cold-water fish species in some lakes. Phosphorus, the limiting element controlling algae growth in our lakes, is often more abundant in the hypolimnion because it is stored in sediments.

Helpful Terms

Water clarity, or simply **Clarity**, is a measure of how transparent lake water is to light. Clarity is measured by noting the depth in meters at which a Secchi disk can no longer be seen. Higher Secchi depth values indicate clearer water.

Temperature is a measure of heat content of the lake water. Temperature is measured by lowering a probe into the water. The probe is allowed to adjust to temperature conditions at one-meter intervals from the surface to the bottom of the lake. Temperature data are recorded and used to assess thermal stratification.

Dissolved oxygen is the concentration of gaseous oxygen dissolved in lake water. Dissolved oxygen is measured with the same probe as temperature at one-meter intervals from the surface to the bottom of the lake. It is measured in parts per million (ppm).

Chlorophyll-*a* is a pigment found in all plants, including algae. Chlorophyll is used to estimate the amount (or biomass) of algae present in the water column, which is an indicator of lake productivity. Samples are collected from the top layer (epilimnion) of a lake and brought to the Maine Lake Science Center (MLSC) for analysis. Chlorophyll concentrations are measured in parts per billion (ppb).

Epilimnetic total phosphorus is the concentration of all forms of phosphorus in the epilimnion. It is measured as an alternate indicator of lake productivity and to determine the potential for algae growth. Phosphorus samples are collected from the lake's upper layer (epilimnion) and are brought to the MLSC for analysis. Epilimnetic total phosphorus samples tell us how much phosphorus is available for algae in the sunlit portion of a lake, where the algae grow. Phosphorus is measured in parts per billion (ppb).

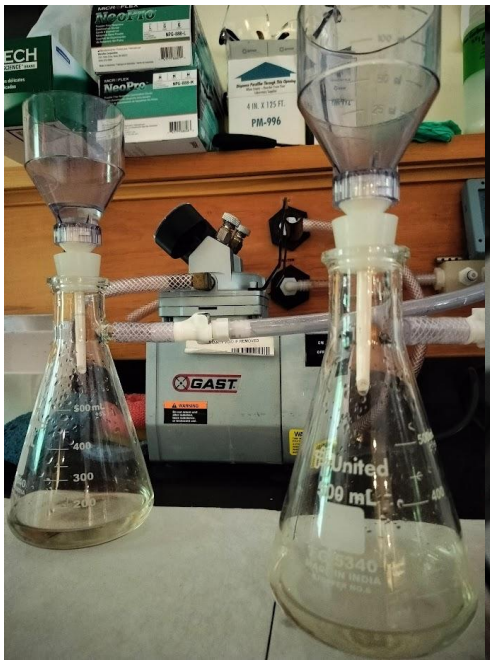
Deep-water total phosphorus samples are collected at specific depths below the thermocline (middle layer) in late August when oxygen levels are below 2 mg/L. Deep water samples showing high phosphorus levels (10 ppb or higher than upper layer phosphorus samples) indicate that sediments may be releasing phosphorus (internal phosphorus loading) and that the lake is potentially susceptible to future algal blooms.

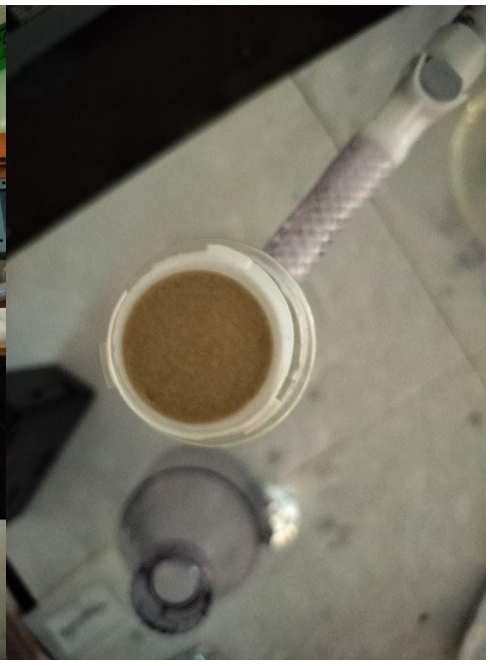
Methods

Water Quality Monitoring

For decades, Lakes Environmental Association has watched over the water quality of as many as 41 lakes in our service area (see page 3). While water quality monitoring in LEA's service area occurs year-round, this report describes data collected for our traditional, baseline water quality monitoring program. Traditional baseline monitoring occurs every year from late spring through early fall. This monitoring consists of either biweekly or annual visits to a lake, where we measure water and environmental conditions at the deepest point of the waterbody. While at the deep spot, water samples are collected for further processing and analysis at our Maine Lake Science Center (MLSC).

The combination of service area size and frequency of monitoring visits produces too much data to summarize in one report. For this reason, this report focuses on the current conditions and long-term trends of three water quality indicators: chlorophyll-*a* concentration, total phosphorus concentration, and water clarity. When considered together, these three measurements help us to describe general water quality conditions both this year and over time. If you have any questions about data presented here or about data not included in this report, please call or visit LEA's website. Our data are also shared with Maine's Department of Environmental Protection and are made available to the public through the Lakes of Maine website.





Left: LEA's chlorophyll filtering apparatus. Filters are placed on a small pedestal held in place by a funnel.

Right: the filter holds whatever algae was suspended in the water sample. Analysis of the filter is used to determine how much chlorophyll was in the original water sample.

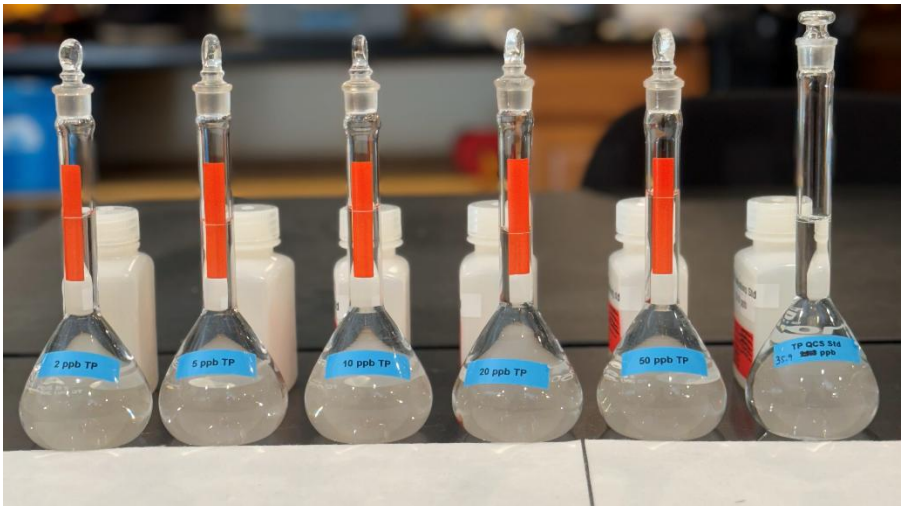
Field Methods

LEA visits 26 sampling sites biweekly from May through September. We visit an additional 19 sites in late August. For each lake visited, we travel by boat to the deepest portion of the waterbody to collect: a clarity (Secchi depth) measurement, a *Gloeotrichia echinulata* density estimate, weather observations, and temperature and oxygen profiles. We also collect a water sample from the epilimnion (the warm, sunlit, upper waters), which is brought back to the Maine Lake Science Center for chlorophyll-*a*, total phosphorus, and basic water chemistry analysis (pH, alkalinity, color, and conductivity).

Example of water testing equipment brought onto the water every visit.

Lab Methods

Once returned to the MLSC, water samples are analyzed for basic water chemistry analysis (pH, alkalinity, color, and conductivity), then filtered and frozen (or just frozen) for later analyzed for later chlorophyll-*a* and total phosphorus analysis.



Flasks containing calibration solutions used to determine total phosphorus concentrations in lake water samples.

Data Analysis Methods

Long-term Trend Analysis for Clarity, Chlorophyll-a, and Total Phosphorus

Available data from 1996-2025 were analyzed for trends in clarity, chlorophyll-*a,* and total phosphorus data. Data trends help us estimate the relationship between a water quality parameter and time. We use the Mann-Kendall Trend Test to determine if the data increased or decreased significantly ($p < 0.05$) over time. Parameters with no significant trend were considered stable. Both chlorophyll-*a* and total phosphorus are measured in parts per billion (ppb), while clarity is measured in meters (m). Secchi depth values recorded when the disk hit the bottom were removed before doing the trend test.

	Trend Interpretation		
	Increasing	**Stable**	**Decreasing**
Clarity	Deeper clarity readings over time	No trend	Shallower clarity readings over time
Chlorophyll-*a*	Higher chlorophyll concentrations over time	No trend	Lower chlorophyll concentrations over time
Total Phosphorus	Higher total phosphorus concentrations over time	No trend	Lower total phosphorus concentrations over time

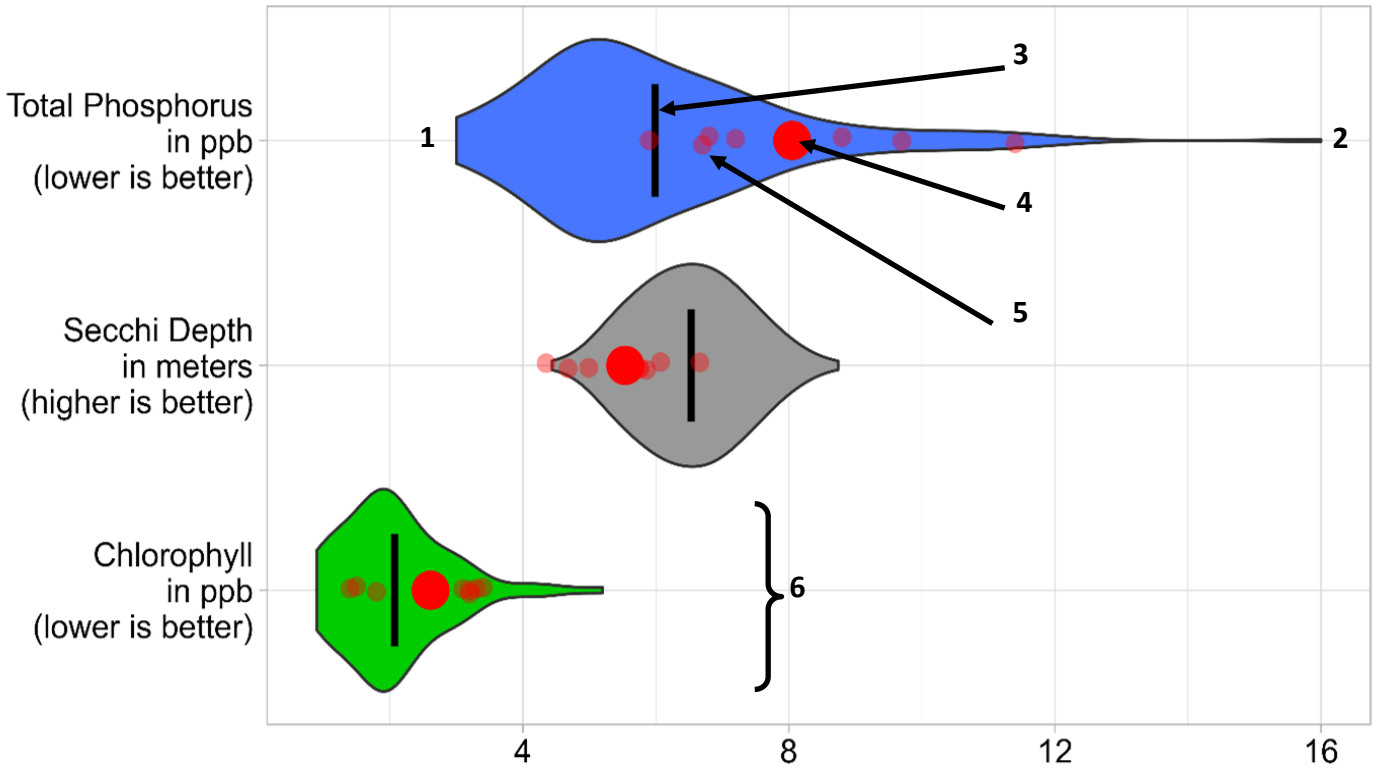
2025 and Long-Term Water Quality Classification

Clarity, chlorophyll-*a,* and total phosphorus data from both the 2025 monitoring season and our long-term dataset were averaged and classified according to LEA's water quality indices, outlined below. The 2025 average is a simple mean of all data collected for each parameter in 2025. The long-term average is a simple mean of all the data we have on record for each reported parameter. The long-term average doesn't tell us how each parameter changes over time; it is instead used to see how the current year's data compares to historical values.

LEA's Water Quality Index					
Clarity in meters (m)		**Phosphorus in parts per billion (ppb)**		**Chlorophyll-*a* in parts per billion (ppb)**	
10.1 +	Very high	less than 5.1	Low	less than 2.1	Low
7.1 – 10.0	High	5.1 – 12.0	Moderate	2.1 – 7.0	Moderate
3.1 – 7.0	Moderate	12.1 – 20.0	High	7.1 – 12.0	High
less than 3.1	Low	20.1 +	Very high	12.1 +	Very high

Interpreting Data Graphics

Graphs have been included for each test site to visually compare 2025 data to long- term data (1996—2025). The vertical axis (y-axis) indicates the relative abundance of readings at each value, while the horizontal axis (x-axis) represents reported values. Three different parameters are being reported on the same graph, which results in the scale of the horizontal axis varying, based on results. Area thickness increases as more measurements are reported at that value. Thus, thicker areas indicate that several measurements have been reported at that value, while thinner areas indicate that fewer measurements have been reported at that value. Each colored area is adjusted to have the same maximum thickness regardless of observation number.



1. Long-term minimum value — far left edge of colored area, lowest value on record
2. Long-term maximum value — far right edge of colored area, highest value on record
3. Long-term average value — vertical black bar bisecting colored area
4. 2025's average value — large red dot
5. 2025's raw values — smaller red dots
6. Thickness of colored area — number of past measurements at each value

High-Resolution Temperature Monitoring

Temperature has a direct impact on the metabolism, growth, and behavior of aquatic organisms. Different species have specific temperature ranges within which they thrive, and deviations can affect their survival and reproduction. Additionally, temperature influences the physical, chemical, and biological characteristics of lake water, making it an important parameter to measure and track.

Over the course of a year, many lakes shift between having a uniform temperature from top to bottom and having separate layers with different temperatures. This layering, also called stratification, is described in detail on page 8. The warmest and most shallow layer is called the epilimnion, while the coldest, deepest layer is called the hypolimnion. In between those is a layer called the metalimnion (or thermocline), where temperature rapidly decreases with depth. Lake temperature and stratification are greatly influenced by the weather. Air temperature, precipitation, and wind speed and direction can all affect water temperature and stratification patterns from year to year. Lake size, depth, and shape also greatly impact stratification timing and strength.

In order to capture and understand variations in lake temperature and stratification, high-frequency temperature monitoring is used. Since 2013, LEA has been using in-lake sensors to acquire high-frequency temperature measurements on select lakes from early spring through mid-fall. The sensors, which are also interchangeably referred to as HOBO loggers, provide a detailed record of temperature fluctuations within lakes and ponds in our service area.

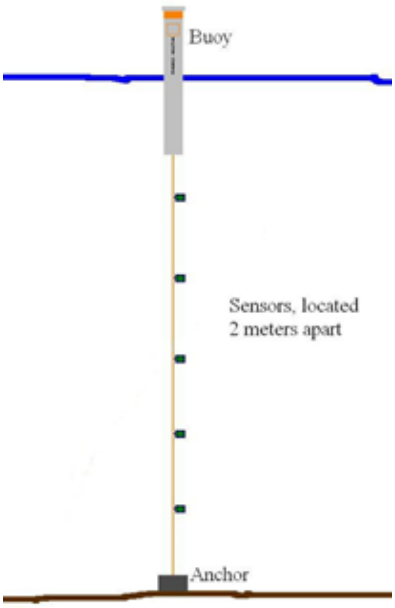
Morgan Cross helping remove a HOBO buoy on Moose Pond.

Methods

In 2025, LEA deployed temperature sensor arrays at 16 sites on 13 lakes with funding and support from local lake associations. Each array consists of several HOBO temperature loggers attached to a floating line that is held in place by a regulatory-style buoy and an anchor. The loggers are attached at two-meter intervals, beginning one meter from the bottom and ending approximately one meter from the top. Each buoy apparatus is deployed at the deepest point of the basin it monitors. The setup results in the loggers being located at odd numbered depths throughout the water column (the shallowest sensor is approximately one meter deep, the next is three meters, etc.).

A HOBO temperature sensor

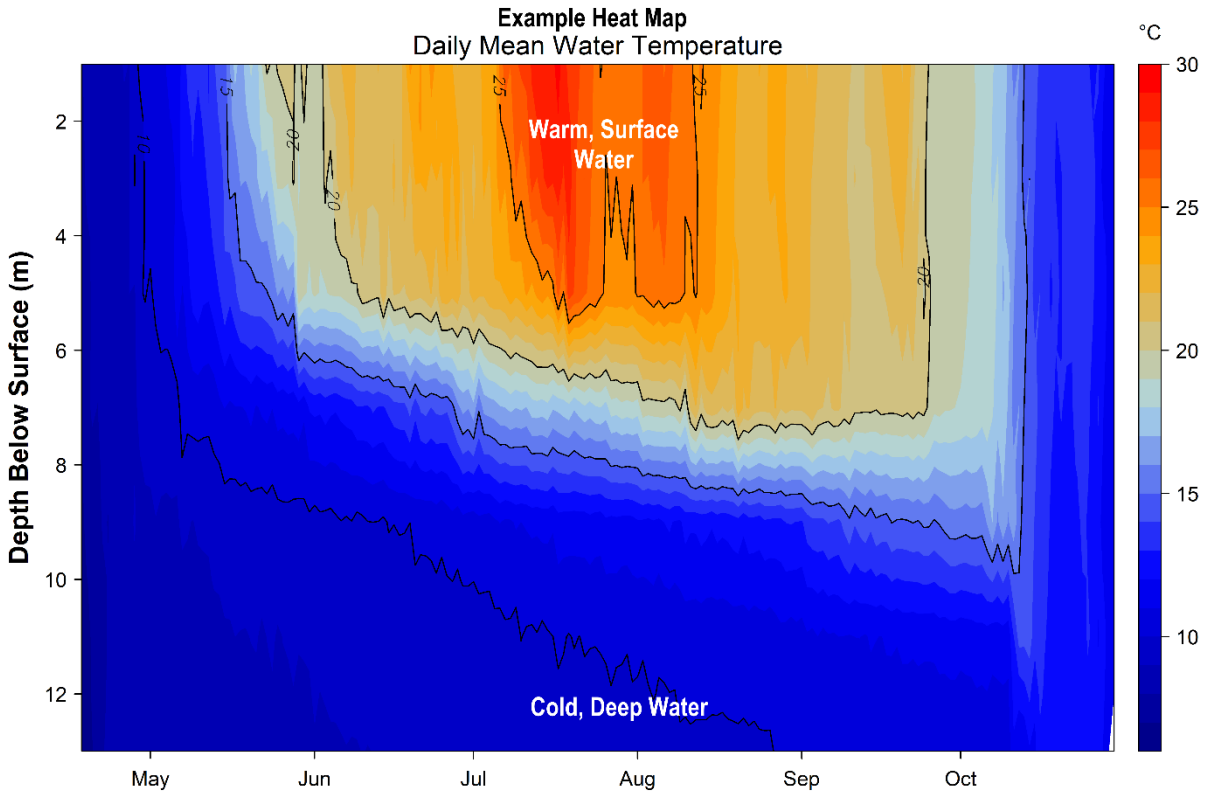
The HOBO data loggers are programmed to record temperature readings every 15 minutes, and we deploy them from spring to fall in order to capture stratified conditions. LEA also uses a handheld YSI meter to collect water temperature data on each of the traditional boat-based water testing trips. This method yields more temperature data with depth, but it is time intensive and produces only eight temperature profiles per year. While the temperature sensor arrays require an initial time investment, once deployed, the loggers record over 15,000 profiles before they are removed in the fall. This wealth of data provides much greater detail and clarity than the traditional method ever could. Daily temperature fluctuations, brief mixing events caused by storms, the date and time of stratification set up and breakdown, and the timing of seasonal high temperatures are all valuable and informative events that these buoy-based systems record and that traditional sampling doesn't usually capture.



Left: Schematic of HOBO logger placement on temperature buoy.

Right: Sensor lines ready for deployment

High-Frequency Temperature Monitoring: How to Read the Graphs



Temperature monitoring summaries on the following pages include a temperature heat map for each lake, displaying data collected in the 2025 season. Temperature heat maps show temperature across depth and time and were generated using daily mean temperature values, which smooths out noisy data. Temperature is represented by colored contours, where the red to blue color range corresponds to a high to low temperature range. The vertical bar on the right side of the temperature map indicates the temperature each color represents in degrees Celsius (°C). The horizontal axis shows the months sensors were deployed, while the left-hand vertical axis shows sensor depth (in meters) below the water's surface.

Temperature stratification shows up as areas of the plot where colors change in the vertical direction and contour lines are tilted more towards horizontal (from June through early November). The area where temperature changes most rapidly with depth is often referred to as the thermocline. Vertical contour lines indicate mixed conditions, and areas of a single color from top to bottom (such as late-October into November) indicate completely mixed conditions. Warm, stratified conditions stand out as darker orange to red areas. Large gaps between lines means there is a small temperature change with depth.

During stratification, the shallower waters do not easily mix with the deeper waters. It is only when the temperature of the upper water cools down that the lake can fully mix. You can see this process happening on each graph: the temperatures near the surface get cooler and the deeper waters get warmer as the barrier between the two layers weakens and the waters begin to mix. The lines converge one by one until the temperature is the same at each depth. This is known as lake turnover or de-stratification.

Algae Monitoring Program via Fluorometry

Not only do algae form the base of the aquatic food web, providing essential nutrition for various organisms, they contribute significantly to oxygen production through photosynthesis, influencing the overall oxygen levels in aquatic environments. Because algae are sensitive to and respond quickly to changes in their habitat, they are considered indicators of water quality. Fluorometric data allows us to understand where chlorophyll, and therefore algae, is in the water column, which helps us interpret changes in oxygen concentrations and assess overall water quality.

This report focuses on estimating algal populations via fluorometry. LEA began using a fluorometer to estimate chlorophyll concentrations in lakes in 2016. The fluorometer works by emitting blue light at a specific wavelength, which causes chlorophyll molecules inside of algal cells to enter a high-energy ("excited") state. When the molecules return to their normal state, they give off light (fluoresce) at a different wavelength. The fluorometer measures the strength of this return fluorescence. The stronger the fluorescence, the more chlorophyll (and by extension, algae) is present.

Fluorometric chlorophyll monitoring in LEA's service area occurs every year during late spring through early fall. Monitoring consists of monthly visits to the deepest spot in participating lakes, where we measure relative chlorophyll concentrations in lake water using a fluorometer. This information contributes to our long-term understanding of algal presence throughout the water column.

Field Methods

Once a month, during regular water monitoring visits, chlorophyll fluorescence profiles were collected by lowering a Cyclops 7 submersible fluorometer into the water. Readings were collected at one-meter intervals from the surface to the bottom of the lake. This data provides a detailed record of fluorescence variation throughout the water column.

Left: Turner Designs Cyclops 7 Fluorometer with hand-held data logger

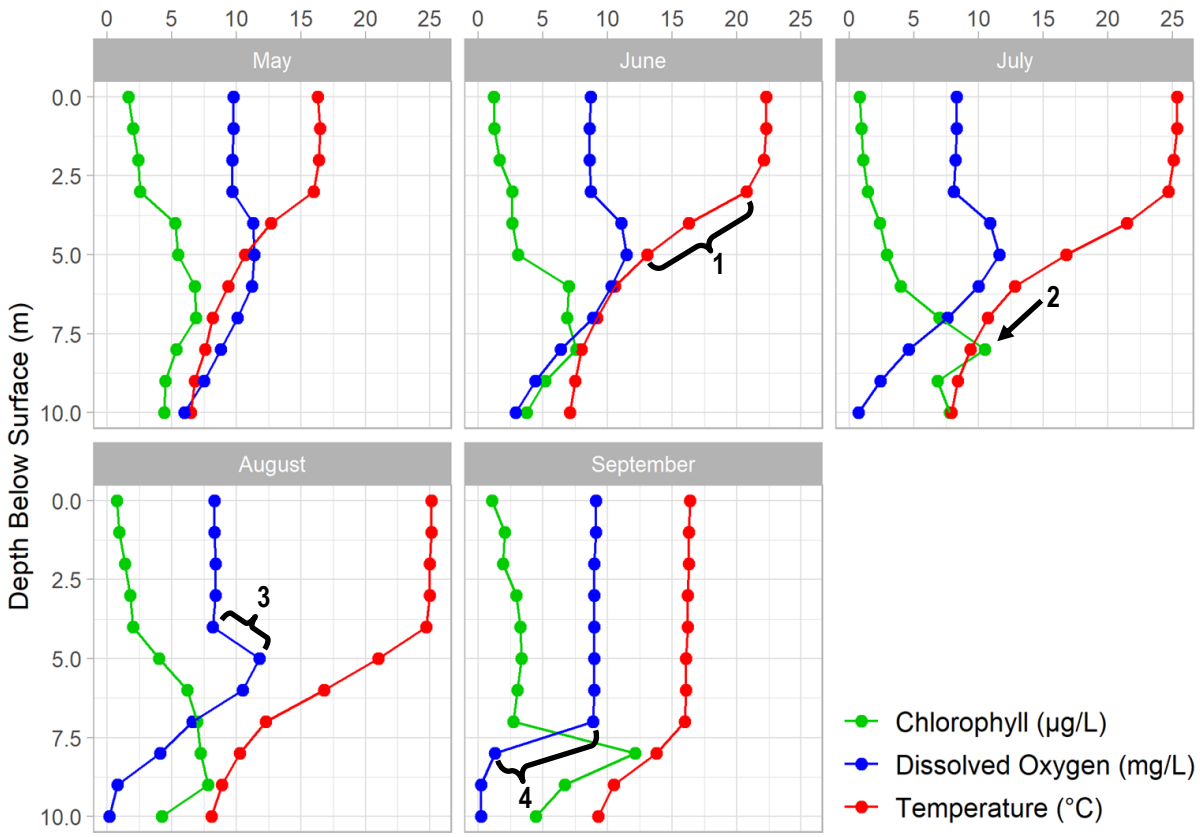
Right: Catherine Wheaton collecting a fluorometer profile

Data Analysis Methods

The fluorometer reports results in Relative Fluorescence Units (RFUs). This is converted to a concentration based on the calibration of the instrument. Fluorescence profiles were then combined with dissolved oxygen and temperature profiles to allow us to better interpret fluorescence data. Unlike the lab chlorophyll-*a* samples LEA collects, which are composite samples from the upper layer of each lake, the fluorometer measures chlorophyll at discrete depths from the top of the water column to the bottom. From this data, we can graph relative chlorophyll concentrations to see where algae are concentrated within the lake.

It is important to note that fluorometric measurements are not a direct comparison to data obtained through the chlorophyll-*a* sampling done on each lake during regular water testing. Chlorophyll-*a* concentrations measured by the fluorometer are to be treated as approximate; the instrument provides a relative chlorophyll concentration which is not as accurate as lab-based testing but is very useful for viewing patterns within a lake.

Summaries and Interpreting Lake Fluorometry Data Graphics



Graphs (see example above) have been included for each test site to visually compare fluorometer, temperature, and oxygen profiles from May through September. The vertical axis (y-axis) indicates depth below the surface, while the horizontal axis (x-axis) represents reported values. Three different parameters are being reported on the same graph, which results in the value units for the horizontal axis varying, based on parameter. Units are noted in parentheses in the legend.

Each graphic contains five graphs, one for every month in LEA's water monitoring season. Each graph contains a green line, representing chlorophyll concentration, a blue line, representing dissolved oxygen concentration, and a red line, representing temperature. The shape of each line changes from month to month as each parameter changes. Some typical features seen in the data are:

1 = Rapid change in temperature (thermocline)
2 = Fluorescence increase
3 = Oxygen increase
4 = Oxygen decrease

Algae Identification Via Flow Imaging Microscopy

LEA uses a FlowCam Cyano flow imaging microscope (FlowCam) to quantify algal community composition of water samples collected from lakes and ponds. The FlowCam system draws water samples through an optical flow cell and uses a microscope objective and high-speed camera to detect, photograph, count, and measure fluorescing particles (mostly algae) ranging in diameter from 10 µm—100 µm. Each run stopped after 700 particles were captured or 7.5 mL of sample was processed, and a minimum of two runs were done for each lake sample to ensure the best representation of the algal community composition. We filtered samples with 100 µm Nitex mesh, which prevented flow cell clogging and excluded particles larger than 100 µm in diameter from the analysis. Also excluded from the analysis were non-algal particles and images with more than one type of particle.

Images that can be identified are sorted into groups based on taxonomic division. When possible, we identify algal particles to the genus level, which is the taxonomic level below family and above species. Particles that can be identified to genus level are further sorted into functional groupings based on potential water quality changes associated with high densities of that genus. Images showing particles that are clearly not algae are not included in community composition analysis. In this report, we have listed the 3 dominant types of algae identified and categorized by genus. We have also noted whether there were any problematic or nuisance algae and whether the amount was at a level of concern for water quality.

Flow Microscopy Collection Methods

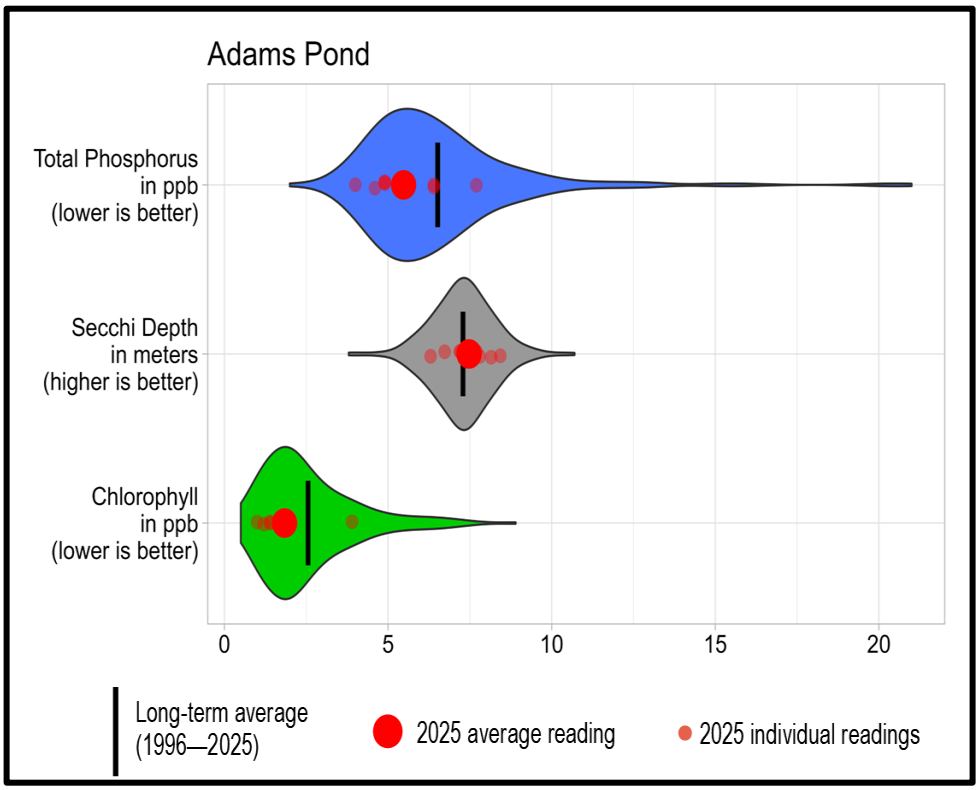
LEA staff collected integrated surface water samples from the deep location on each lake. Sampling was done once monthly during our regular August and September lake monitoring visits. The sample water was returned to the Science Center the same day it was collected, stored overnight in a refrigerator, and analyzed with the FlowCam the following day.

Right: Example of images of algae produced by the FlowCam

Lake Summaries

Adams Pond – MIDAS 3396

Water Quality



Total Phosphorus

2025 Average: 5.5 ppb, which is below the long-term average

- moderate amounts overall
- high phosphorus readings and low oxygen concentrations near the bottom indicate some level of internal phosphorus loading

Trend: decreasing phosphorus levels over time

Secchi Depth

2025 Average: 7.5 meters, which is near the long-term average

- high clarity overall

Trend: increasing clarity over time

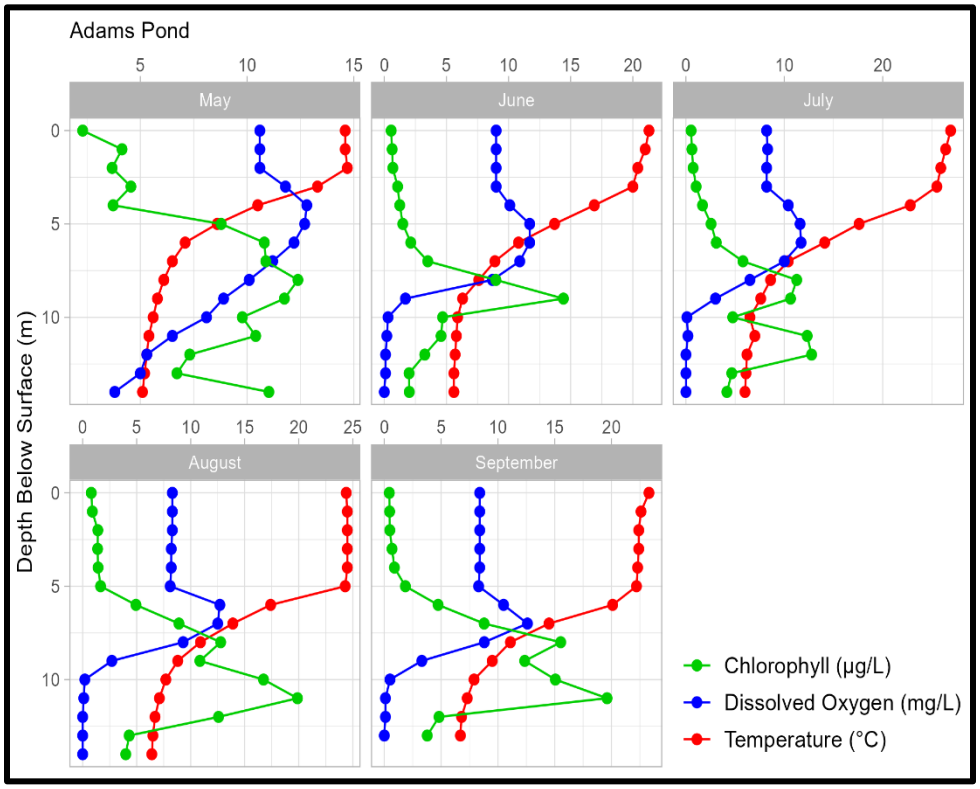
Chlorophyll

2025 Average: 1.8 ppb, which is below the long-term average

- low amounts overall

Trend: stable chlorophyll over time

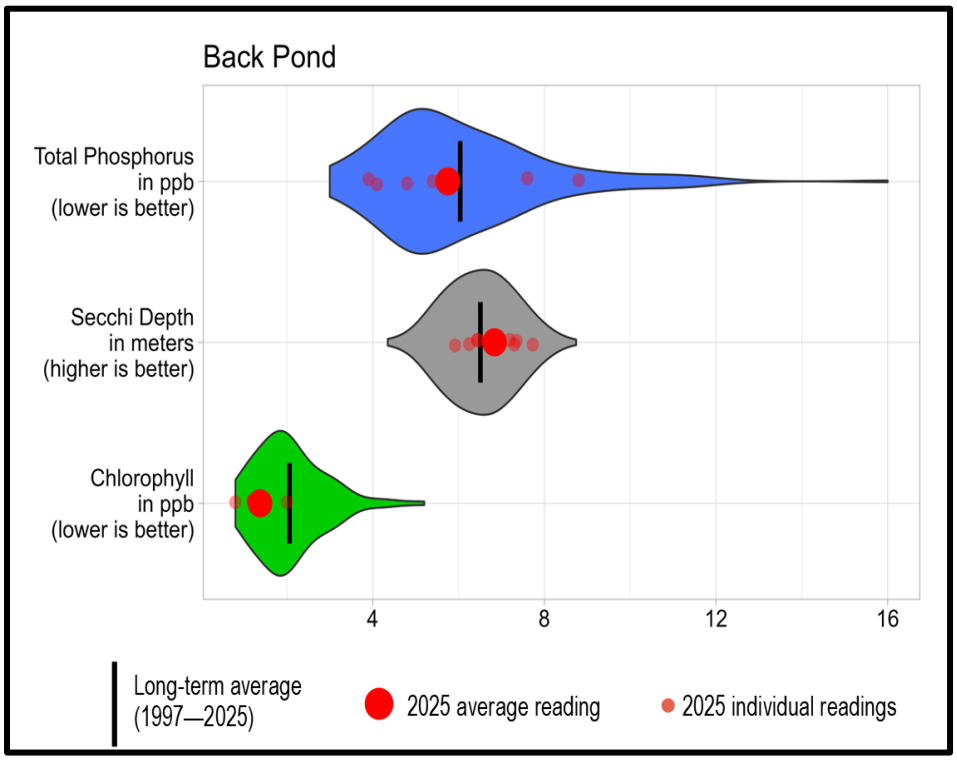
Algae Monitoring via Fluorometry



- No algae blooms were observed this season
- High water clarity facilitated algae growth deep into the water column
- Fluorescence tended to be highest below 7 meters indicating algae growth was highest below the portion of the water column people typically use

Back Pond – MIDAS 3199

Water Quality



Total Phosphorus
2025 Average: 5.8 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

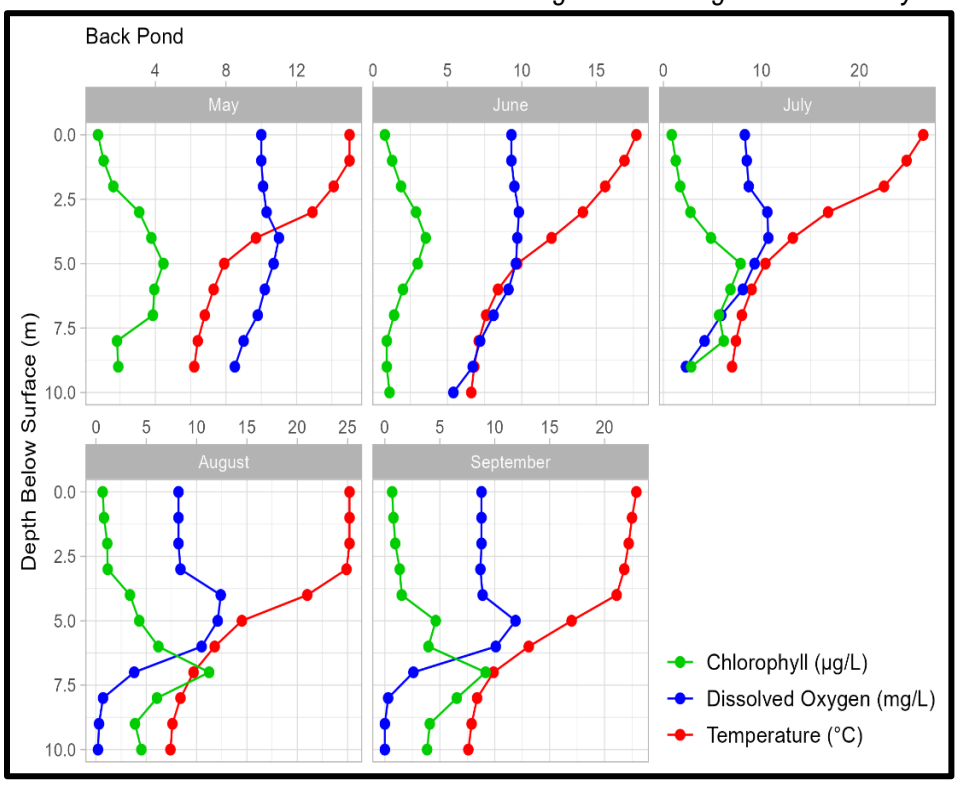
Secchi Depth
2025 Average: 6.8 meters, which is near the long-term average
- moderately clear overall

Trend: increasing clarity over time

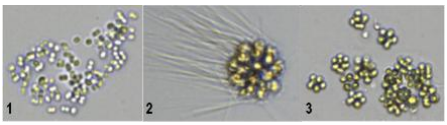
Chlorophyll
2025 Average: 1.4 ppb, which is below the long-term average
- low amounts overall

Trend: stable chlorophyll over time

Algae Monitoring via Fluorometry

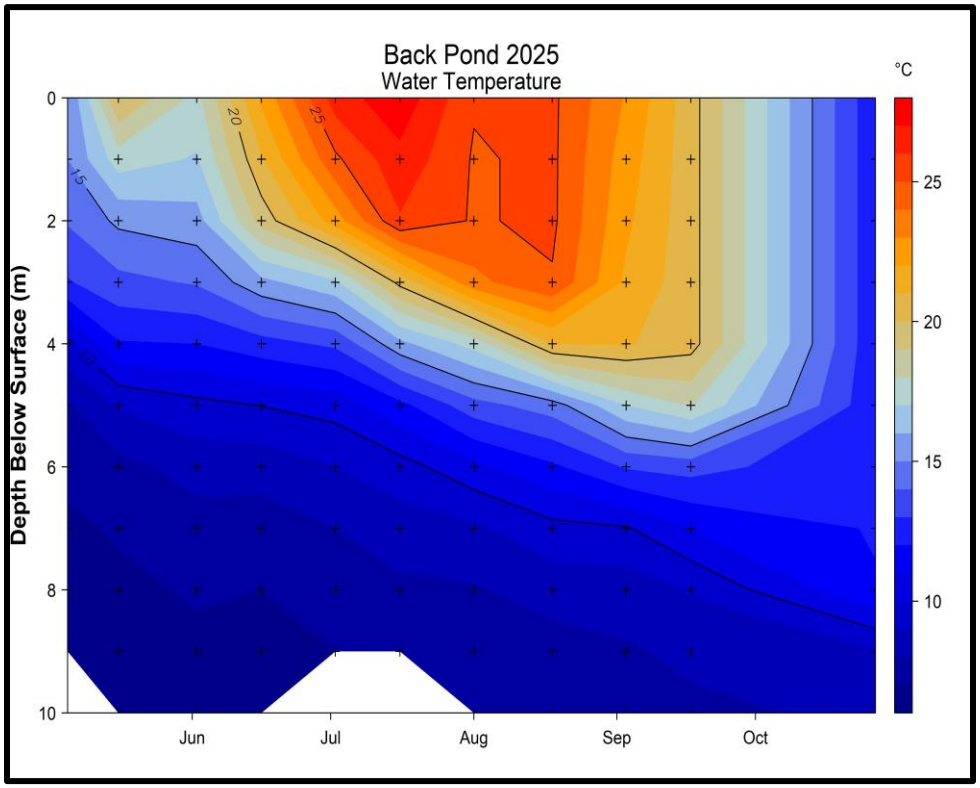


- No algae blooms were observed this season.
- Fluorescence tended to be highest below 4 meters indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Aphanocapsa* (cyanobacteria), 2) *Chrysosphaerella* (chrysophyte), and 3) *Sphaerocystis* (chlorophyte)



- Despite finding multiple nuisance algae genera, none of the taxa in those groups were found at high enough densities to cause concern.

High-Resolution Temperature Monitoring



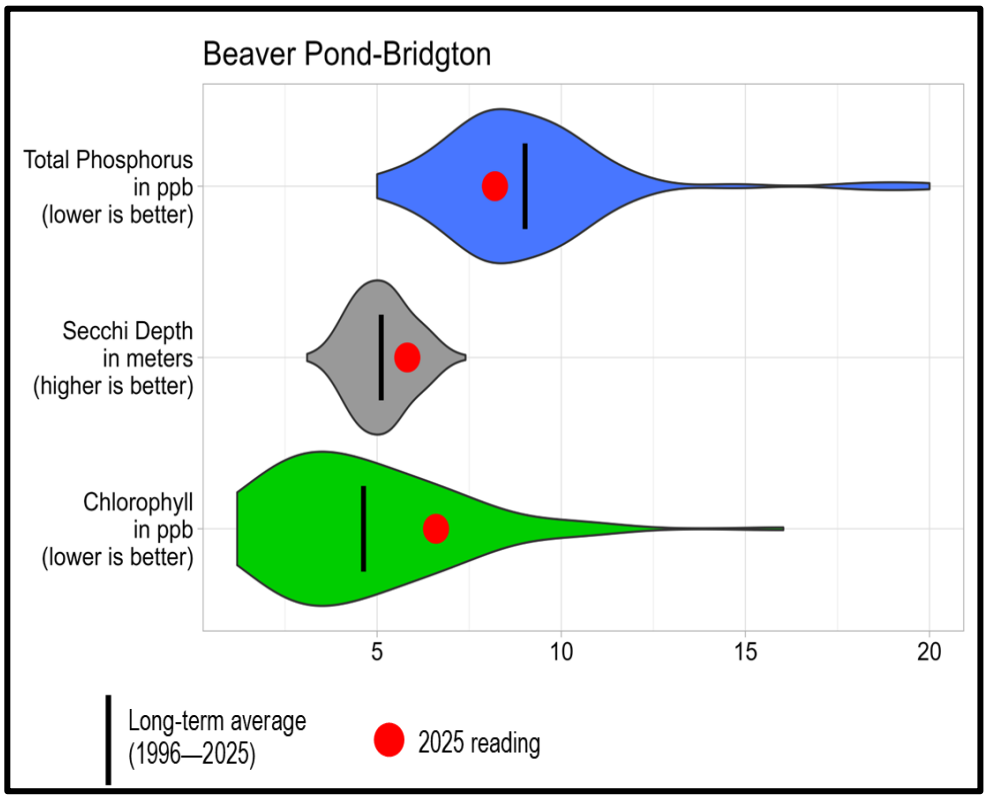
- The water column of Back Pond was stratified when sensors were deployed.
- Surface water temperatures increased gradually over the summer and there were at least two distinct warm periods. Peak temperature was recorded in mid-July.
- Temperatures throughout the water column were becoming more uniform but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring, represented by a + symbol, were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Peak Temperature Date	Full Mixing	Retrieval Date
4/23/2025	26.7/ 80.1	7/16/2025	After Retrieval	10/27/2025

Back Pond is one of the staff's favorite water testing locations.

Beaver Pond, Bridgton – MIDAS 5582

Water Quality



Total Phosphorus
2025 Average: 8.2 ppb, which is below the long-term average.
- moderate amounts overall
- high phosphorus readings and low oxygen concentrations near the bottom indicate some level of internal phosphorus loading

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 5.8 meters, which is deeper than the long-term average
- moderate clarity overall

Trend: increasing clarity over time

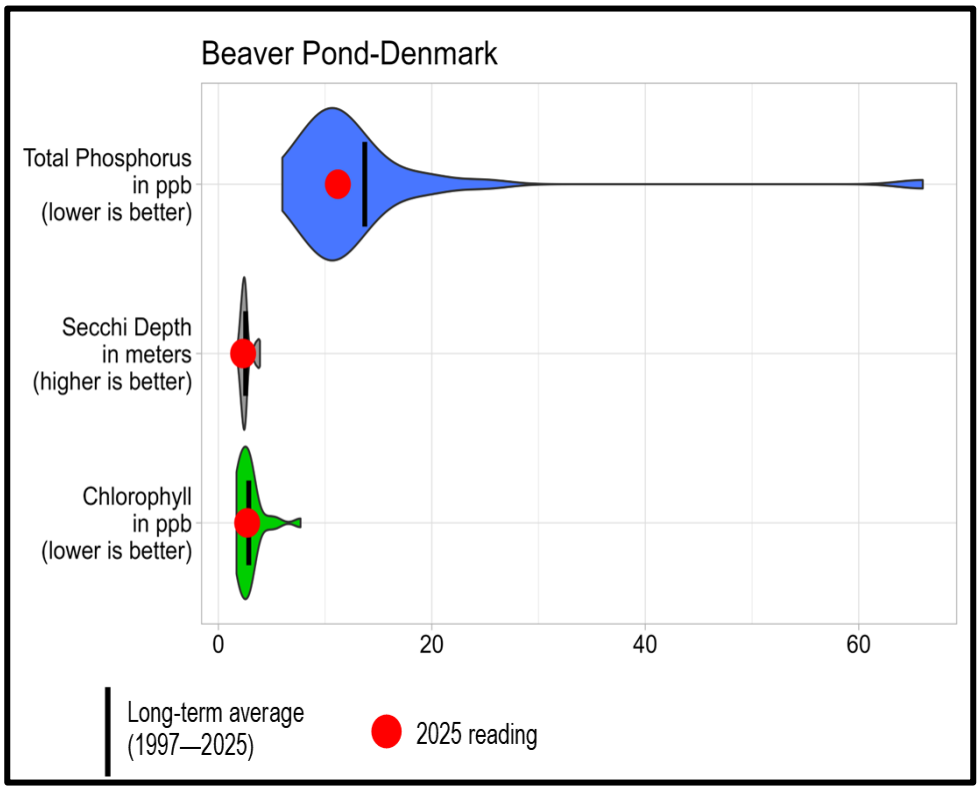
Chlorophyll
2025 Average: 6.6 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels

Intern Elly Burnham collecting August grab samples. These samples are analyzed for total phosphorus concentration to help assess the potential for phosphorus recycling.

Beaver Pond, Denmark – MIDAS 3124

Water Quality



Total Phosphorus
2025 Average: 11.2 ppb, which is below the long-term average
- moderate to high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average**:** not reported
- Secchi disk hit bottom during reading

Trend: stable clarity– trend calculated using data from those years when the Secchi disk didn't hit bottom

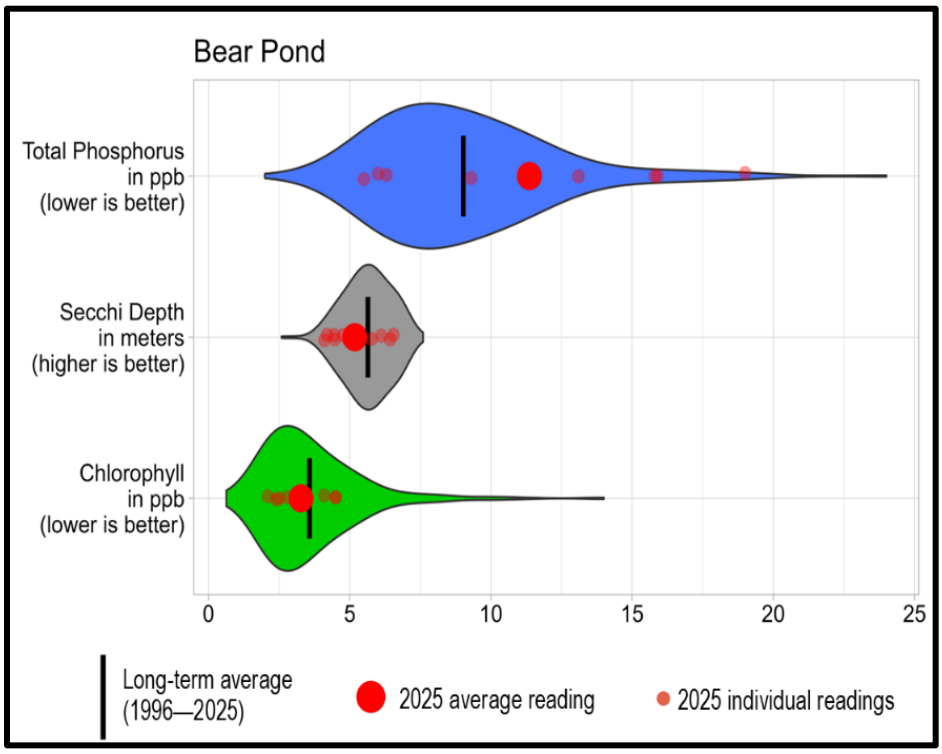
Chlorophyll
2025 Average: 2.7 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

LEA's "Adam Perron" packed and ready for water testing.

Bear Pond – MIDAS 3420

Water Quality



Total Phosphorus

2025 Average: 11.4 ppb, which is above the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 5.2 meters, which is shallower than the long-term average

- moderate clarity overall

Trend: stable clarity over time

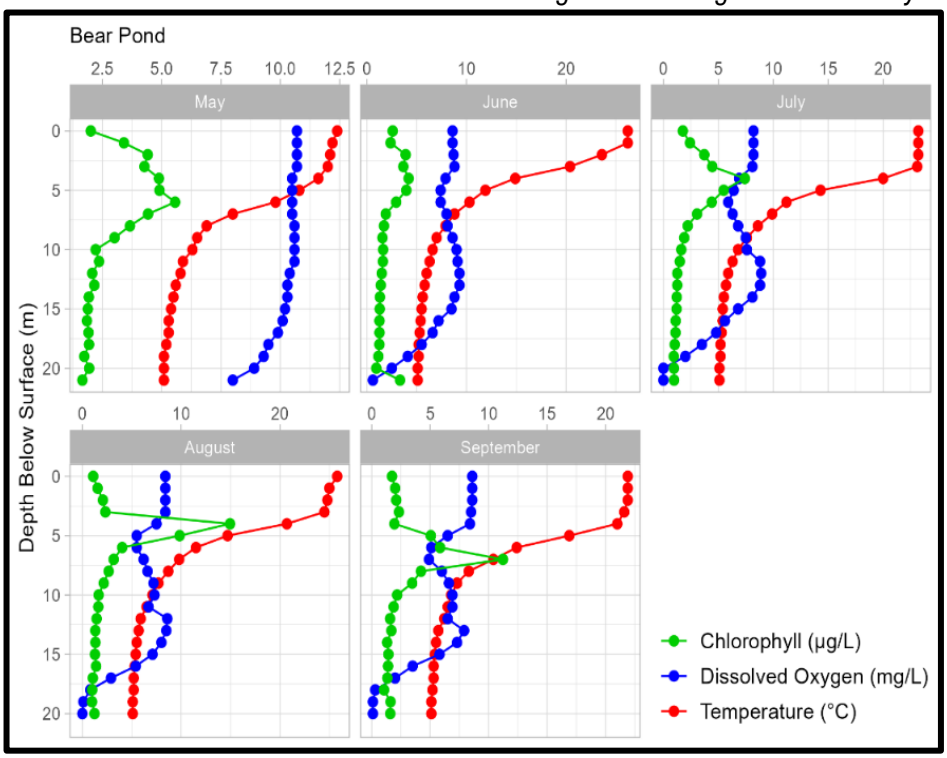
Chlorophyll

2025 Average: 3.3 ppb, which is near the long-term average

- moderate amounts overall

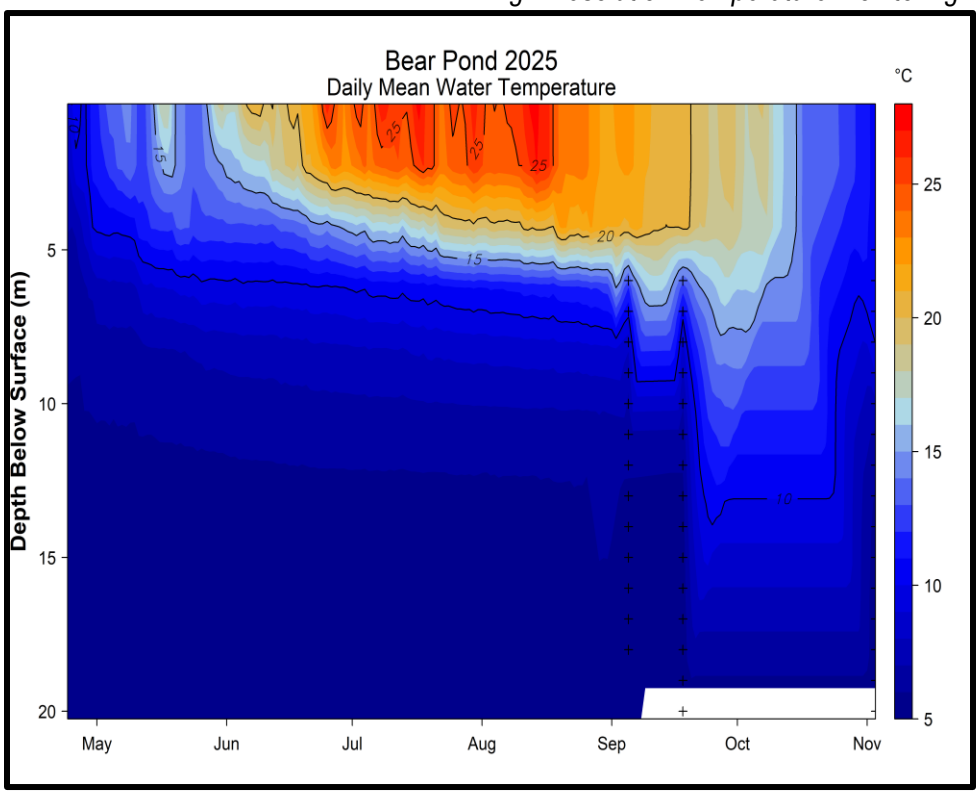
Trend: stable chlorophyll levels over time

Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest near the thermocline between 4-7 meters indicating algae growth was highest below the portion of the water column people typically use

High-Resolution Temperature Monitoring



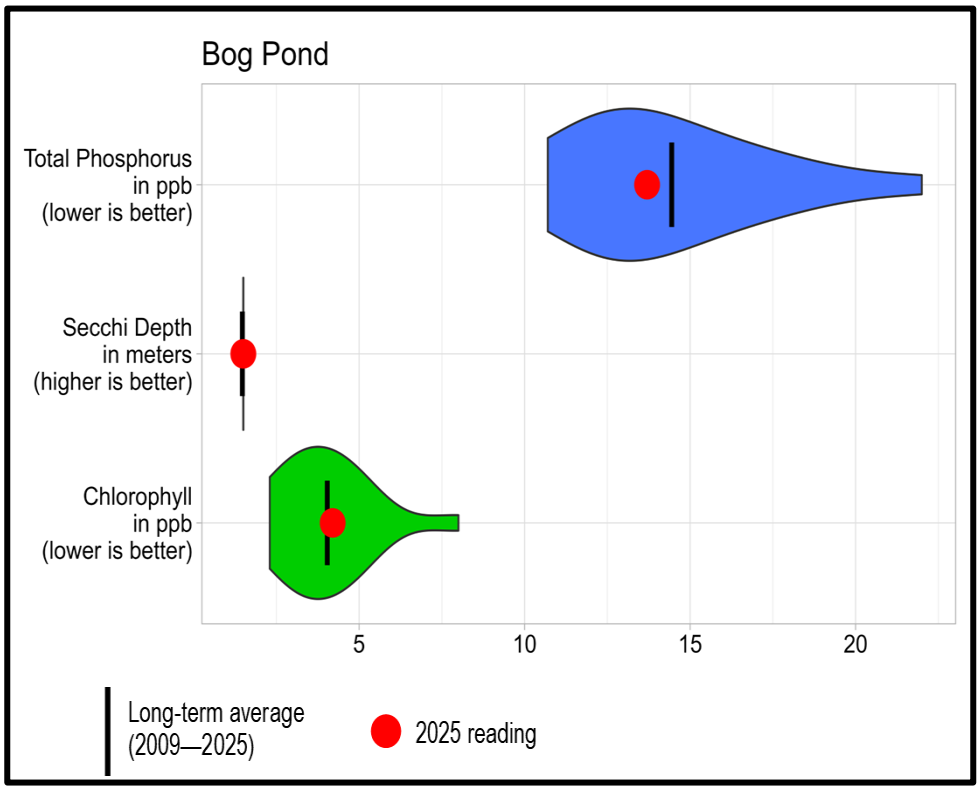
- The water column of Bear Pond was weakly stratified when sensors were deployed.
- There were five distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in both June and July. However, this season's peak temperature was recorded in mid-August
- Temperatures throughout the water column were becoming more uniform, but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring, represented by a + symbol, were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/24/2025	28.4/ 83.1	8/14/2025	After Retrieval	11/03/2025

View of Bear Pond from Camp Wigwam.

Bog Pond – MIDAS 3417

Water Quality



Total Phosphorus
2025 Average: 13.7 ppb, which is below the long-term average
- high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: not reported
- Secchi disk hit bottom during reading

Trend: not reported because Secchi disk has hit the bottom each year measured

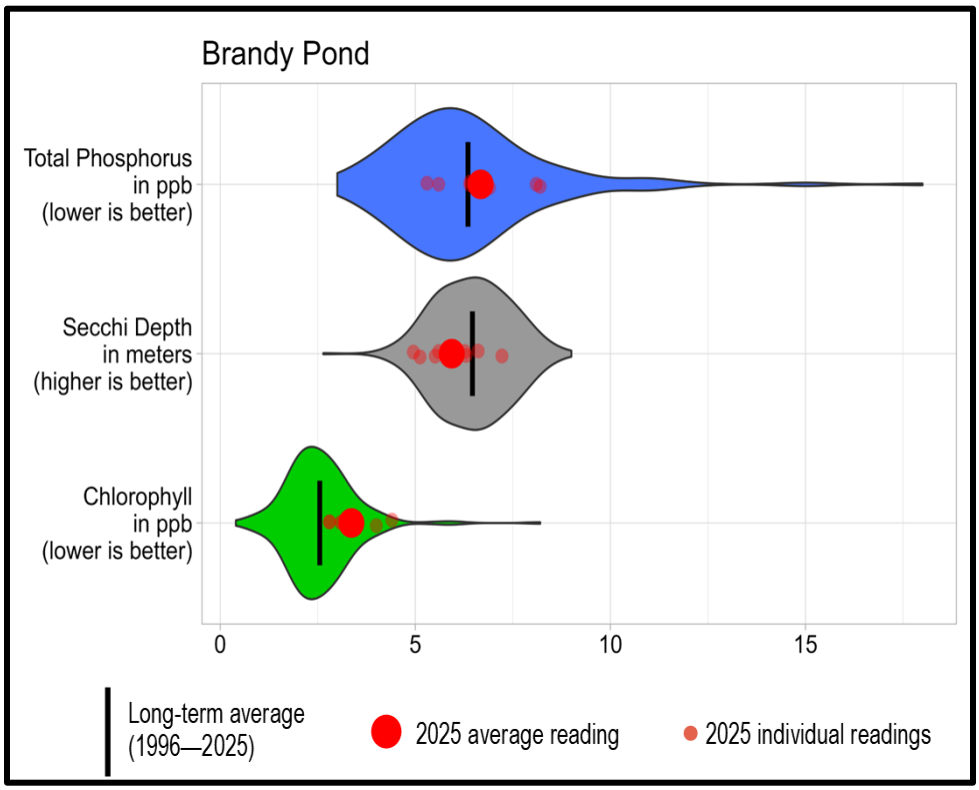
Chlorophyll
2025 Average: 4.2 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels overall

View of Bog Pond from the shore

Brandy Pond – MIDAS 9685

Water Quality



Total Phosphorus
2025 Average: 6.7 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

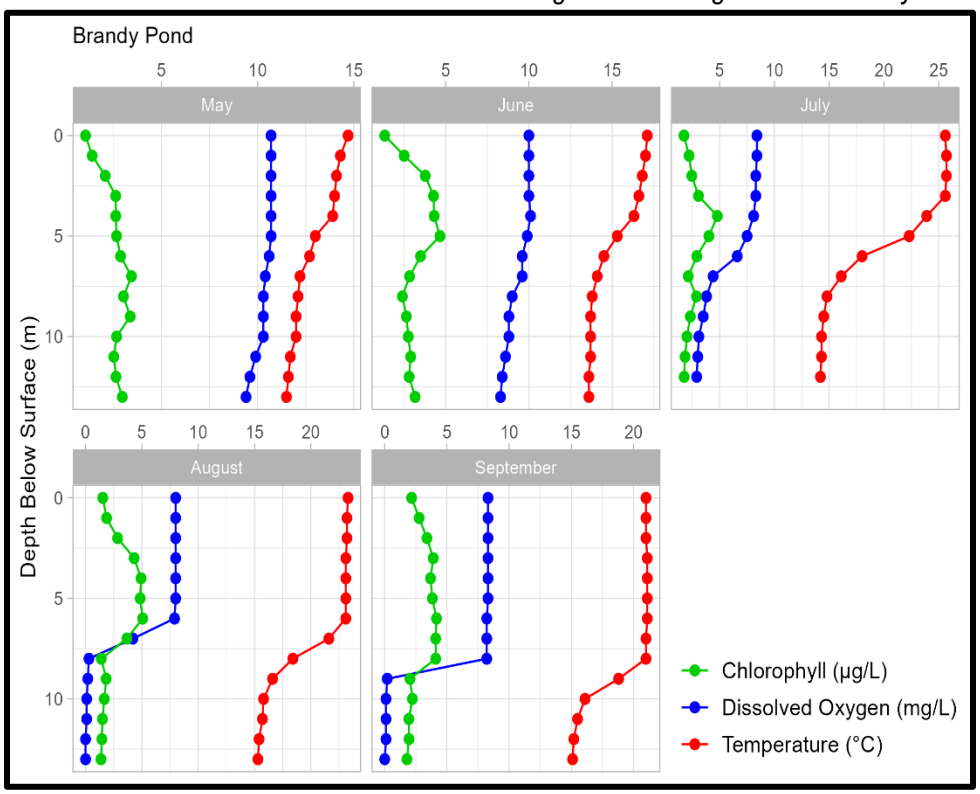
Secchi Depth
2025 Average: 5.9 meters, which is shallower than the long-term average
- moderate clarity overall

Trend: decreasing clarity over time

Chlorophyll
2025 Average: 3.4 ppb, which is above the long-term average
- moderate amounts overall

Trend: increasing chlorophyll levels over time

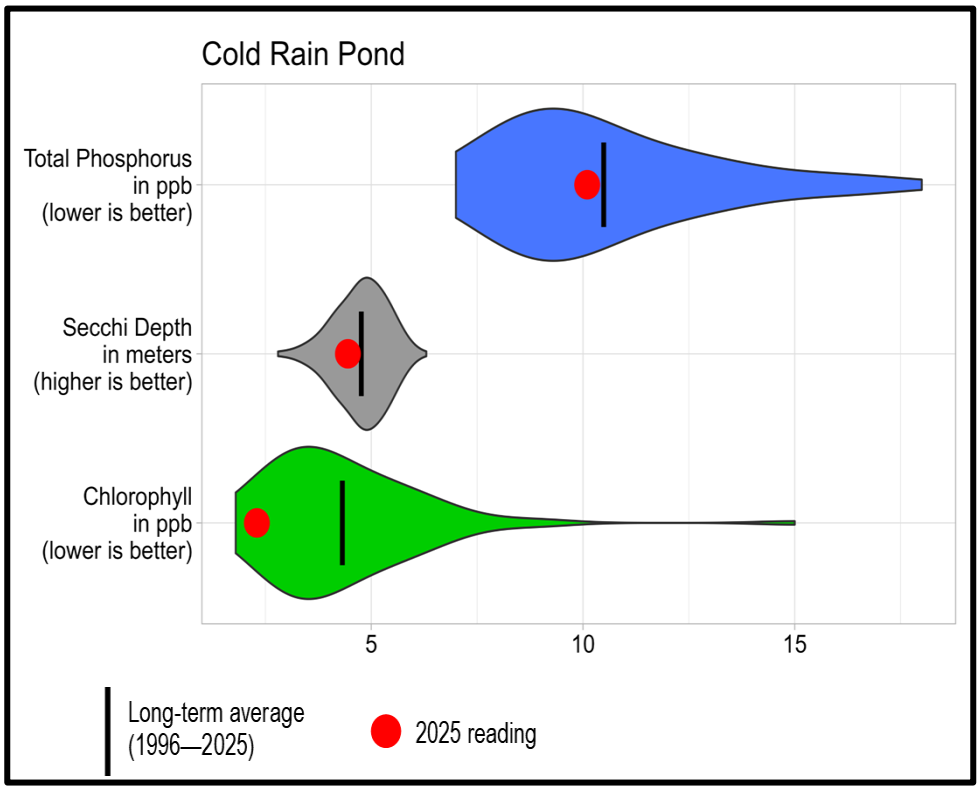
Algae Monitoring via Fluorometry



- No algal blooms were observed this year
- Most Secchi depths were near a fluorescence increase
- Fluorescence tended to be highest near the thermocline and between 4-7 meters, indicating algae growth was highest below the portion of the water column people typically use

Cold Rain Pond – MIDAS 3376

Water Quality



Total Phosphorus
2025 Average: 10.1 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 4.5 meters, which is near the long-term average
- moderate clarity overall

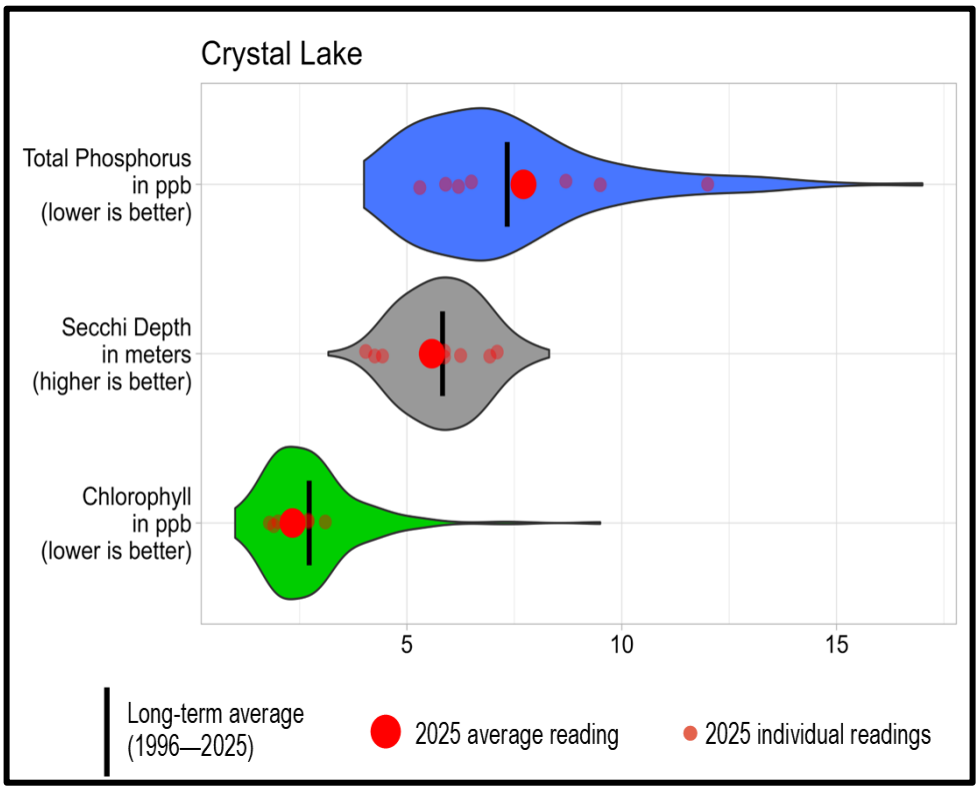
Trend: stable clarity over time

Chlorophyll
2025 Average: 2.3 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

View of Cold Rain Pond from the shore.

Water Quality



Total Phosphorus
2025 Average: 7.7 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

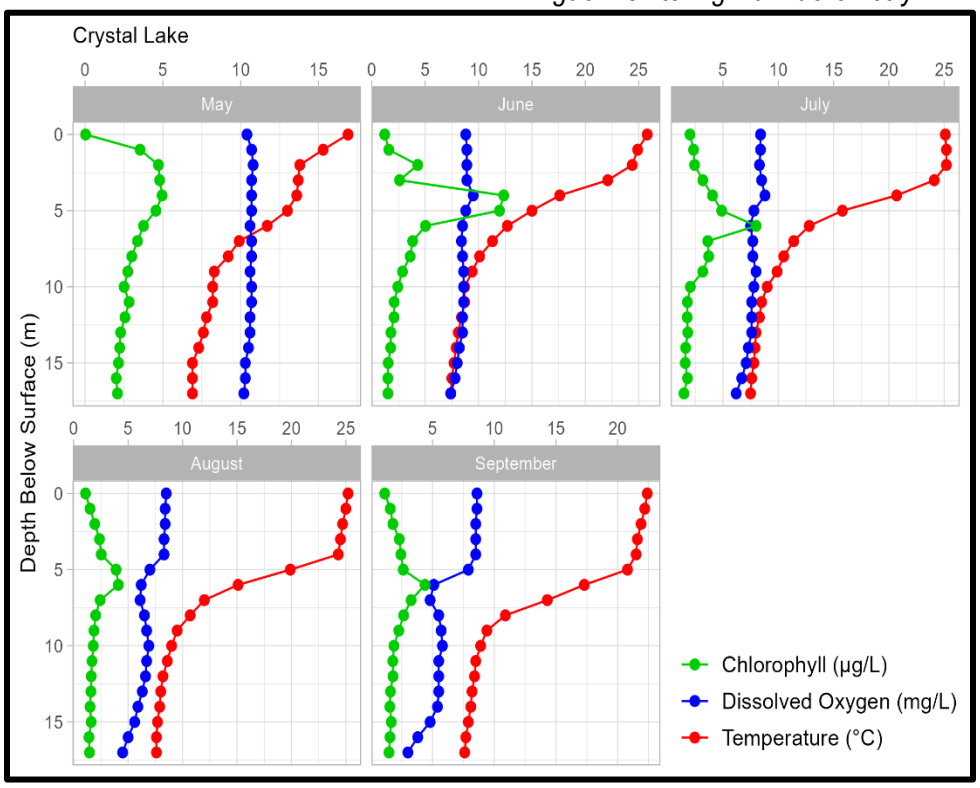
Secchi Depth
2025 Average: 5.6 meters, which is near the long-term average
- moderate clarity overall

Trend: decreasing clarity over time

Chlorophyll
2025 Average: 2.3 ppb, which is below the long-term average
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

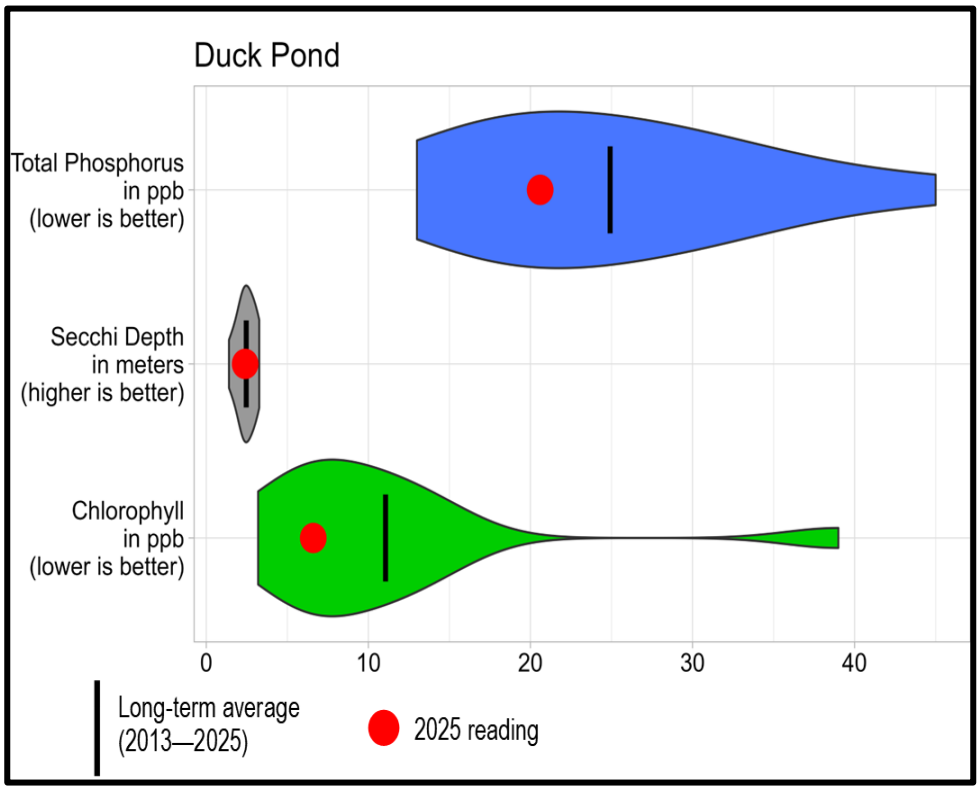
Algae Monitoring via Fluorometry



- No algal blooms were observed this year
- Most Secchi depths were near a fluorescence increase
- Fluorescence tended to be highest near the thermocline and between 4-6 meters, indicating algae growth was highest below the portion of the water column people typically use

Duck Pond – MIDAS 3228

Water Quality



Total Phosphorus
2025 Average: 20.6 ppb, which is below the long-term average
- very high amounts

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: not reported
- Secchi disk hit bottom during reading

Trend: stable clarity, trend calculated using data from years that Secchi disk didn't hit bottom

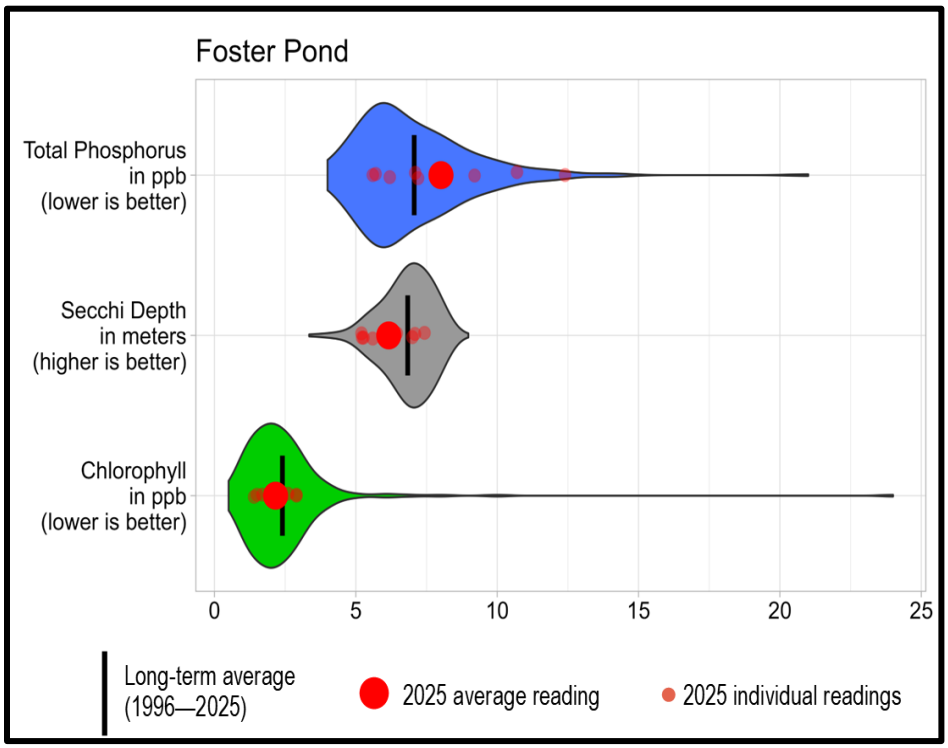
Chlorophyll
2025 Average: 6.6 ppb, which is below the long-term average
- high amounts overall

Trend: stable chlorophyll levels over time

Interns Catherine Wheaton and Billy O'Connor paddling back from a morning of water testing.

Foster Pond – MIDAS 3188

Water Quality



Total Phosphorus
2025 Average: 8.0 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

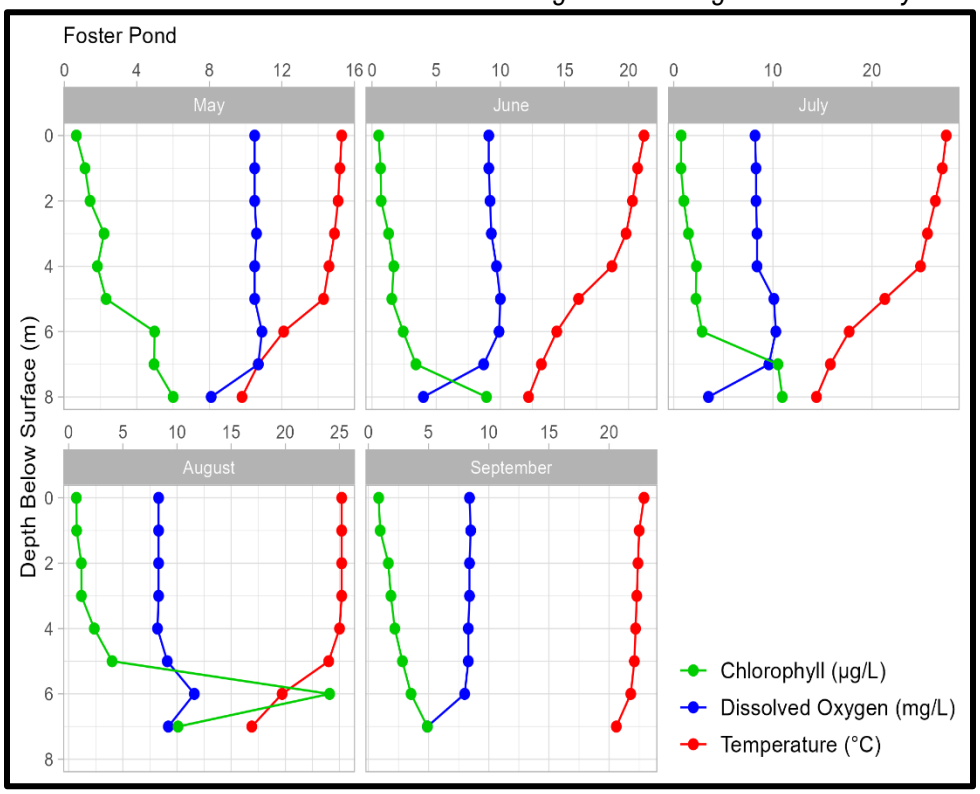
Secchi Depth
2025 Average: 6.2 meters, which is shallower than the long-term average
- moderately clear overall

Trend: decreasing clarity over time

Chlorophyll
2025 Average: 2.2 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

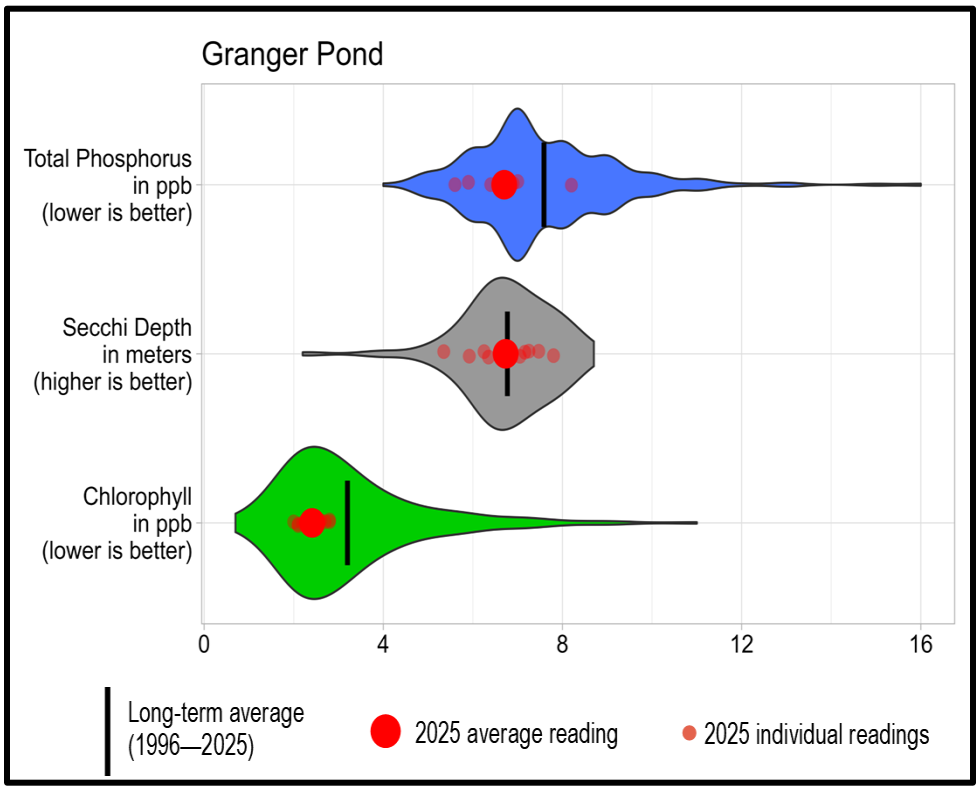
Algae Monitoring via Fluorometry



- No algal blooms were observed this year
- Most Secchi depths were near a fluorescence increase
- Fluorescence tended to be highest near 6 meters, indicating algae growth was highest below the portion of the water column people typically use

Granger Pond – MIDAS 3126

Water Quality

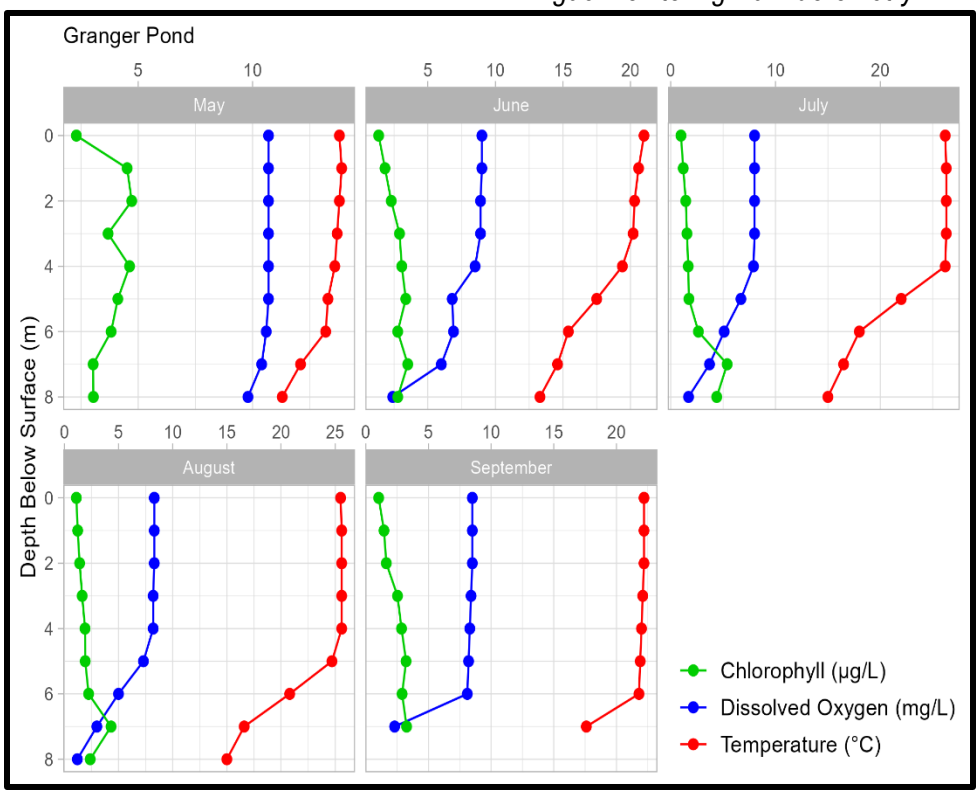


Total Phosphorus
2025 Average: 6.7 ppb, which is below the long-term average
• moderate amounts overall
Trend: decreasing phosphorus levels over time

Secchi Depth
2025 Average: 6.7 meters, which is near the long-term average
• moderate clarity overall
Trend: increasing clarity over time

Chlorophyll
2025 Average: 2.4 ppb, which is below the long-term average
• moderate amounts overall
Trend: stable chlorophyll levels over time

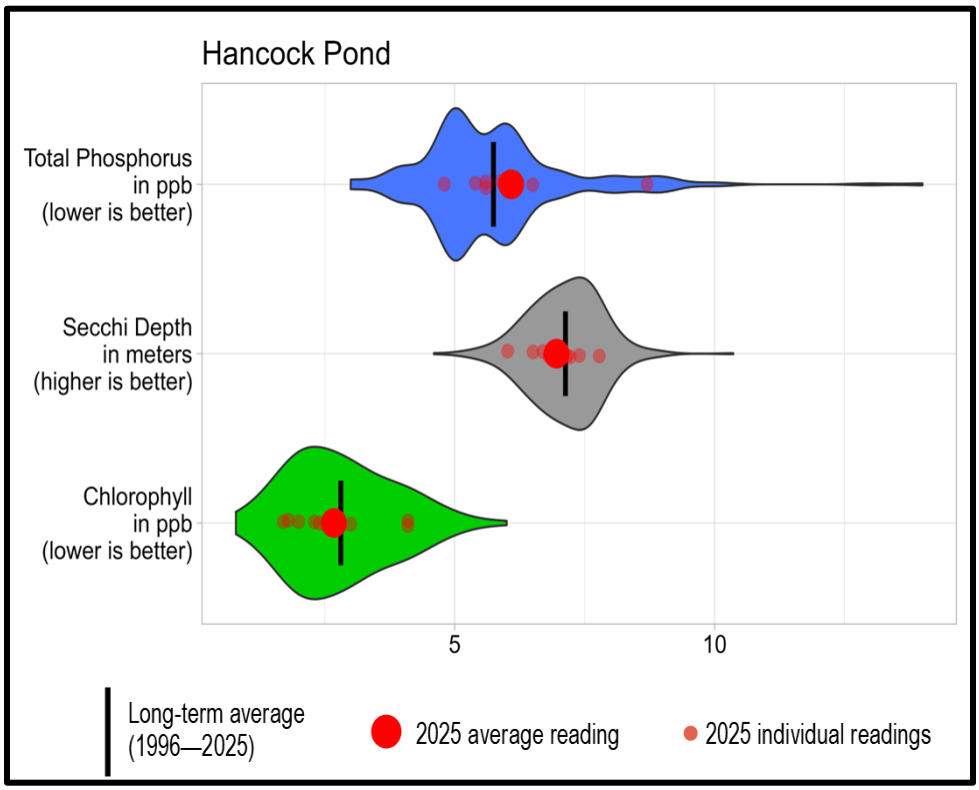
Algae Monitoring via Fluorometry



• No algal blooms were observed this year
• Most Secchi depths were near a fluorescence increase
• Fluorescence tended to be highest near 6 meters, indicating algae growth was highest below the portion of the water column people typically use

Hancock Pond – MIDAS 3132

Water Quality



Total Phosphorus
2025 Average: 6.1 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

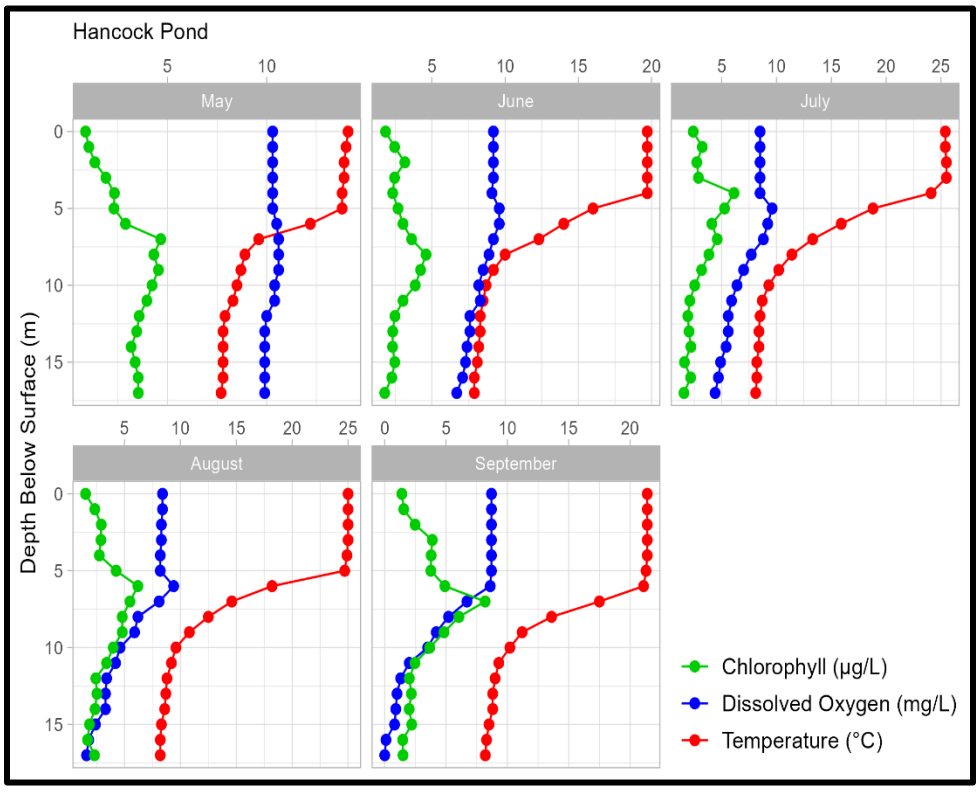
Secchi Depth
2025 Average: 7.0 meters, which is near the long-term average
- moderate to high clarity overall

Trend: stable clarity over time

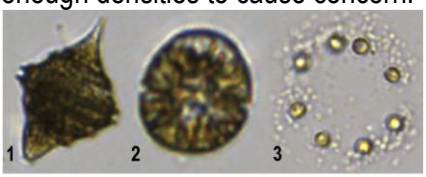
Chlorophyll
2025 Average: 2.7 ppb, which is near the long-term average
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

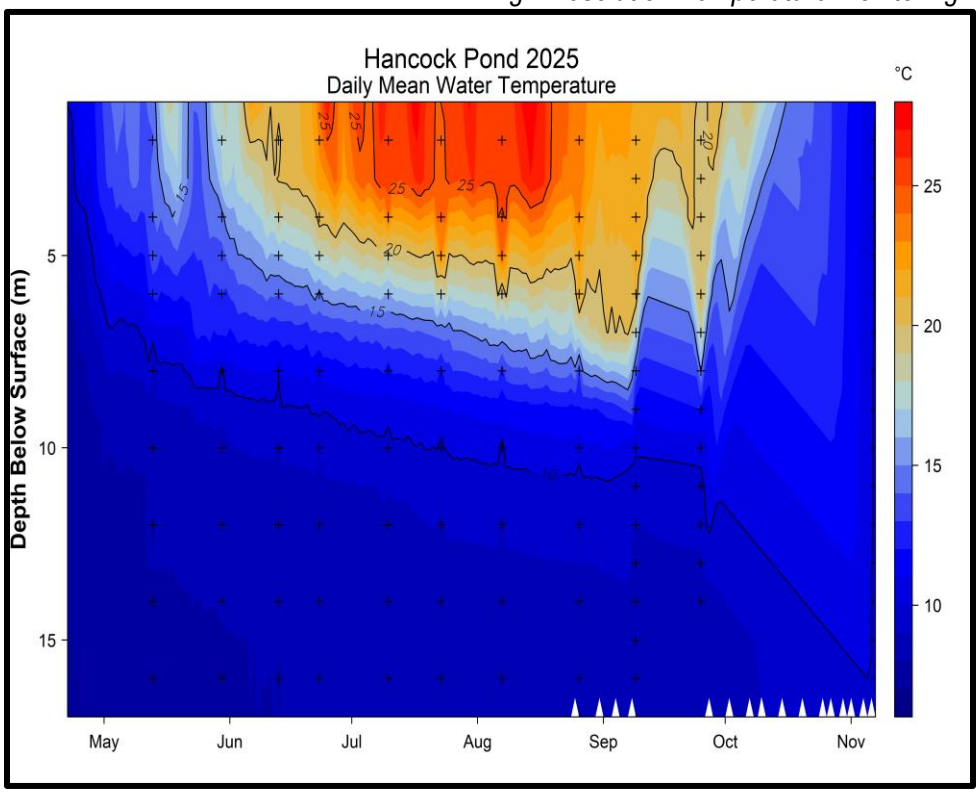
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest near the thermocline and between 5-9 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Peridinium* (dinoflagellate), 2) *Gymnodinium* (dinoflagellate), and 3) *Chrysostephanosphaeria* (Chrysophyceae)
- Despite finding multiple nuisance algae genera, none of the taxa in those groups were found at high enough densities to cause concern.



High-Resolution Temperature Monitoring



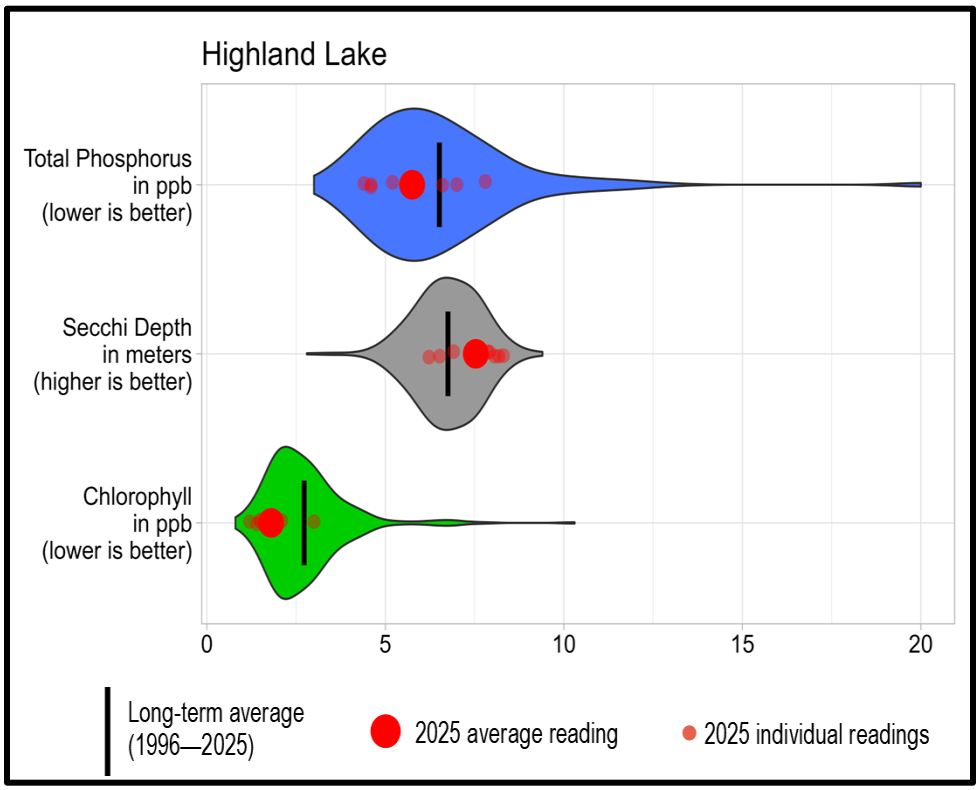
- The water column of Hancock Pond was weakly stratified when sensors were deployed.
- There were four distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in both June and July. However, this season's peak temperature was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in mid-September.
- Hancock Pond was fully mixed when the buoy was retrieved in early November.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring, represented by a + symbol, were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/22/2025	28.7/ 83.7	8/13/2025	Before Retrieval	11/7/2025

LEA's boat, the "Iron Lotus", before launching to deploy summer HOBO sensors from the Hancock Pond boat launch.

Highland Lake – MIDAS 3454

Water Quality



Total Phosphorus

2025 Average: 5.8 ppb, which is below the long-term average

- moderate amounts overall
- high phosphorus readings and low oxygen concentrations near the bottom indicate some level of internal phosphorus loading

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 7.5 meters, which deeper than the long-term average

- moderate-high clarity overall

Trend: increasing clarity over time

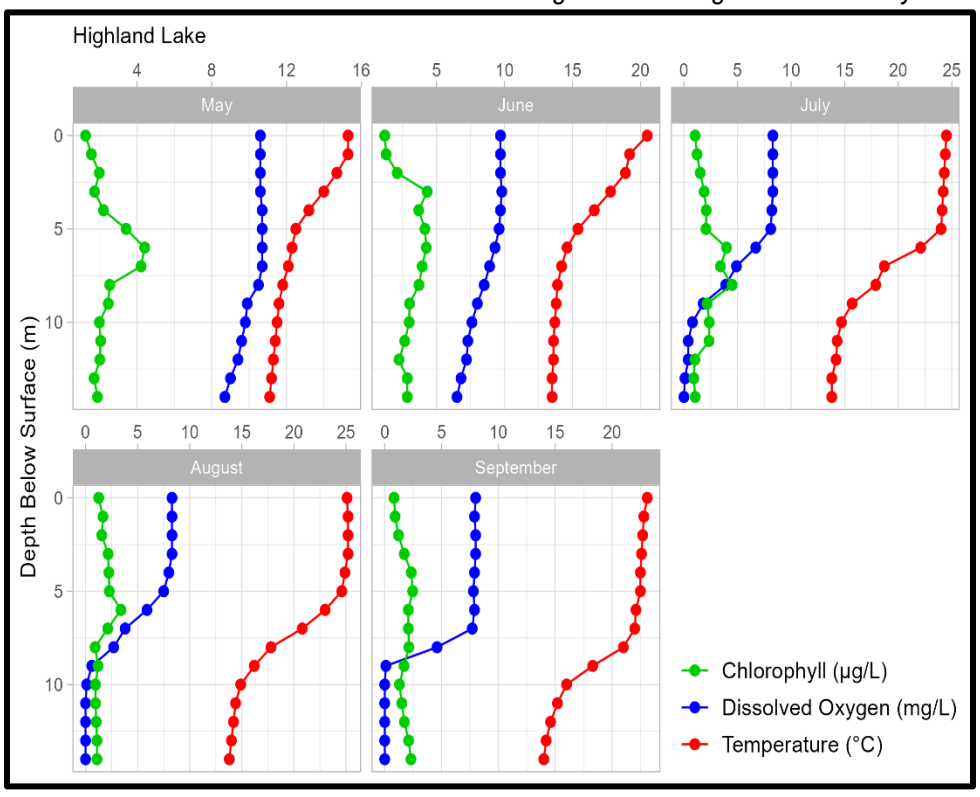
Chlorophyll

2025 Average: 1.8 ppb, which is below the long-term average

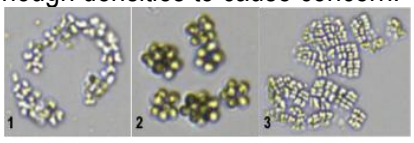
- Moderate amounts overall

Trend: decreasing Chlorophyll levels over time

Algae Monitoring via Fluorometry

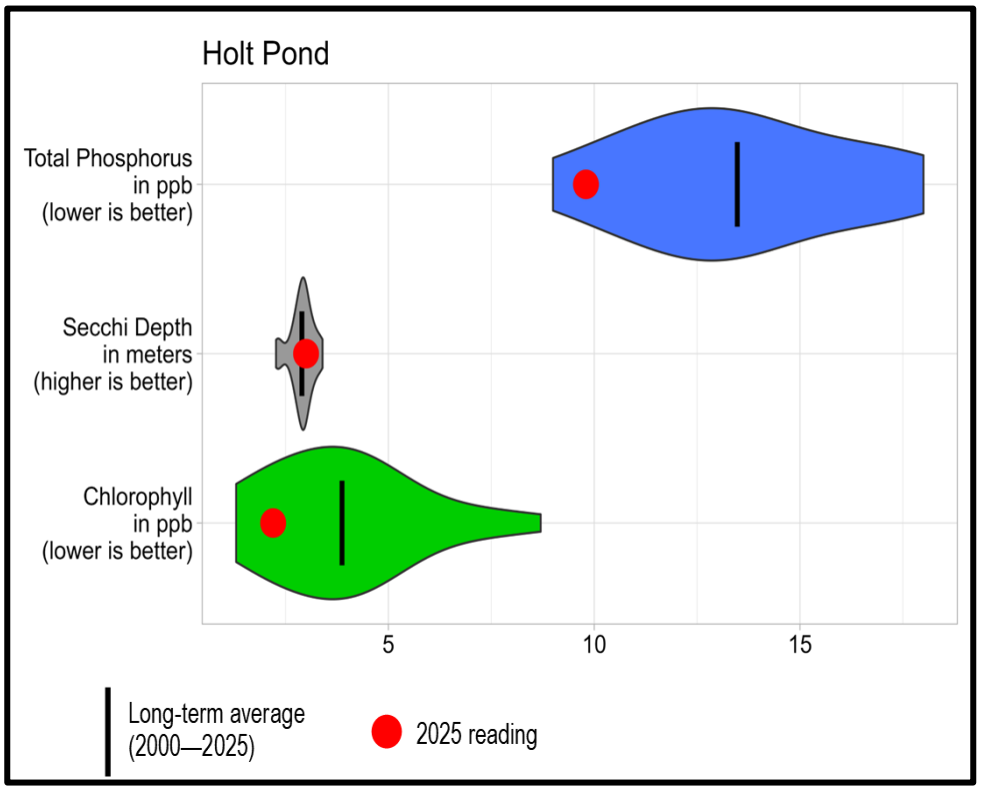


- No algae blooms were observed this year
- Fluorescence in the upper waters influenced Secchi depth and readings tended to be highest between 3-8 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Aphanocapsa* (cyanobacteria), 2) *Sphaerocystis* (chlorophyceae), and 3) *Merismopedia* (cyanobacteria)
- Despite finding multiple nuisance algae genera, none of the taxa in those groups were found at high enough densities to cause concern.



Holt Pond – MIDAS 3370

Water Quality



Total Phosphorus
2025 Average: 9.8 ppb, which is below the long-term average
- moderate to high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 3.0 meters, which is near the long-term average
- low clarity overall

Trend: stable clarity over time

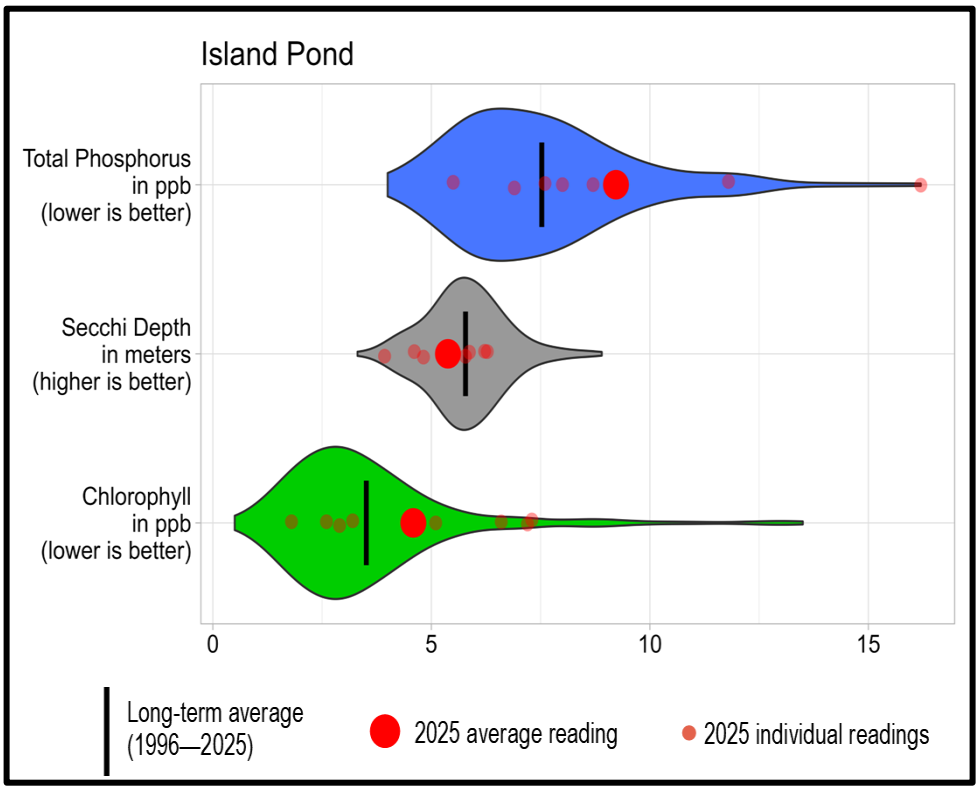
Chlorophyll
2025 Average: 2.2 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

Students learning about water quality on Holt Pond.

Island Pond – MIDAS 3448

Water Quality



Total Phosphorus
2025 Average: 9.2 ppb, which is above the long-term average
- moderate amounts overall

Trend: increasing phosphorus levels over time

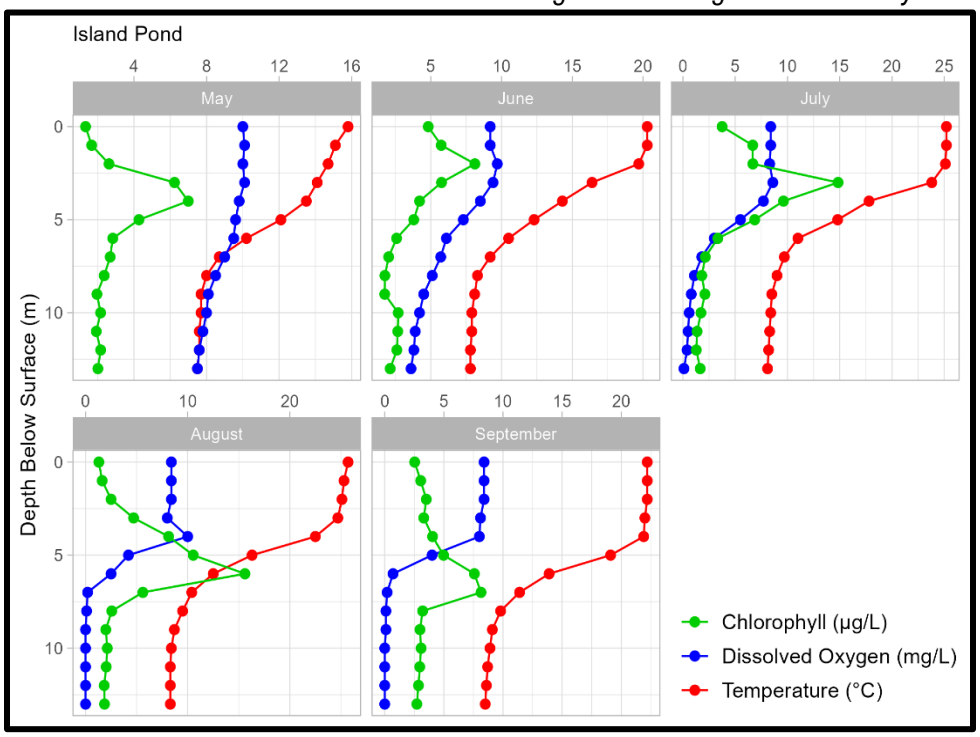
Secchi Depth
2025 Average: 5.4 meters, which is slightly shallower than the long-term average
- moderate clarity overall

Trend: decreasing clarity over time

Chlorophyll
2025 Average: 4.6 ppb, which is above the long-term average
- moderate amounts overall

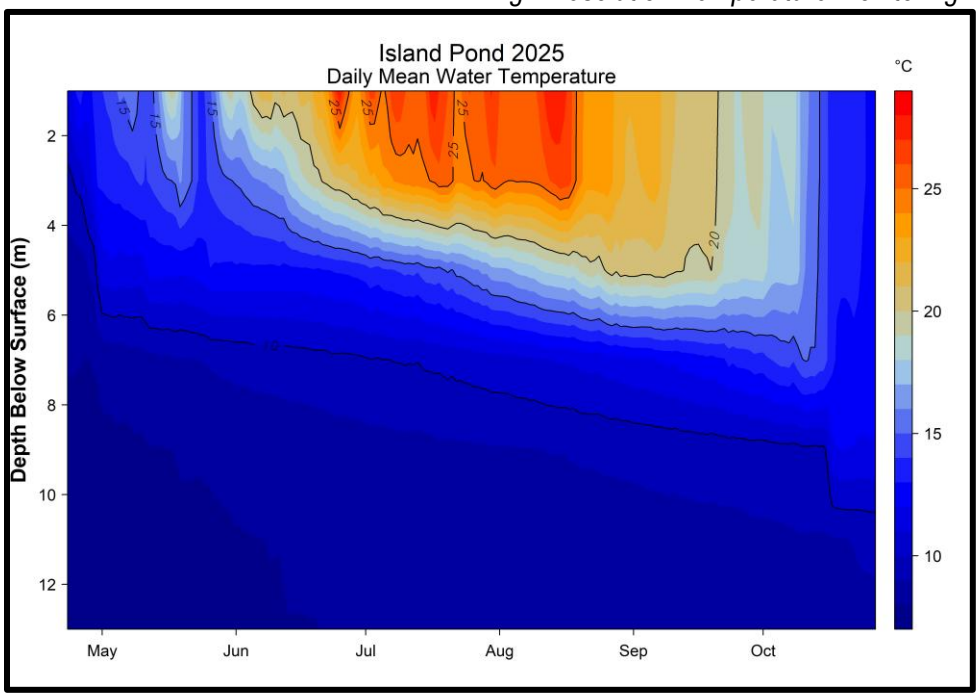
Trend: stable chlorophyll levels over time

Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Most Secchi depths were near a fluorescence increase
- Fluorescence tended to be highest near the thermocline and between 2-7 meters, indicating peak algae growth was occasionally within the portion of the water column people typically use

High-Resolution Temperature Monitoring

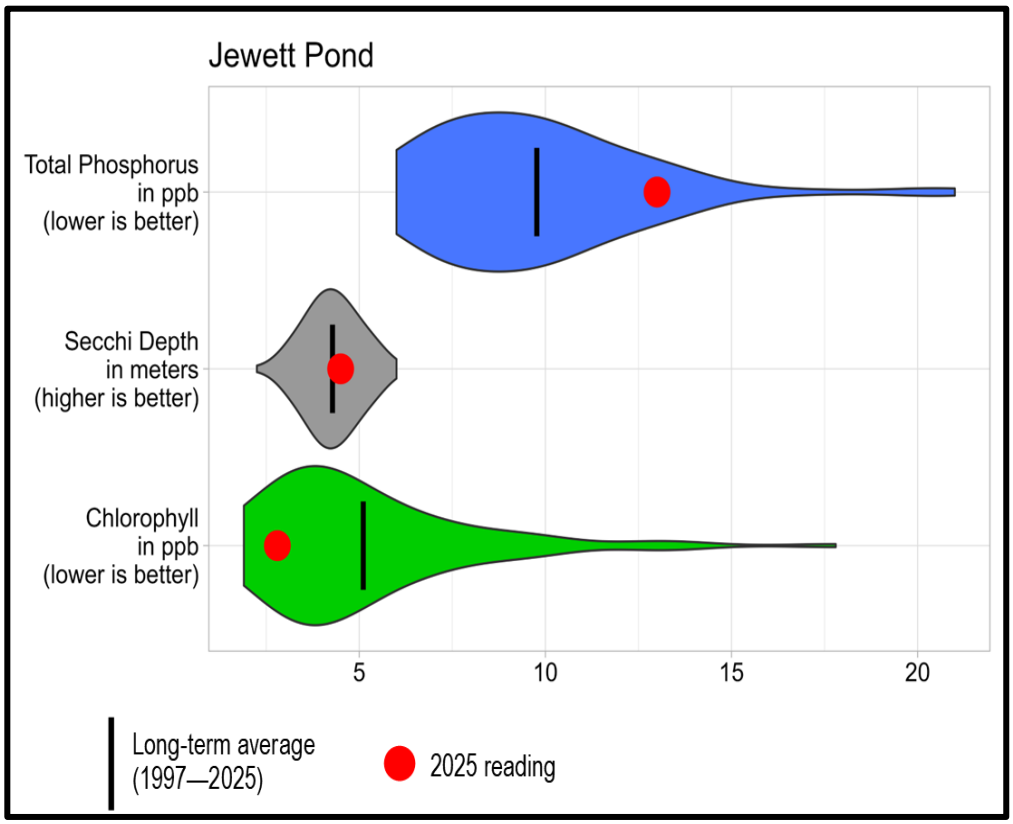


- The water column of Island Pond was weakly stratified when sensors were deployed.
- There were four distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July and August. This season's peak temperature was recorded twice, in both mid-July and in mid-August
- Shallow waters began to cool and mix with waters from the middle depths in mid-September.
- Temperatures throughout the water column were becoming more uniform but full mixing had not yet occurred when sensors were retrieved.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/23/2025	29.0/ 84.2	7/17/2025 8/13/2025	After Retrieval	10/27/2025

View of the island on Island Pond from LEA's test site, which is at the deepest part of the waterbody.

Water Quality



Total Phosphorus
2025 Average: 13.0 ppb, which is above the long-term average
- moderate amounts overall
- high phosphorus readings and low oxygen concentrations near the bottom indicate some level of internal phosphorus loading

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 4.5 meters, which is near the long-term average
- moderate clarity overall

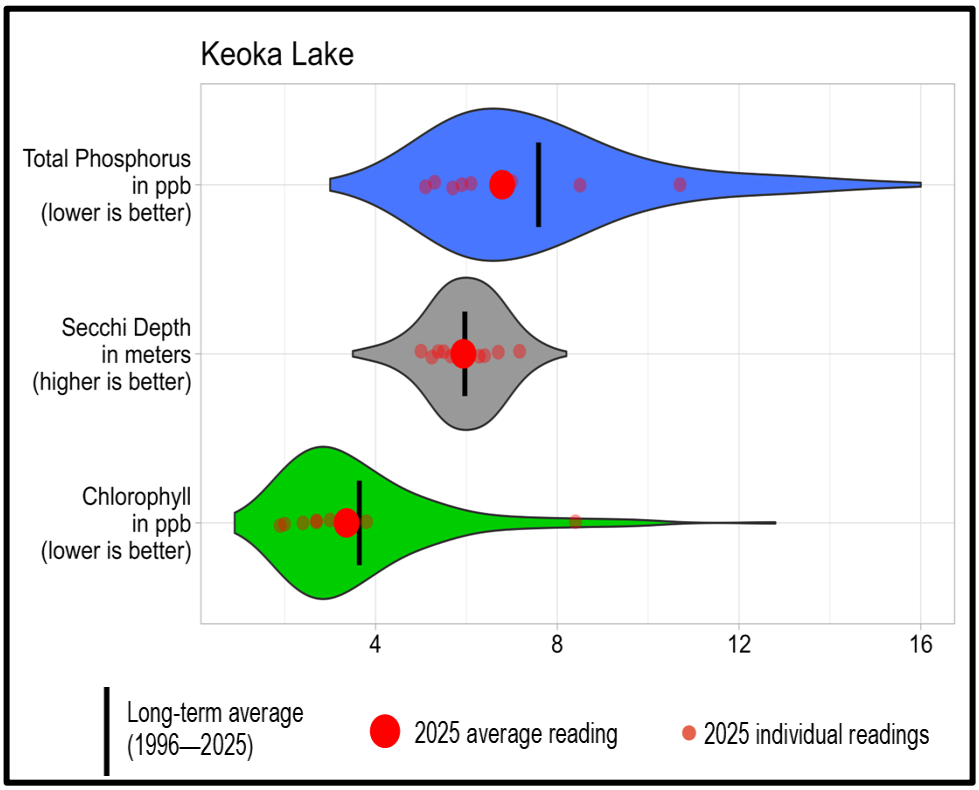
Trend: increasing clarity over time

Chlorophyll
2025 Average: 2.8 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

View of the shore from the deepest part of Jewett Pond.

Water Quality

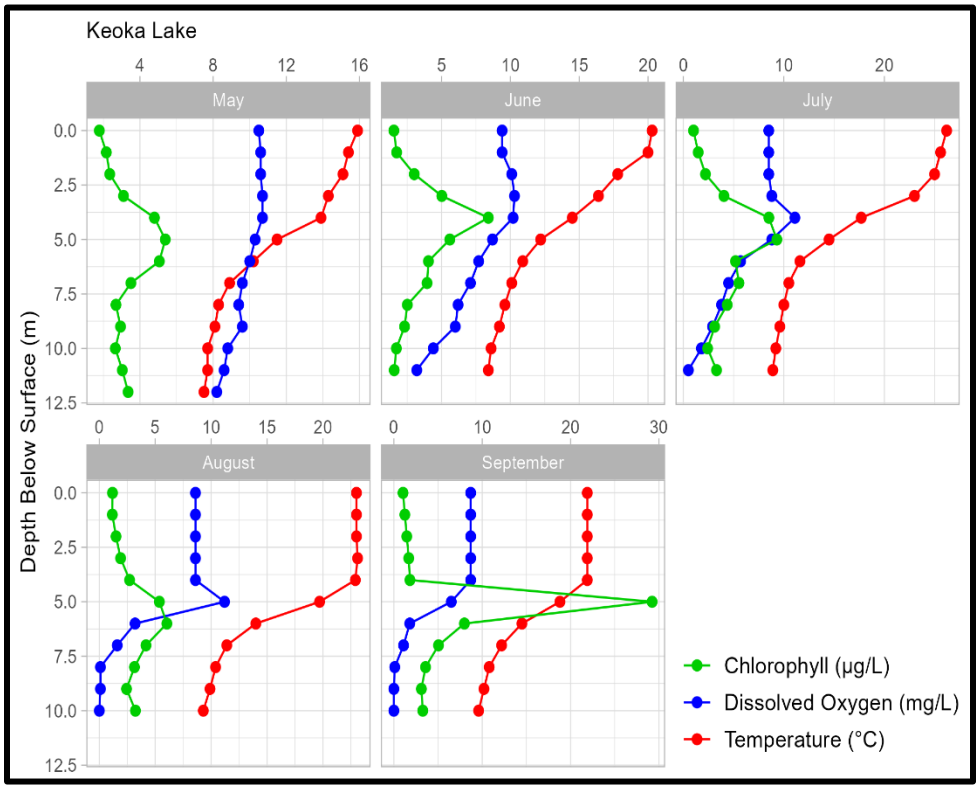


Total Phosphorus
2025 Average: 6.8 ppb, which is below the long-term average
• moderate amounts overall
Trend: decreasing phosphorus levels over time

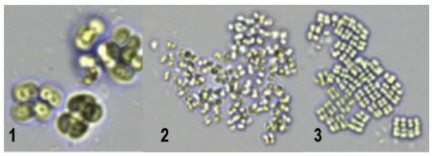
Secchi Depth
2025 Average: 5.9 meters, which is near the long-term average
• moderate clarity overall
Trend: stable clarity over time

Chlorophyll
2025 Average: 3.4 ppb, which is near the long-term average
• moderate amounts overall
Trend: stable chlorophyll levels over time

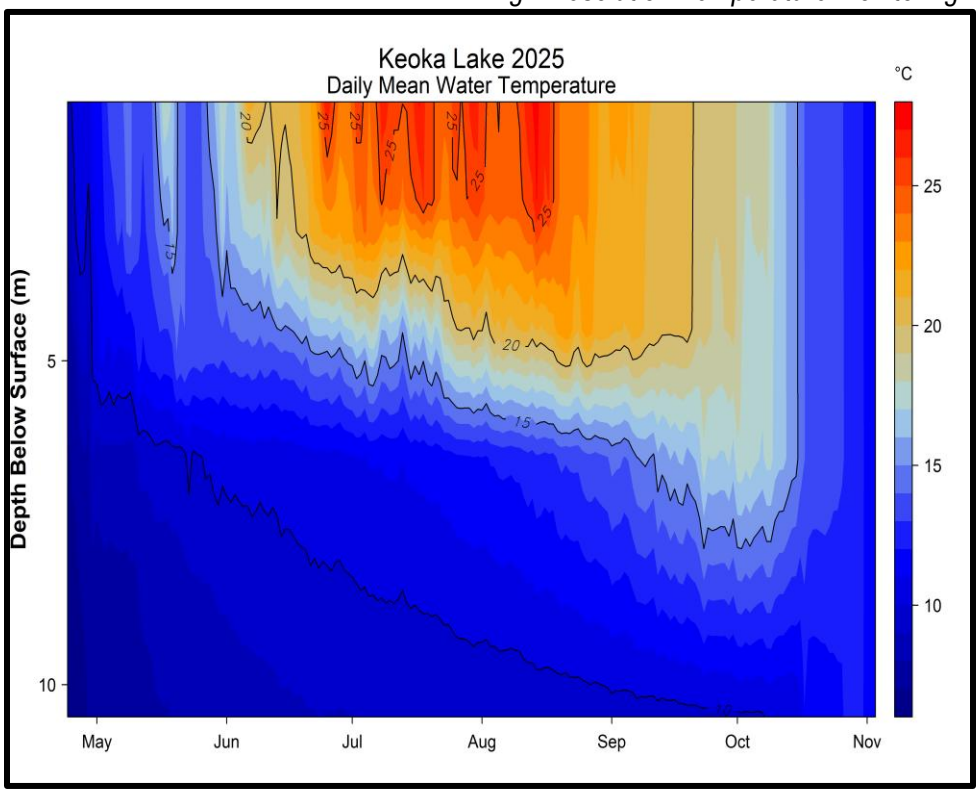
Algae Monitoring via Fluorometry



• No algae blooms were observed this year
• Fluorescence tended to be highest near the thermocline and around 5 meters, indicating algae growth was highest below the portion of the water column people typically use
• 2025's dominant algal genus included: 1) *Chroococcus* (Cyanobacteria), 2) *Aphanocapsa* (Cyanobacteria), and 3) *Merismopedia* (Cyanobacteria)
• Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern

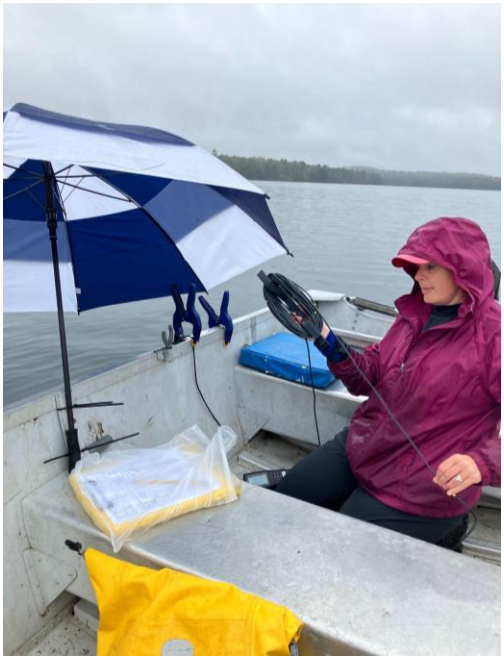


High-Resolution Temperature Monitoring



- The water column of Keoka Lake was weakly stratified when sensors were deployed.
- There were at least 5 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in both June and July. However, this season's peak temperature was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in late August.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

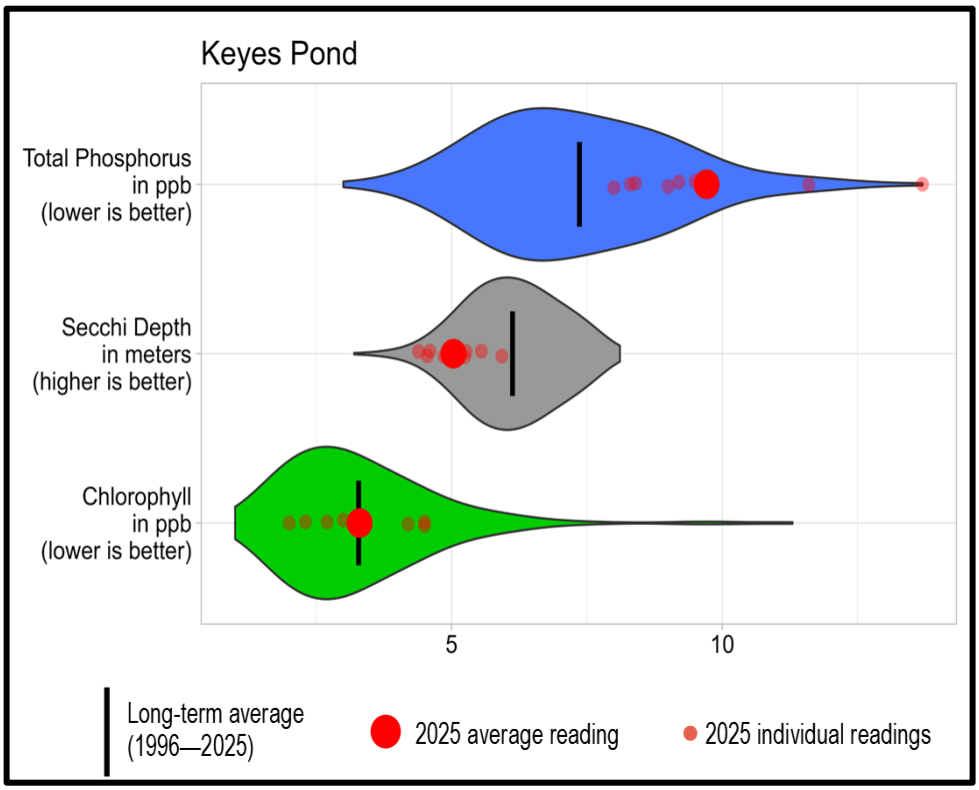
Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/24/2025	28.0/ 82.4	8/14/2025	10/27/2025	11/3/2025



The LEA water testing crew goes out in the field rain or shine! Maggie Welch taking a profile on a rainy and cloudy day.

Keyes Pond – MIDAS 3232

Water Quality

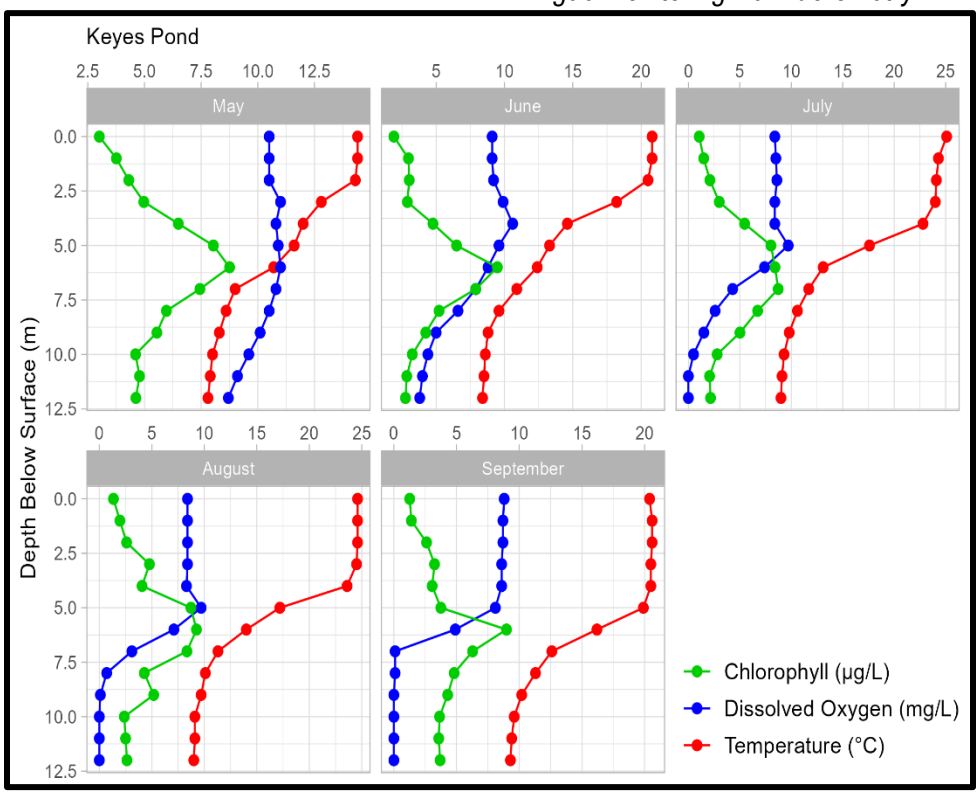


Total Phosphorus
2025 Average: 9.7 ppb, which is above the long-term average
• moderate amounts overall
Trend: stable phosphorus levels over time

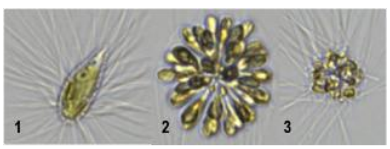
Secchi Depth
2025 Average: 5.0 meters, which is below the long-term average
• moderate clarity overall
Trend: stable clarity over time

Chlorophyll
2025 Average: 3.3 ppb, which is near the long-term average
• moderate amounts overall
Trend: stable chlorophyll levels over time

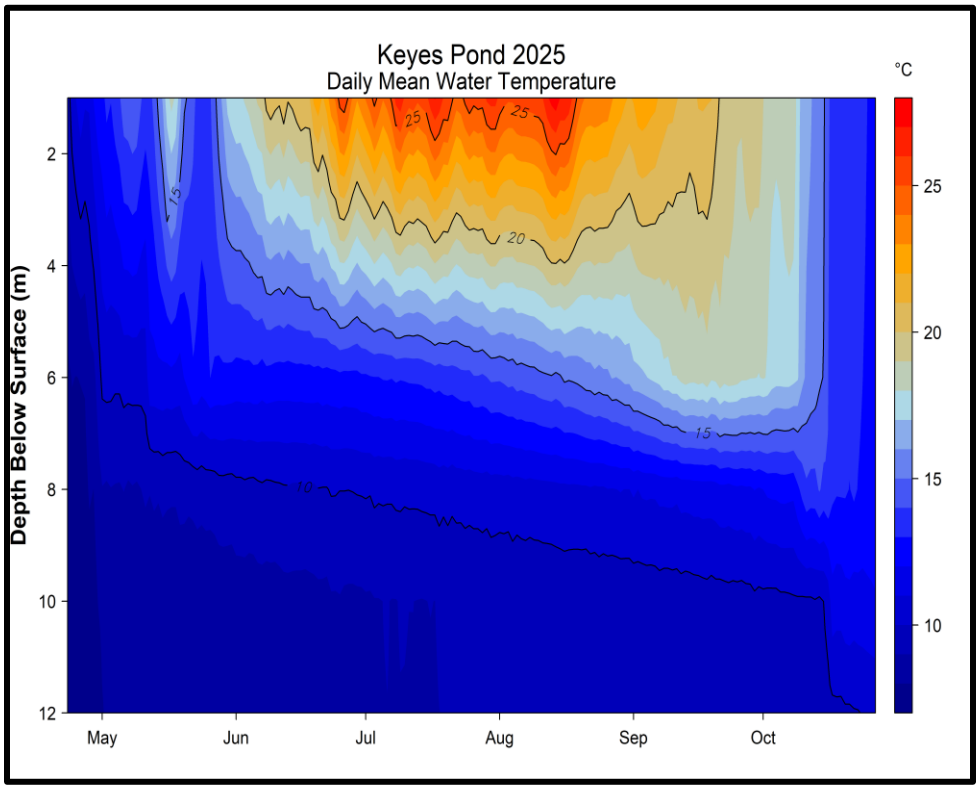
Algae Monitoring via Fluorometry



• No algae blooms were observed this year
• Fluorescence tended to be highest near the thermocline and around 6 meters, indicating algae growth was highest below the portion of the water column people typically use
• 2025's dominant algal genus included: 1) *Mallomonas* (chrysophyceae), 2) *Chrysosphaerella* (chrysophyceae), and 3) *Synura* (chrysophyceae)
• Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern.

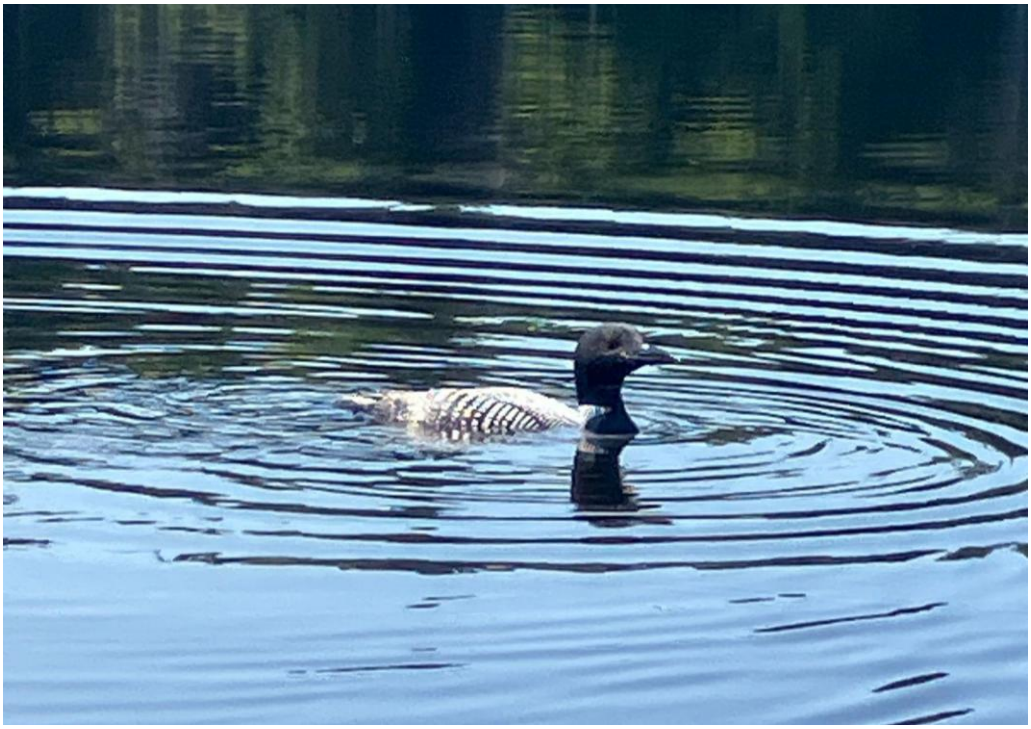


High-Resolution Temperature Monitoring



- The water column of Keyes Pond was weakly stratified when sensors were deployed.
- There were three distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July and August. This season's peak temperature was recorded in mid-July
- Shallow waters began to cool and mix with waters from the middle depths in mid-September.
- Temperatures throughout the water column were becoming more uniform, but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

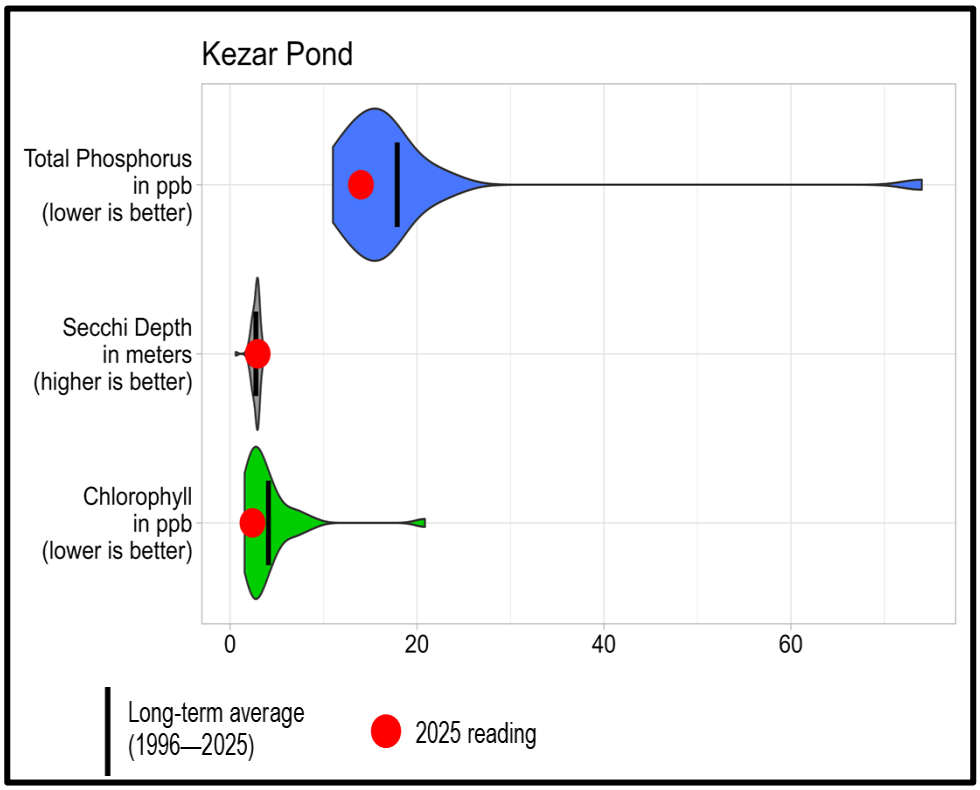
Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/23/2025	28.3/ 82.9	7/17/2025	After Retrieval	10/24/2025



A curious loon paid a visit to our canoe while collecting water samples on Keyes Pond this past summer.

Kezar Pond – MIDAS 9709

Water Quality



Total Phosphorus
2025 Average: 14.0 ppb, which is below the long-term average
- high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average**:** 3.0 meters, which is near the long-term average
- low clarity overall

Trend: increasing clarity over time

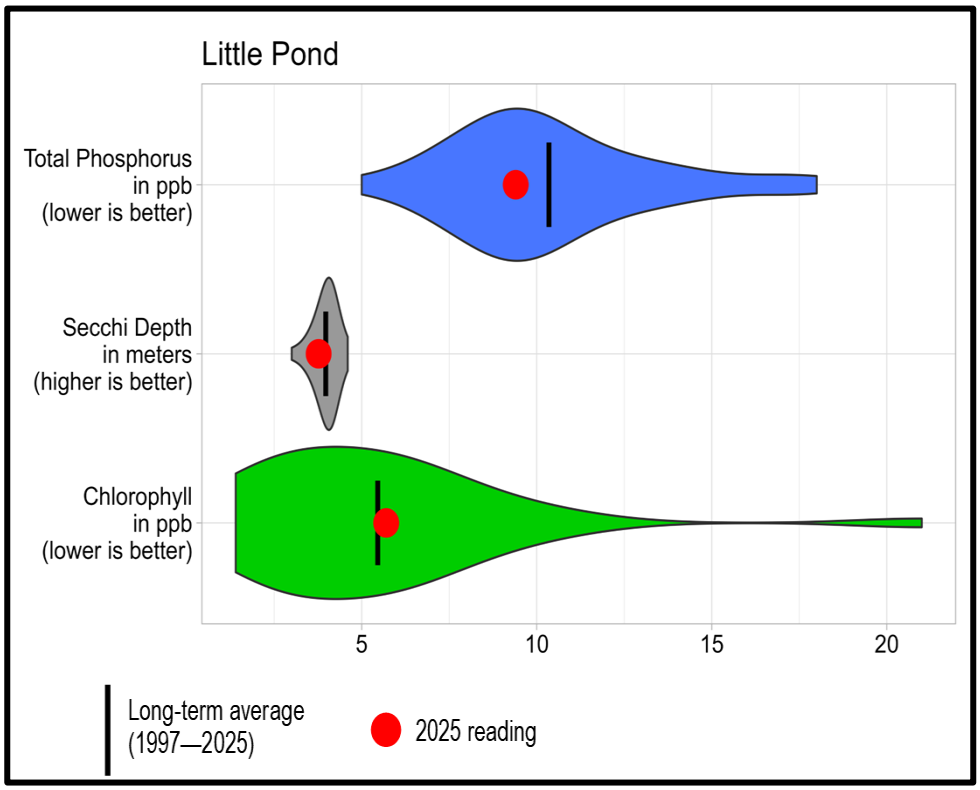
Chlorophyll
2025 Average: 2.4 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time.

Interns Henry Baker and Billy O'Connor in training for temperature and dissolved oxygen profiles.

Little Pond – MIDAS 3128

Water Quality



Total Phosphorus
2025 Average: 9.4 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average**:** 3.8 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

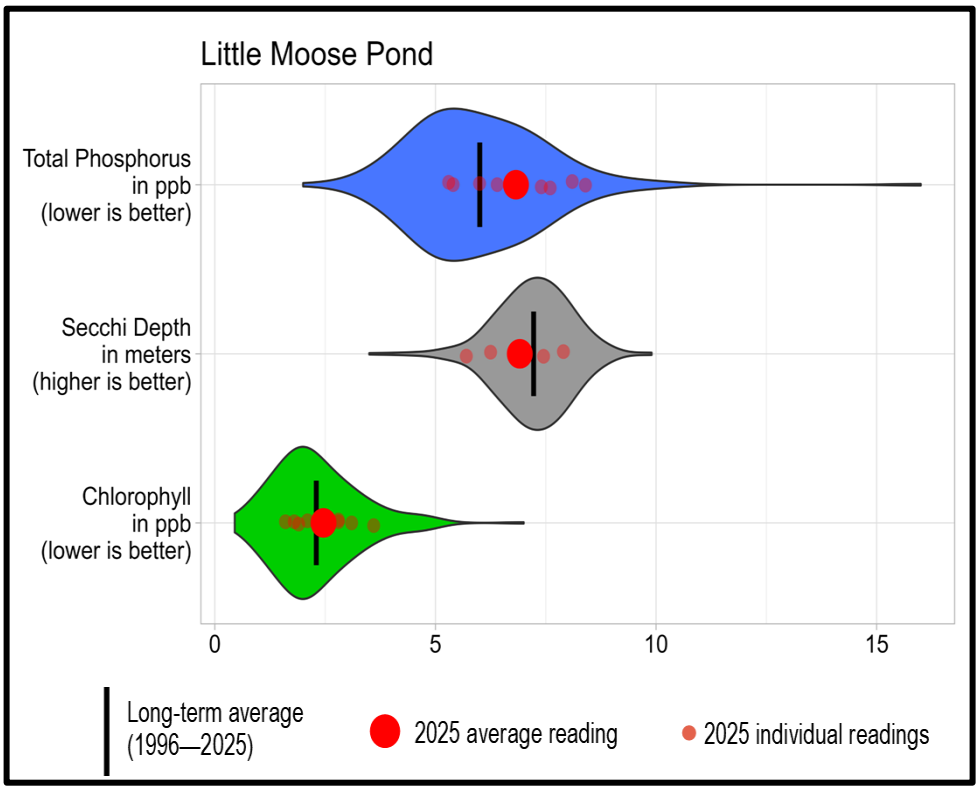
Chlorophyll
2025 Average: 5.7 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

Bull Frog tad pole found next to the shore after a water testing visit.

Little Moose Pond – MIDAS 3424

Water Quality



Total Phosphorus
2025 Average: 6.8 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

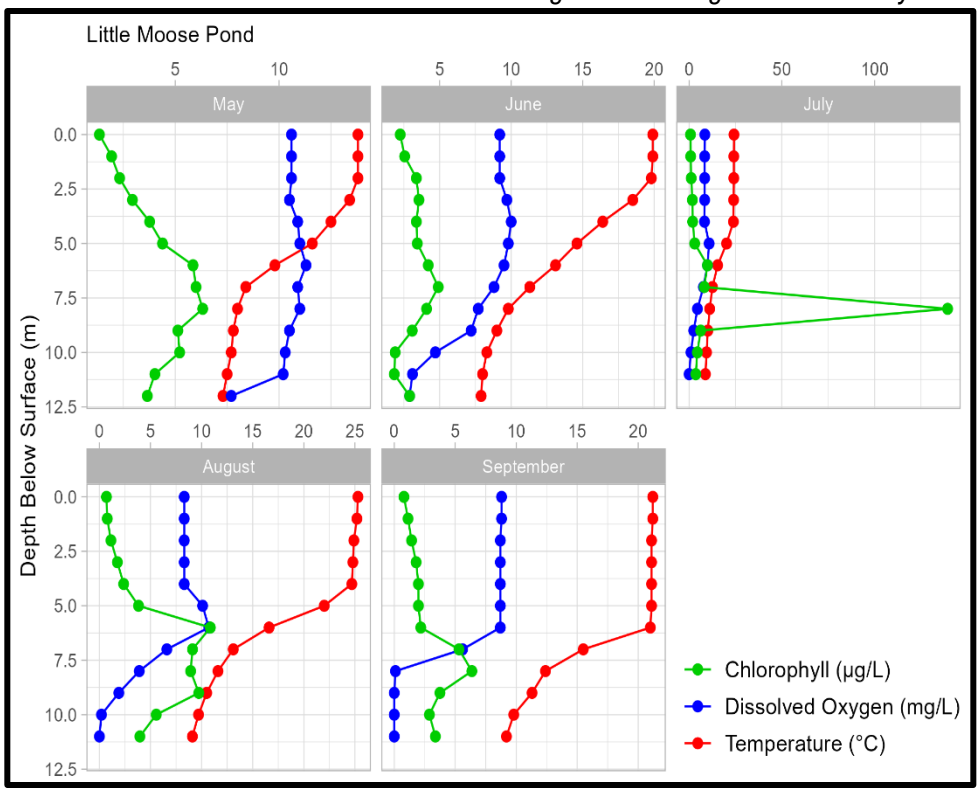
Secchi Depth
2025 Average: 6.9 meters, which is near the long-term average
- moderate to high clarity overall

Trend: decreasing clarity over time

Chlorophyll
2025 Average: 2.5 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

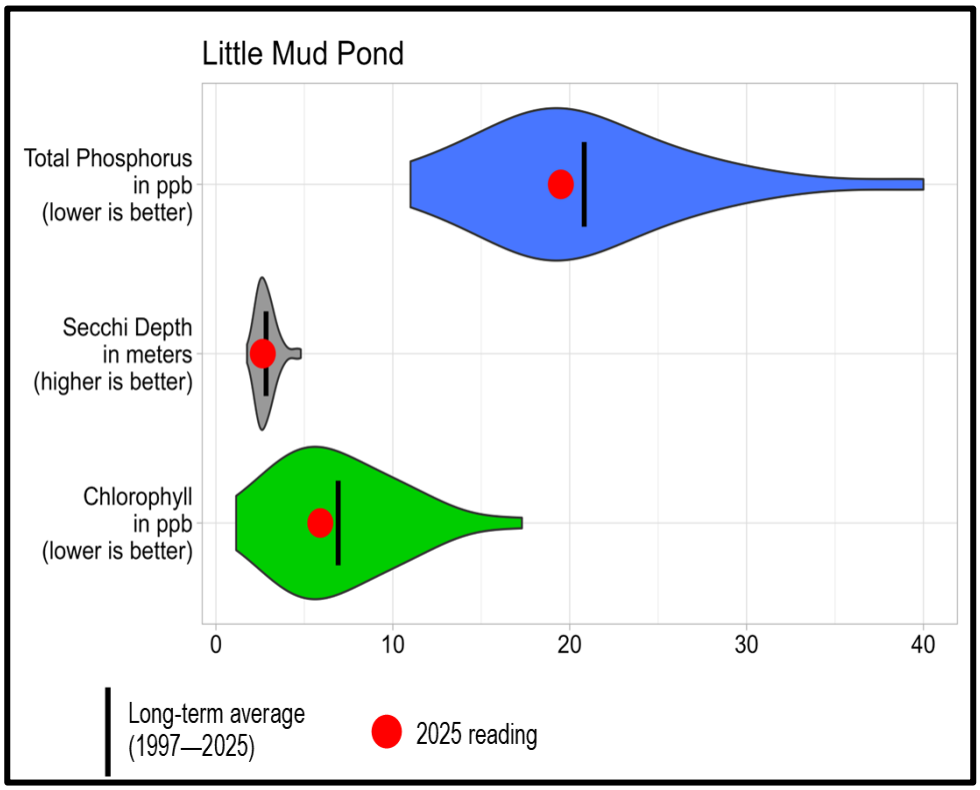
Algae Monitoring via Fluorometry



- No algal blooms were observed this year
- Most Secchi depths were near a fluorescence increase
- Fluorescence tended to be highest near the thermocline and between 6-8 meters, indicating algae growth was highest below the portion of the water column people typically use

Little Mud Pond – MIDAS 3422

Water Quality



Total Phosphorus
2025 Average: 19.5 ppb, which is below the long-term average
• very high amounts overall
Trend: decreasing phosphorus levels over time

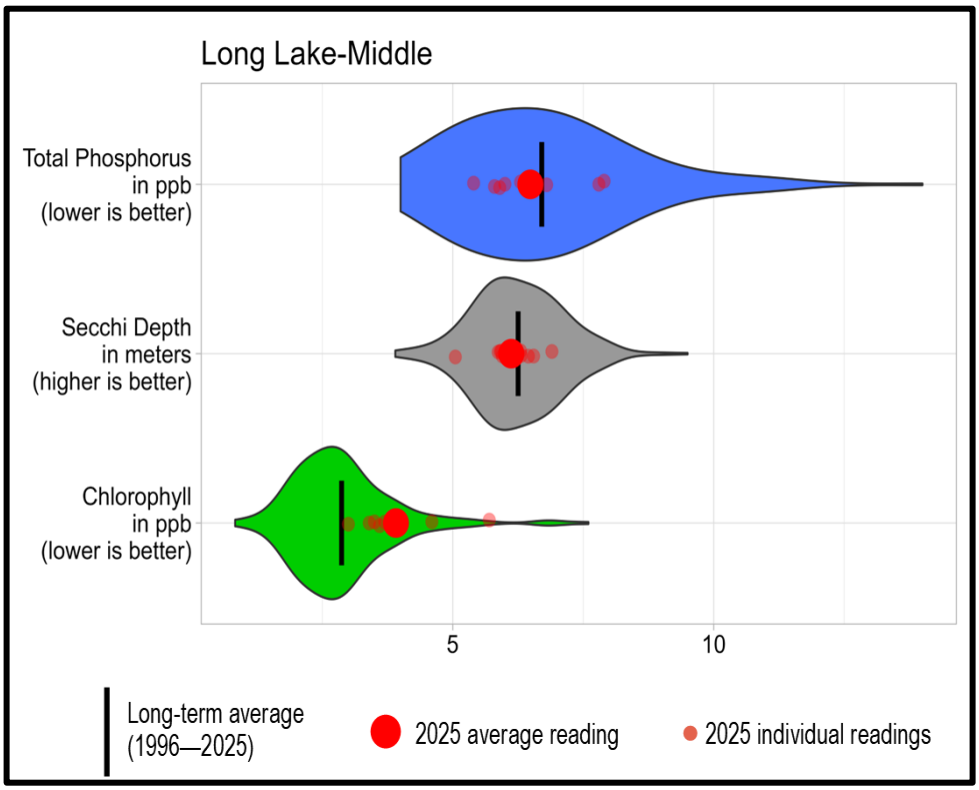
Secchi Depth
2025 Average: 2.7 meters, which is near the long-term average
• low clarity overall
Trend: stable clarity over time

Chlorophyll
2025 Average: 5.9 ppb, which is below the long-term average
• moderate amounts overall
Trend: decreasing chlorophyll levels over time

Catherine Wheaton preparing to measure water clarity on a rainy afternoon using a Secchi Disk.

Long Lake, Middle Basin – MIDAS 5780

Water Quality



Total Phosphorus

2025 Average: 6.5 ppb, which is near the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 6.1 meters, which is near the long-term average

- moderate clarity overall

Trend: stable clarity over time

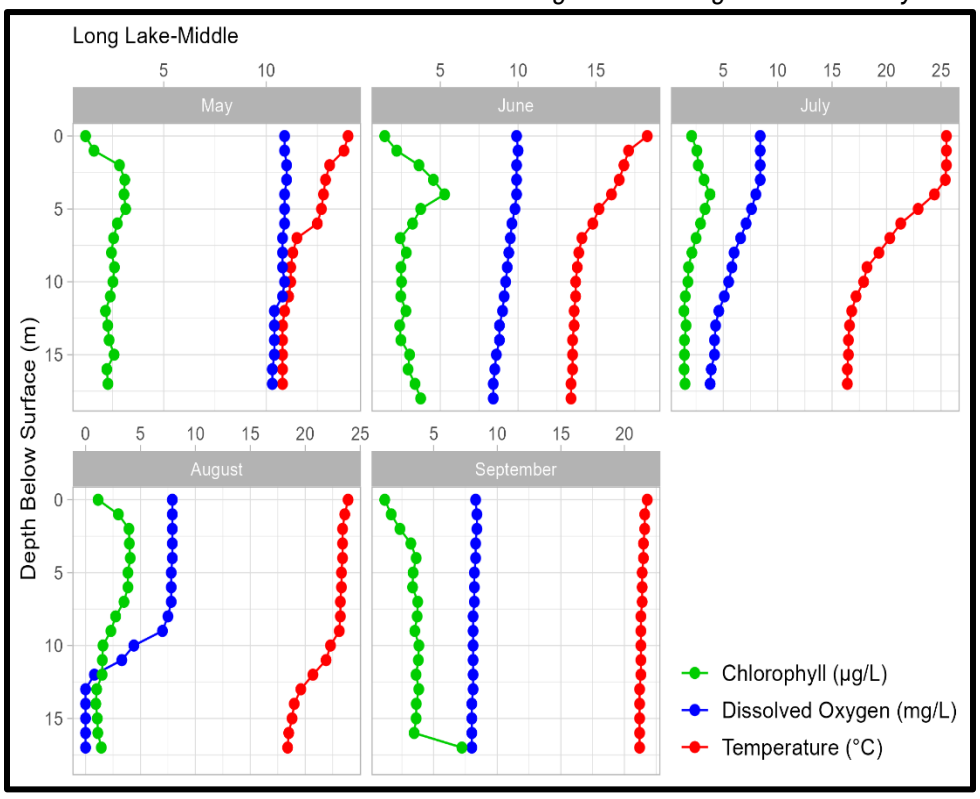
Chlorophyll

2025 Average: 3.9 ppb, which is above the long-term average

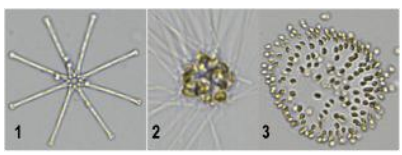
- moderate amounts overall

Trend: stable chlorophyll levels over time

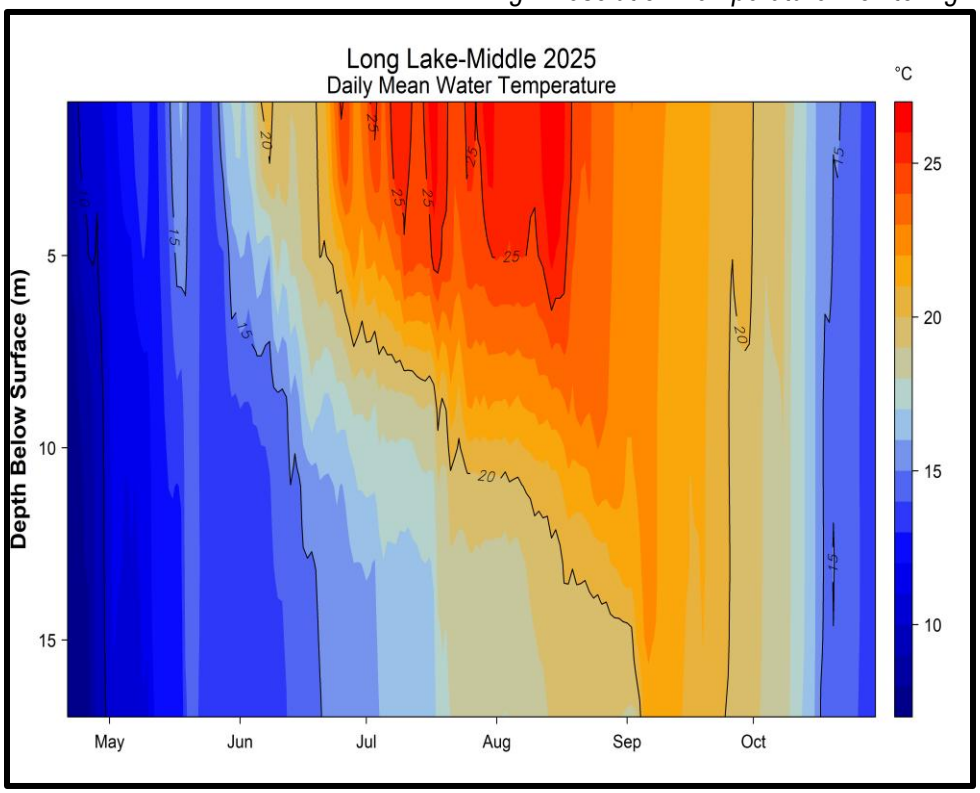
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest between 4-5 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Asterionella* (bacillariophyceae), 2) *Chrysosphaerella* (chrysophyceae), and 3) *Uroglena* (chrysophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



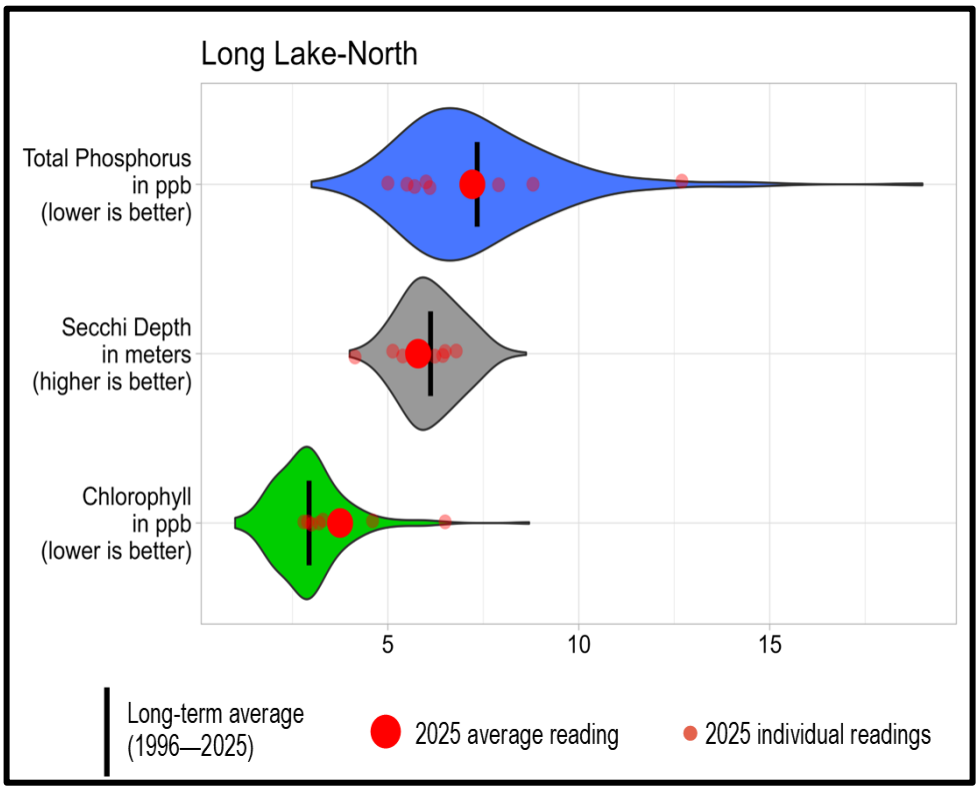
- The water column of Long Lake's middle basin was weakly stratified when sensors were deployed.
- There were at least 4 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in both June and July. However, this season's peak temperature was recorded in mid-August.
- The water column mixed temporarily in mid-September, re-stratified briefly and weakly in early October, and completely mixed again for the season in mid-October.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/21/2025	27.6/ 81.7	8/12/2025	10/16/2025	10/30/2025

Field Technician Tim Blair removing a temperature sensor buoy at the end of the summer season.

Long Lake, North Basin – MIDAS 5780

Water Quality



Total Phosphorus

2025 Average: 7.2 ppb, which is near the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 5.8 meters, which is near the long-term average

- moderate clarity overall

Trend: decreasing clarity over time

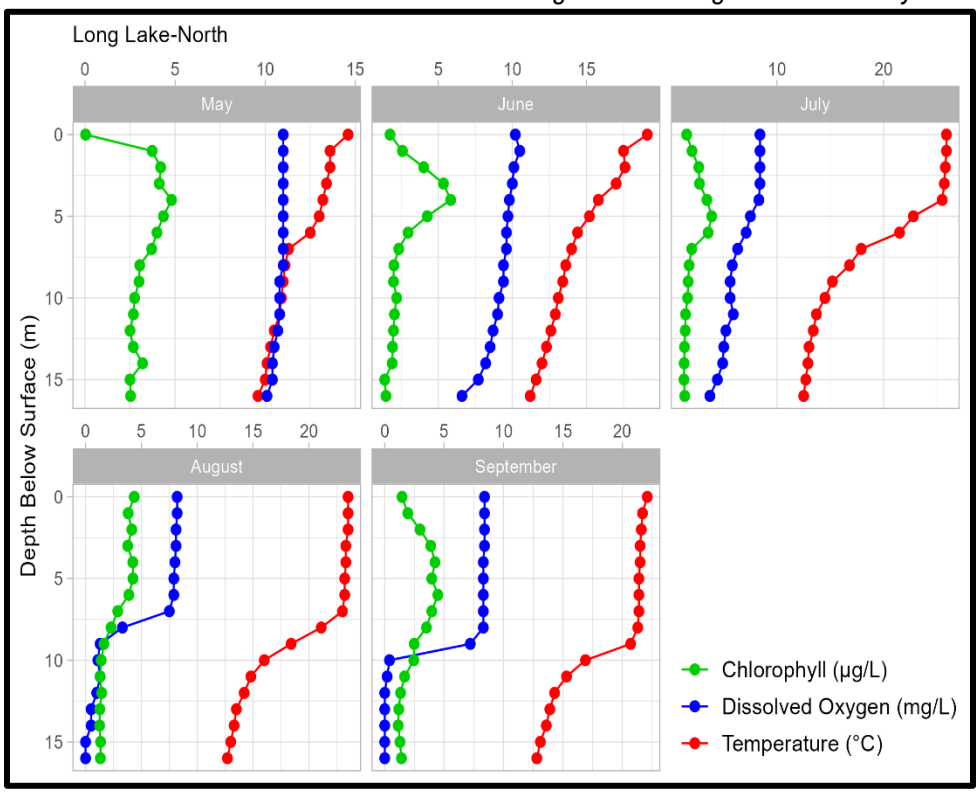
Chlorophyll

2025 Average: 3.8 ppb, which is above the long-term average

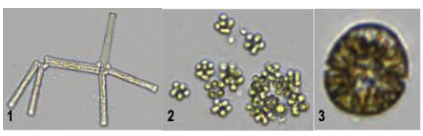
- moderate amounts overall

Trend: stable chlorophyll levels over time

Algae Monitoring via Fluorometry

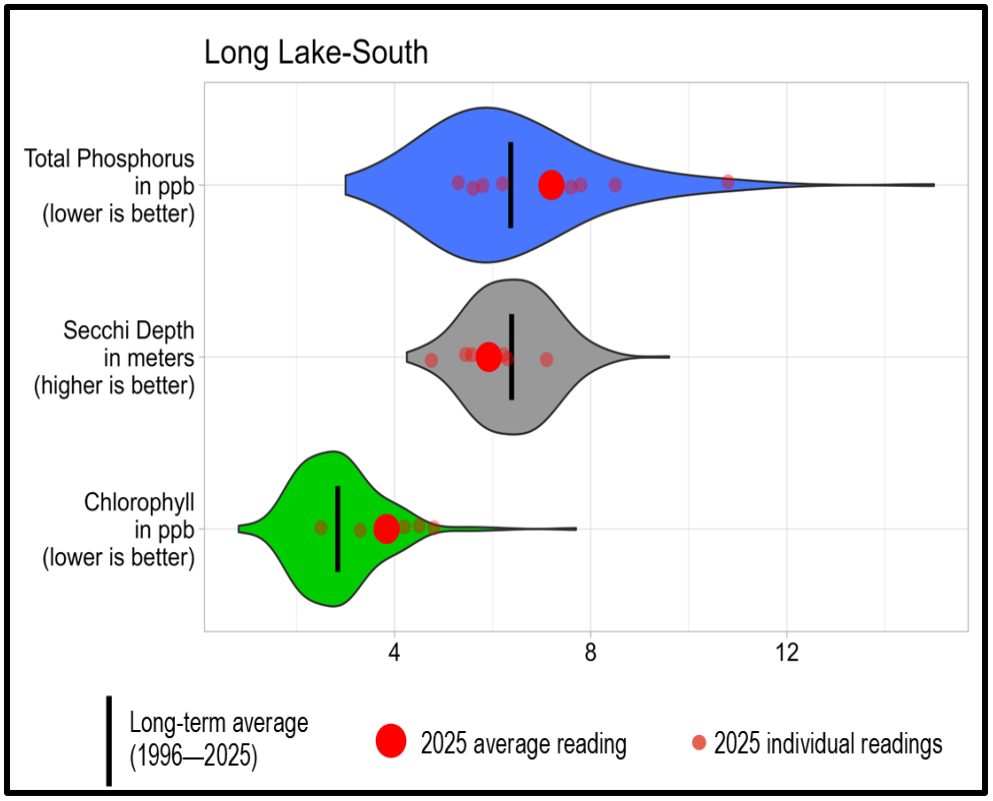


- No algae blooms were observed this year
- Fluorescence tended to be highest between 4-5 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Tabellaria* (bacillariophyceae), 2) *Sphaerocystis* (chlorophyceae), and 3) *Gymnodinium* (dinophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



Long Lake, South Basin – MIDAS 5780

Water Quality



Total Phosphorus
2025 Average: 7.2 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

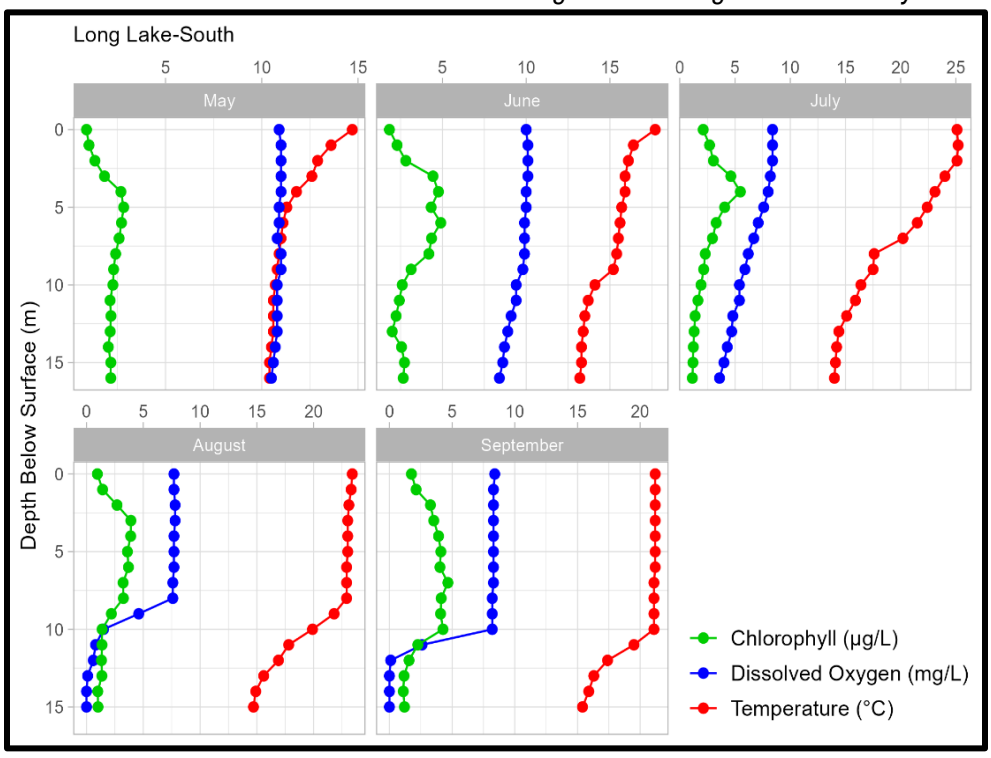
Secchi Depth
2025 Average: 5.9 meters, which is shallower than the long-term average
- moderate clarity overall

Trend: stable clarity over time

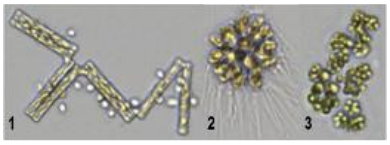
Chlorophyll
2025 Average: 3.8 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

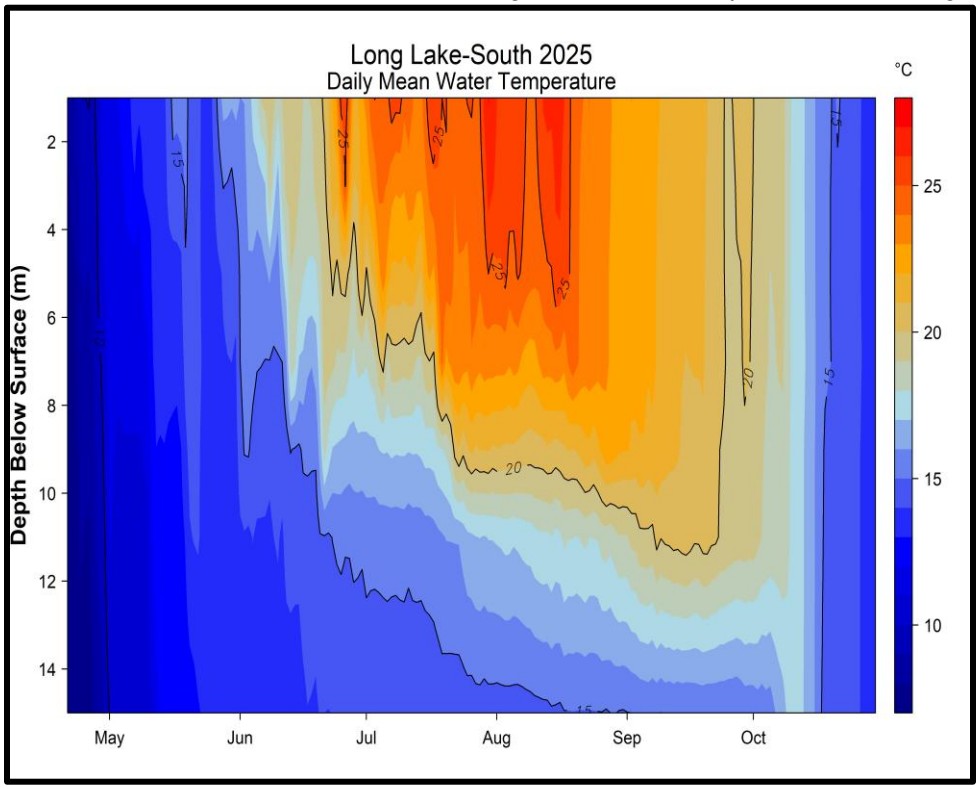
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest between 3-7 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Tabellaria* (bacillariophyceae), 2) *Chrysosphaerella* (chrysophyceae), and 3) *Sphaerocystis* (chlorophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



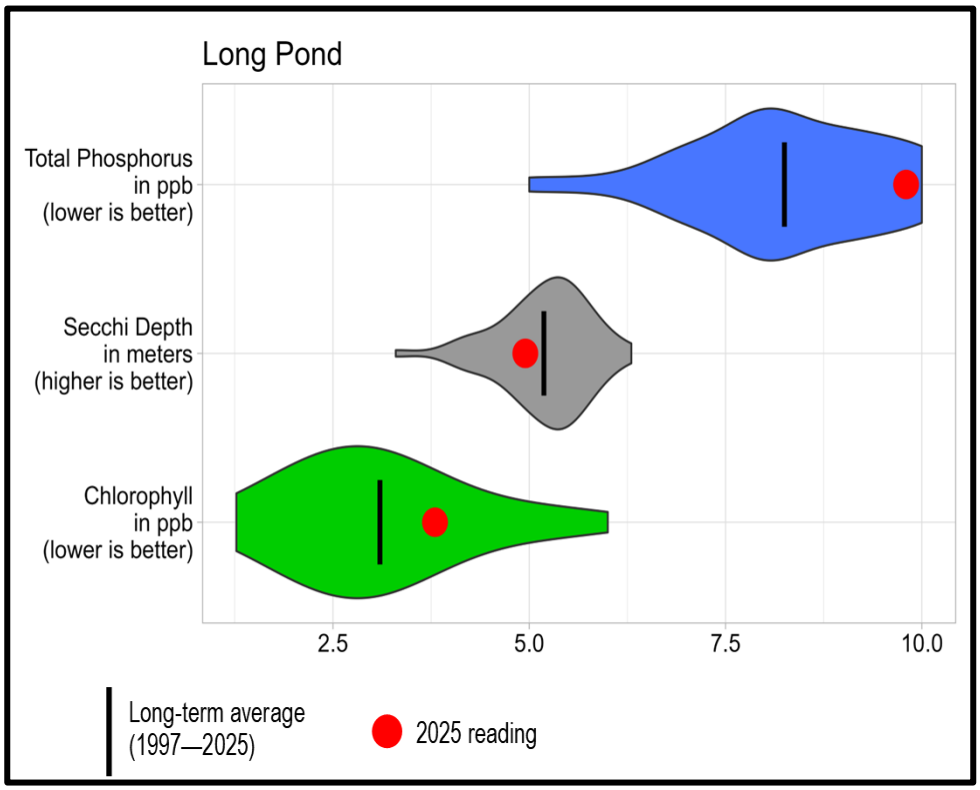
- The water column of Long Lake's south basin was weakly stratified when sensors were deployed.
- There were at least 4 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature in the South Basin was recorded in late July.
- Waters cooled in late September, allowing most of the water column to mix but it then re-stratified later that month.
- The water column mixed for the season in early October.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/21/2025	28.0/ 82.4	7/30/2025	10/10/2025	10/30/2025

Tim on his "morning commute" to one of Long Lake's three sampling locations for an early season water testing visit.

Long Pond – MIDAS 3084

Water Quality



Total Phosphorus
2025 Average: 9.8 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 5.0 meters, which is shallower than the long-term average
- moderate clarity overall

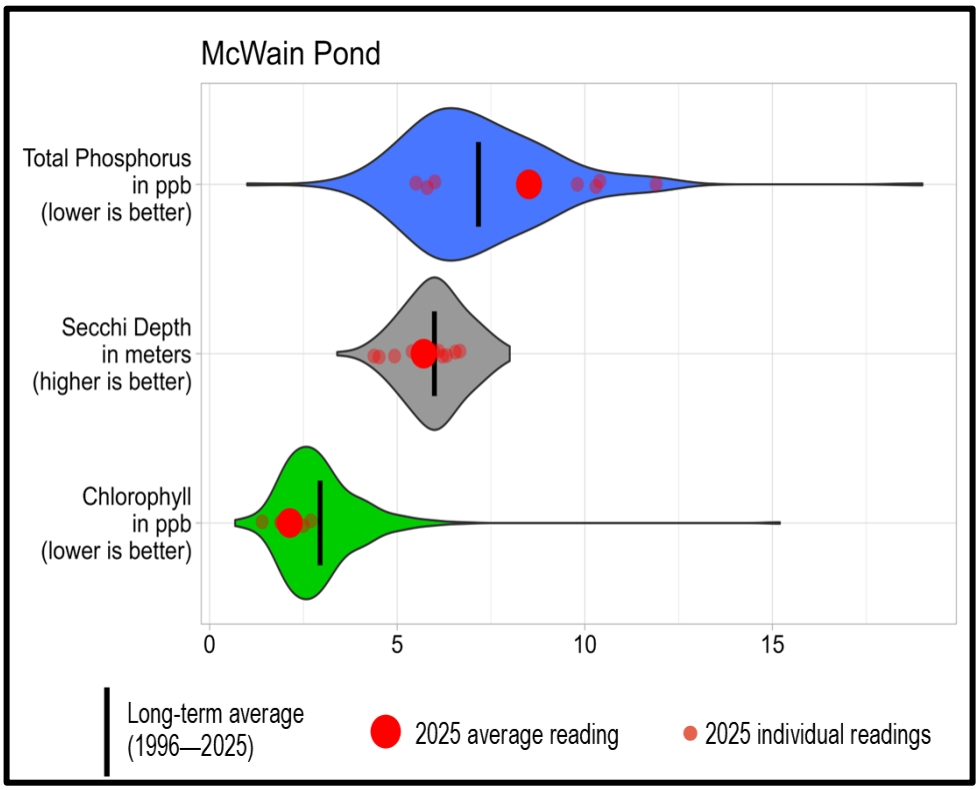
Trend: decreasing clarity over time

Chlorophyll
2025 Average: 3.8 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

LEA's smaller ponds are visited once a year in mid-August.

Water Quality



Total Phosphorus
2025 Average: 8.5 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

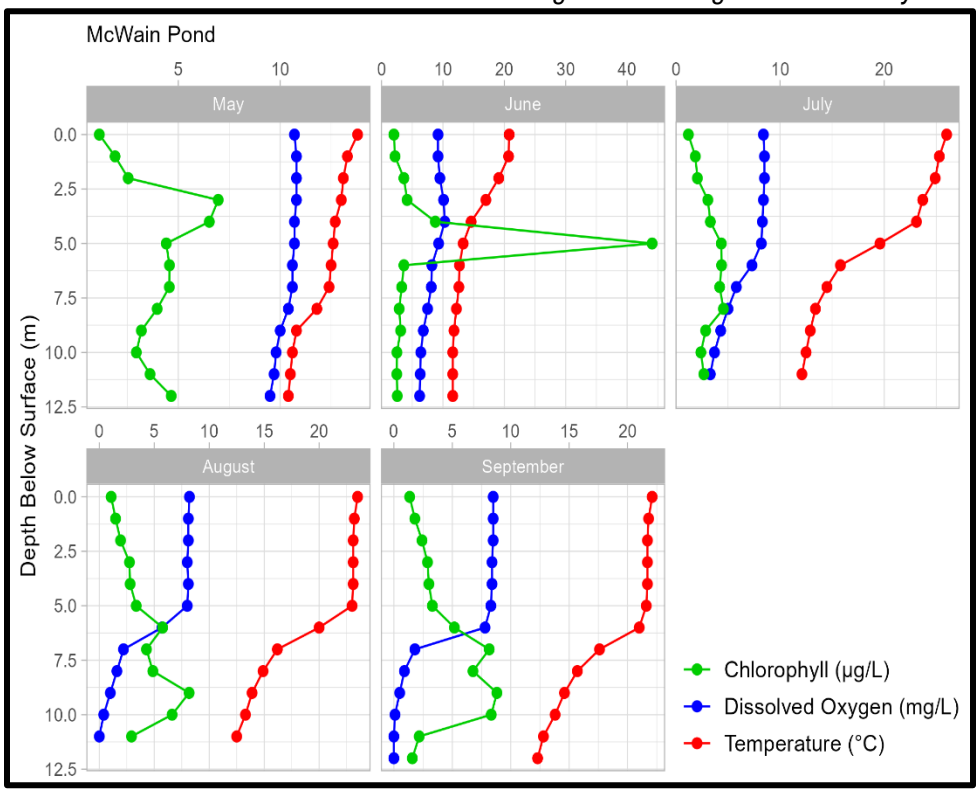
Secchi Depth
2025 Average: 5.7 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

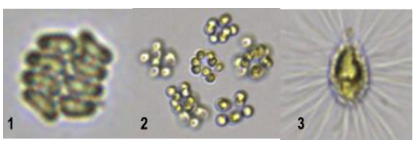
Chlorophyll
2025 Average: 2.1 ppb, which is below the long-term average
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

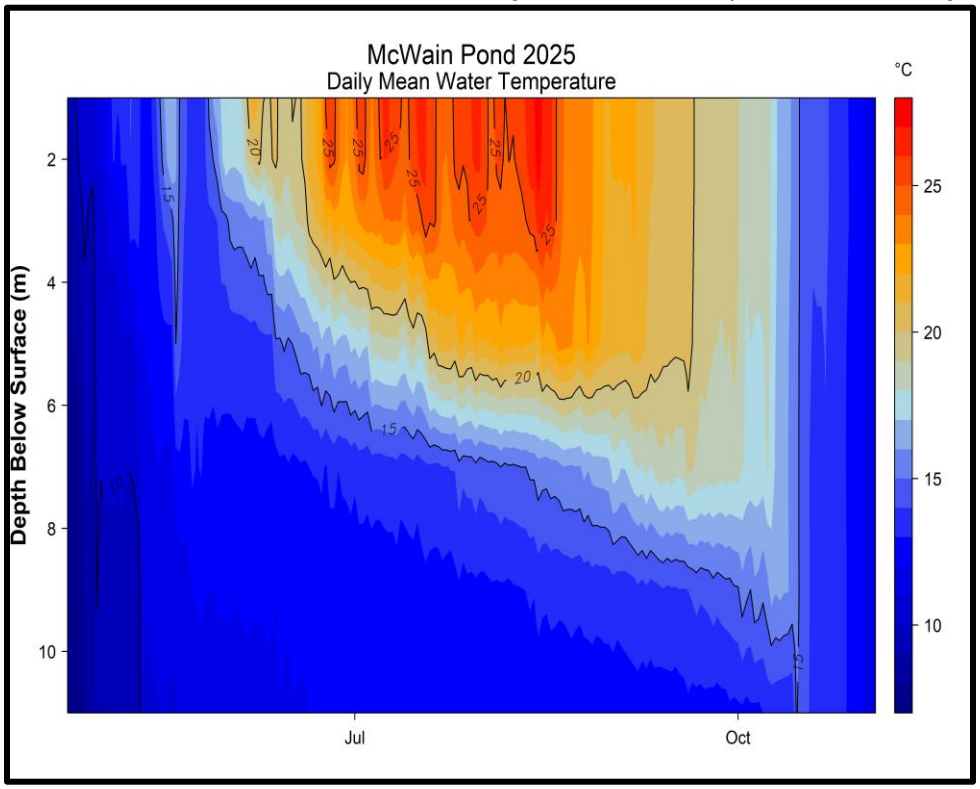
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- With the exception of May, peak fluorescence was between 5-9 meters, indicating algae growth was highest below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Scenedesmus* (chlorophyceae), 2) *Sphaerocystis* (chlorophyceae), and 3) *Mallomonas* (chrysophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



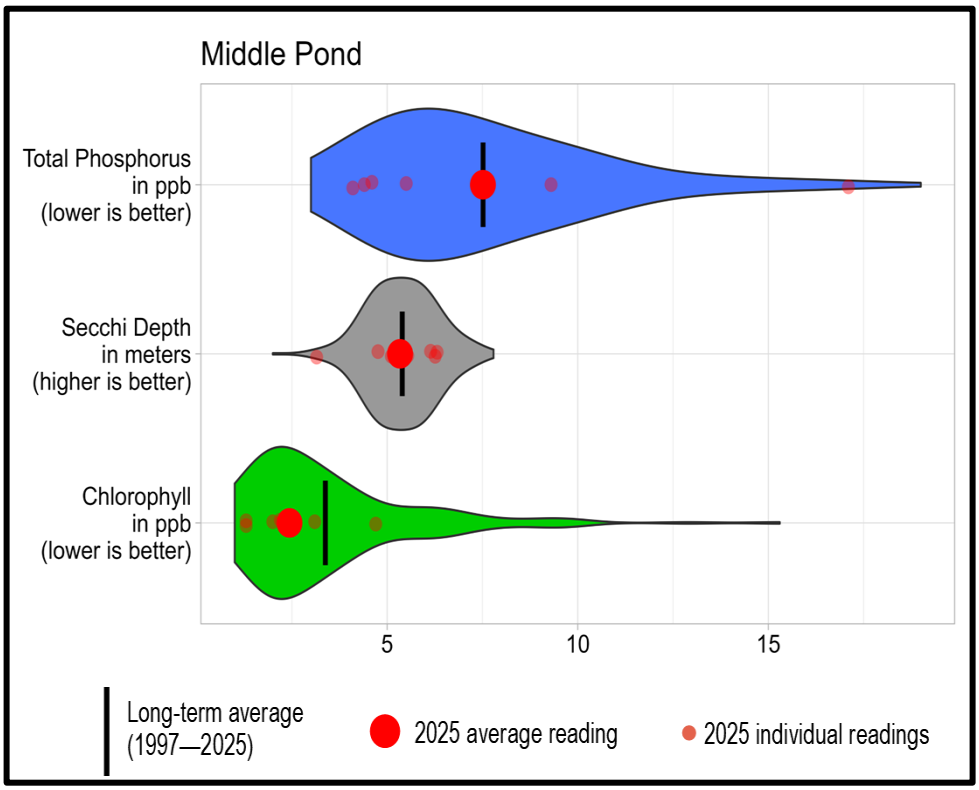
- The water column of McWain Pond was weakly stratified when sensors were deployed.
- There were 5-6 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in late August.
- The water column mixed for the season in mid-October.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/23/2025	28.3/ 82.9	8/14/2025	10/24/2025	11/3/2025

View of McWain Pond from the shore.

Middle Pond – MIDAS 3201

Water Quality



Total Phosphorus

2025 Average: 7.5 ppb, which is near the long-term average

- moderate amounts overall
- high phosphorus readings and low oxygen near bottom indicate some level of internal phosphorus loading

Trend: decreasing phosphorus levels over time

Secchi Depth

2025 Average: 5.3 meters, which is near the long-term average

- moderate clarity overall

Trend: increasing clarity over time

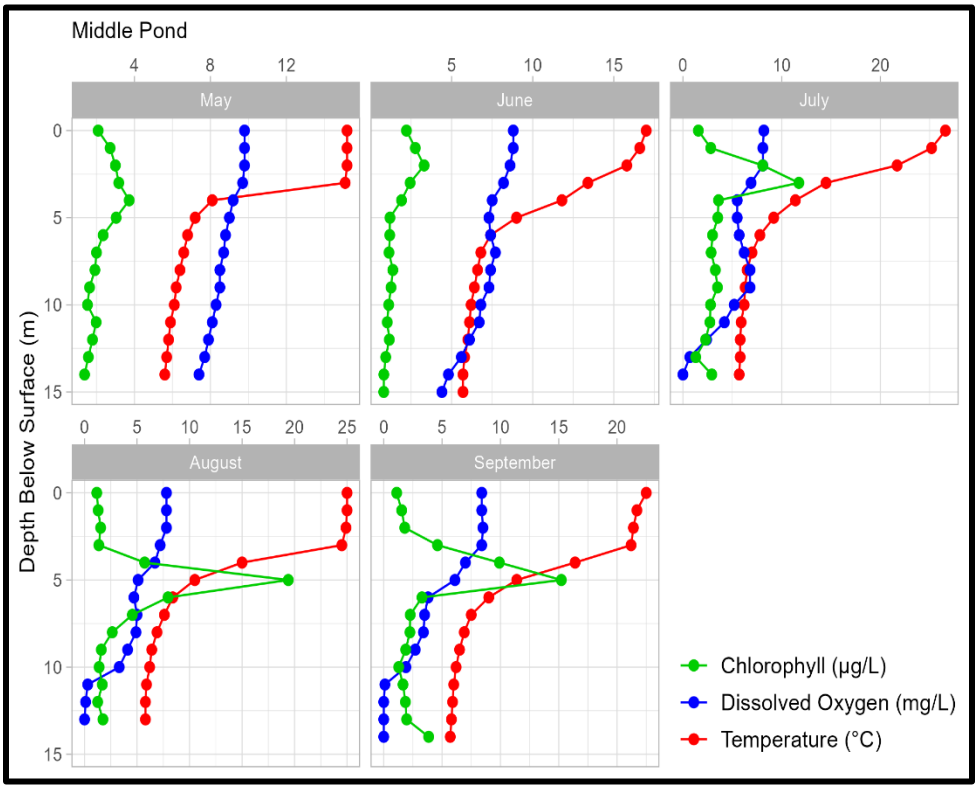
Chlorophyll

2025 Average: 2.4 ppb, which is below the long-term average

- moderate amounts overall

Trend: decreasing chlorophyll levels over time

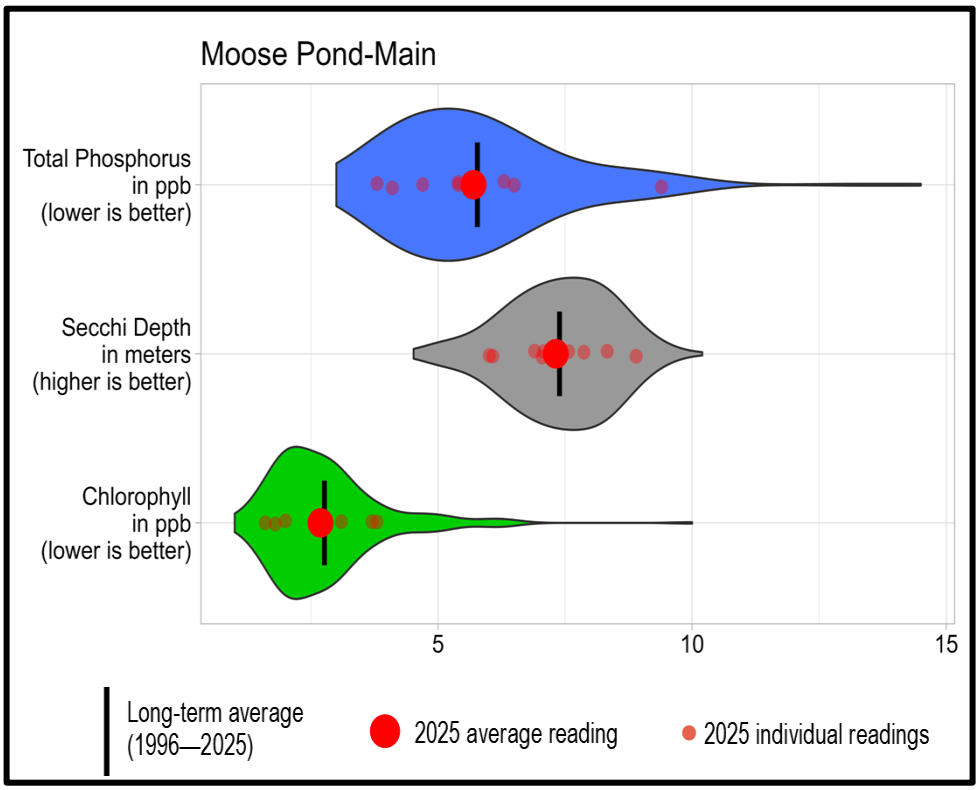
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence peaks ranged from 2-5 meters with the highest readings at 5 meters, which is below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Merismopedia* (cyanobacteria) 2) *Sphaerocystis* (chlorophyceae), and 3) *Uroglena* (chrysophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern

Moose Pond, Main Basin – MIDAS 3134

Water Quality



Total Phosphorus

2025 Average: 5.7 ppb, which is near the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 7.3 meters, which is near the long-term average

- high clarity overall

Trend: stable clarity levels over time

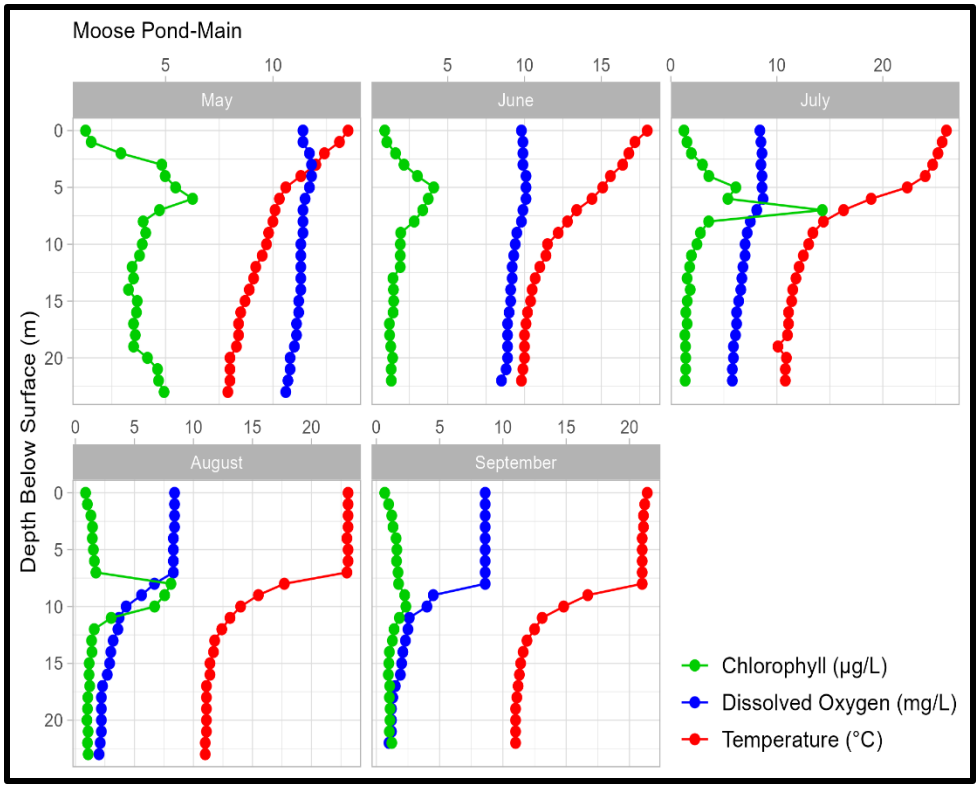
Chlorophyll

2025 Average: 2.7 ppb, which is near the long-term average

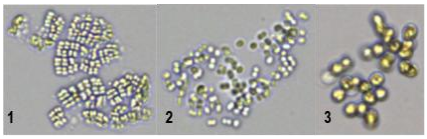
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

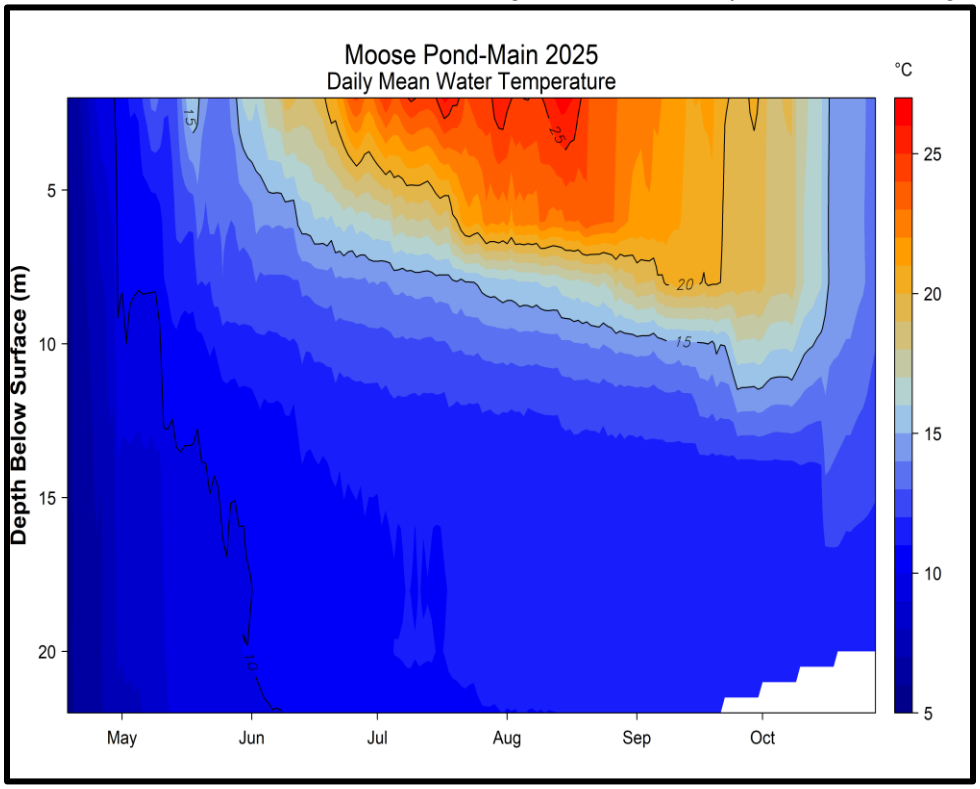
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence peaks were all below 5 meters, which is below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Merismopedia* (Cyanobacteria), 2) *Aphanocapsa* (Cyanobacteria), and 3) *Stichogloea* (chyrsophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



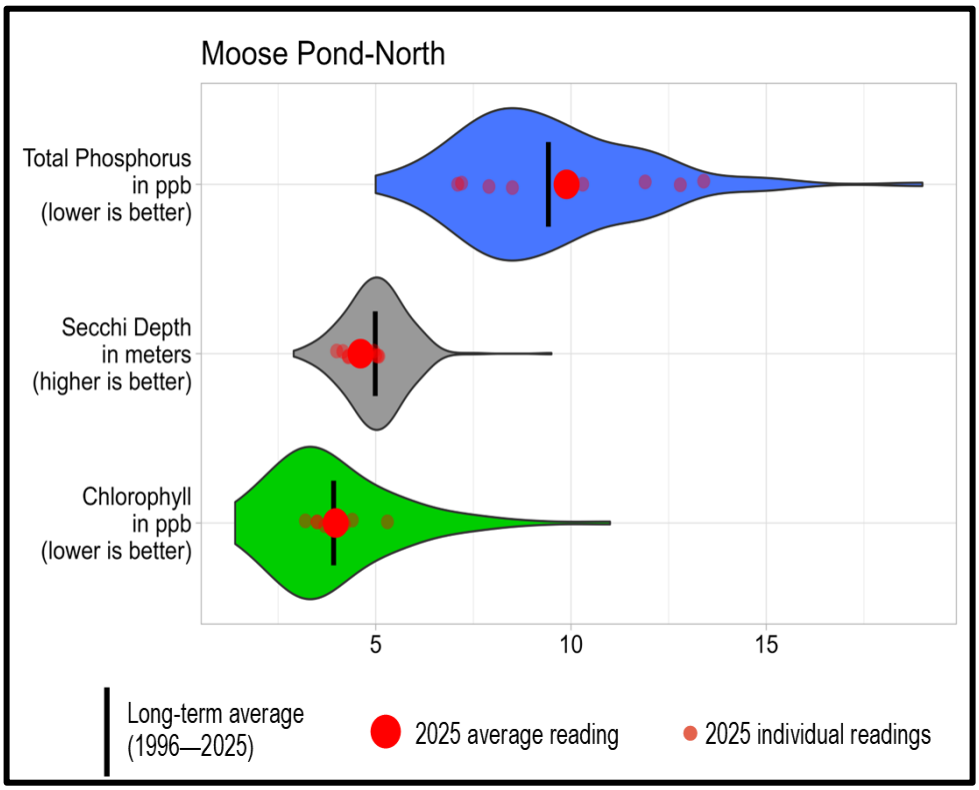
- The water column of Moose Pond's main basin was weakly stratified when sensors were deployed.
- There were at least 3 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-July.
- Shallow waters began to cool and mix with waters from the middle depths in early September.
- Temperatures throughout the water column were becoming more uniform, but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/18/2025	26.9/ 80.4	7/17/2025	After Retrieval	10/28/2025

A beautiful fall day of water testing on Moose Pond.

Moose Pond, North Basin – MIDAS 3134

Water Quality



Total Phosphorus

2025 Average: 9.9 ppb, which is above the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 4.6 meters, which is near the long-term average

- moderate clarity overall

Trend: decreasing clarity over time

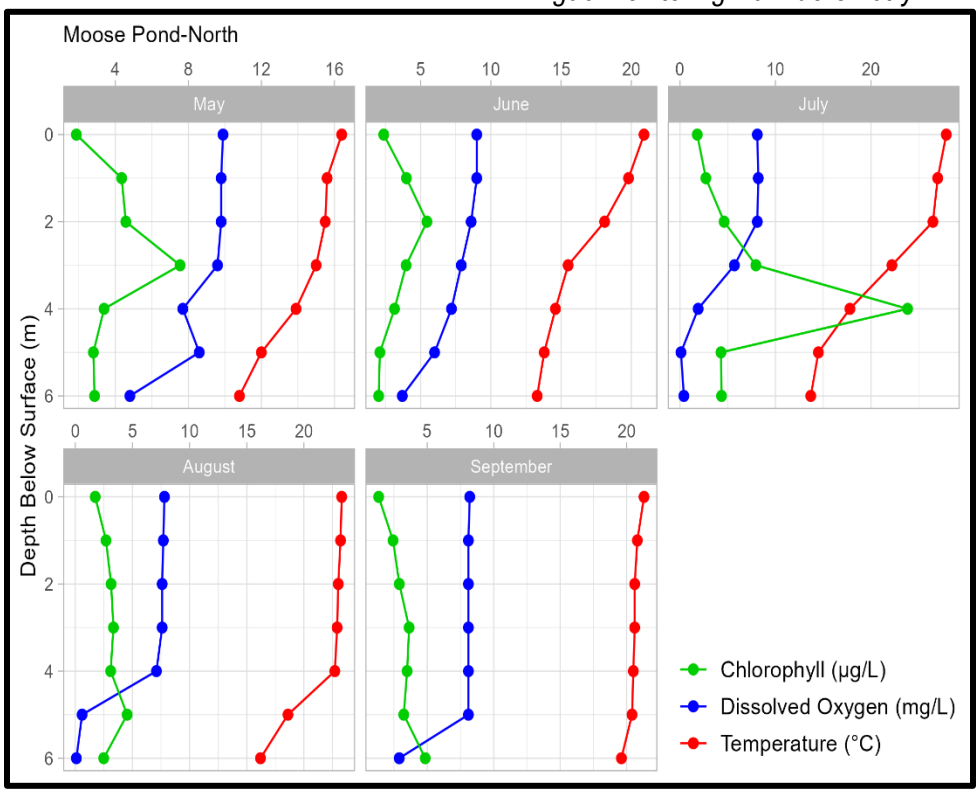
Chlorophyll

2025 Average: 4.0 ppb, which is near the long-term average

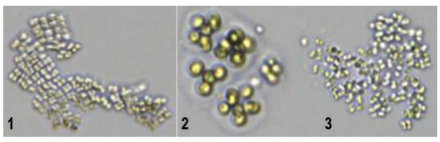
- moderate amounts overall

Trend: stable chlorophyll levels over time

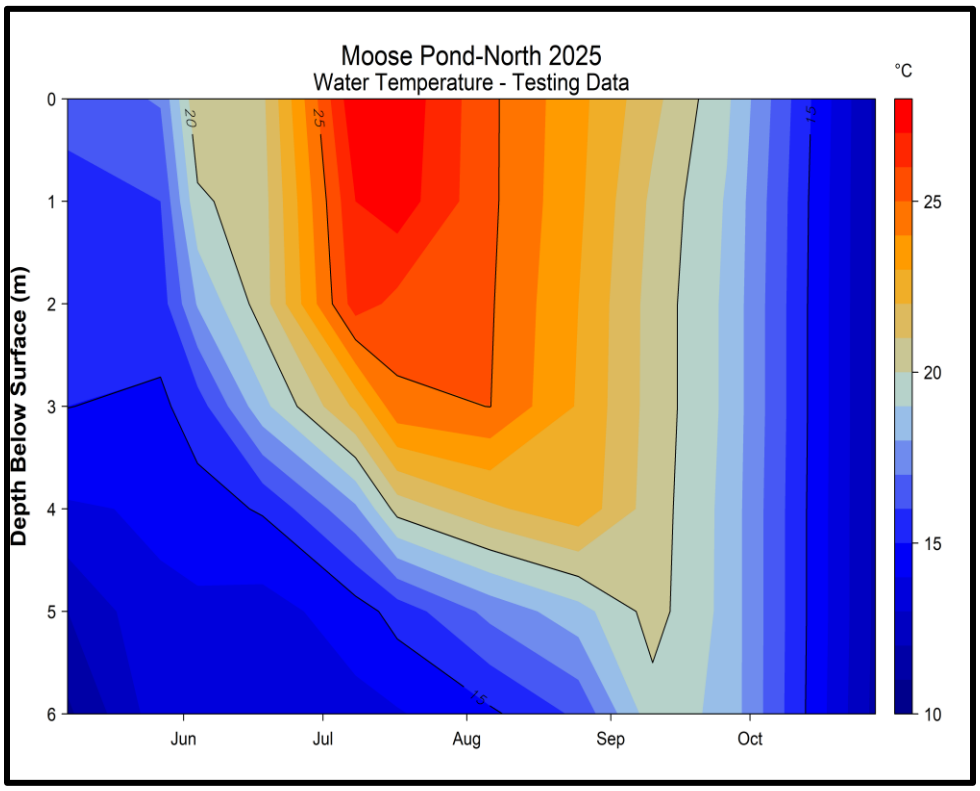
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence was highest in July but the peak was at a depth of 4 meters, which is below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Merismopedia* (cyanobacteria), 2) *Sphaerocystis* (chlorophyceae), and 3) *Aphanocapsa* (cyanobacteria)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern

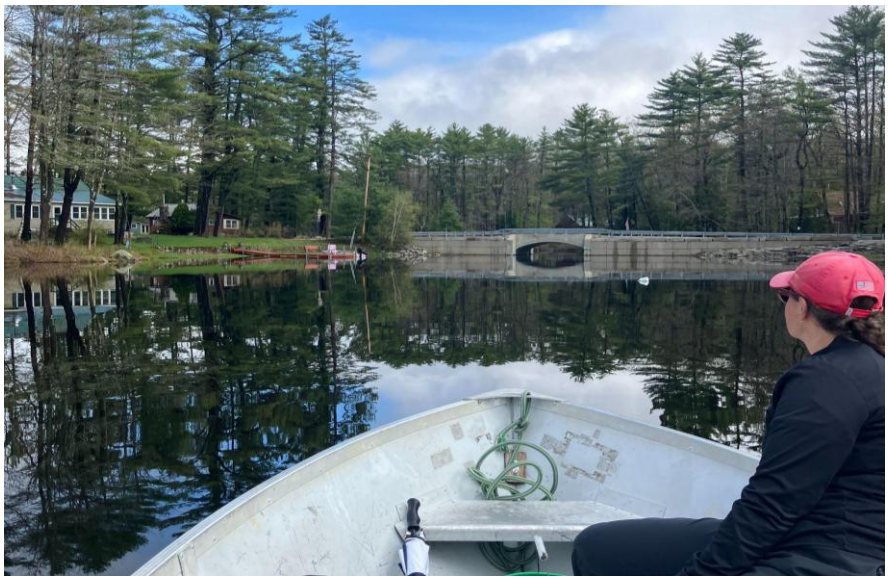


High-Resolution Temperature Monitoring



- Surface water temperatures increased gradually until reaching peak temperature in mid-June, which is much earlier than usual and may be a result of missing data from a failed 1-meter sensor
- The water column mixed for the season in mid-September
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

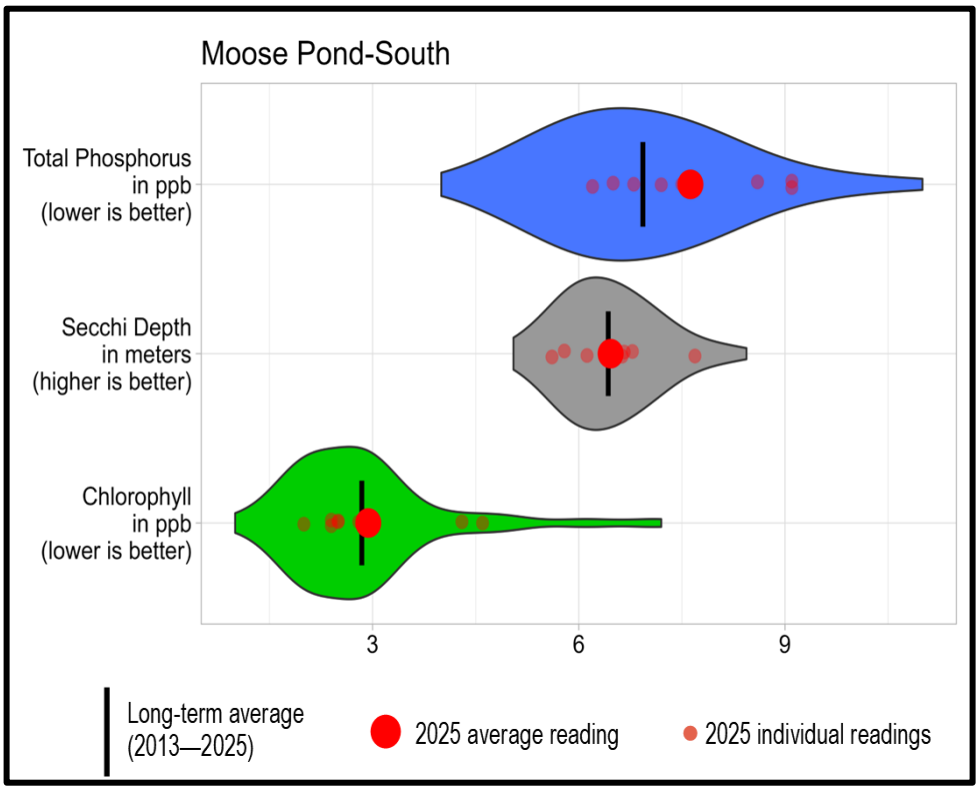
Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/18/2025	29.3 / 84.7	6/25/2025	9/18/2025	10/28/2025



Maggie Welch, staff limnologist, heading into the narrows after monitoring and collecting samples from the south basin.

Moose Pond, South Basin – MIDAS 3134

Water Quality



Total Phosphorus
2025 Average: 7.6 ppb, which is above the long-term average
- moderate amounts overall

Trend: increasing phosphorus levels over time

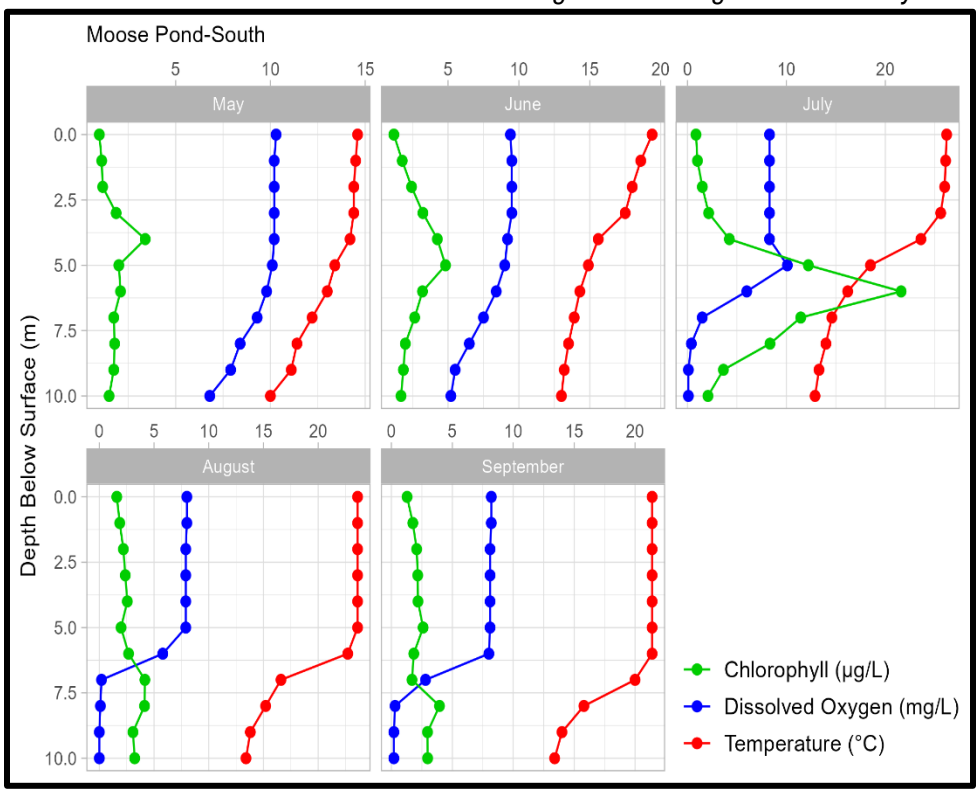
Secchi Depth
2025 Average: 6.5 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

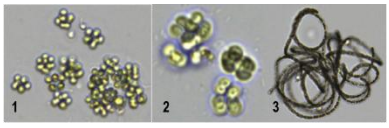
Chlorophyll
2025 Average: 2.9 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

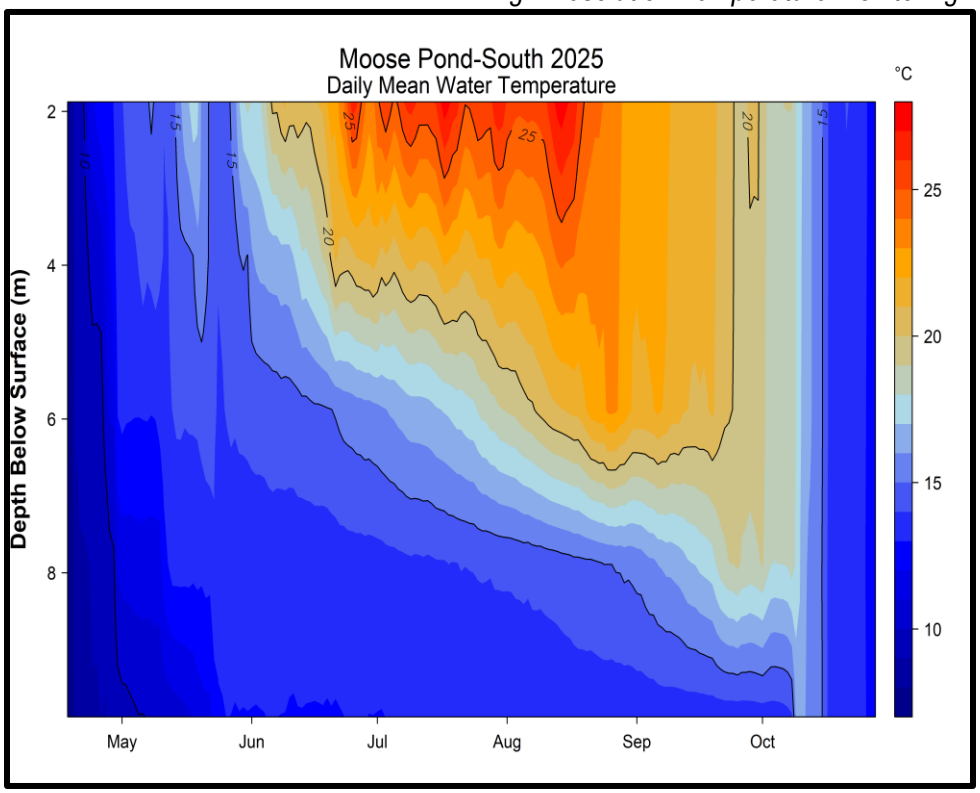
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest between 4 and 8 meters, which is below the portion of the water column people typically use
- 2025's dominant algal genus included: 1) *Sphaerocystis* (chlorophyceae), 2) *Chroococcus* (cyanobacteria), and 3) *Dolichospermum* (cyanobacteria)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



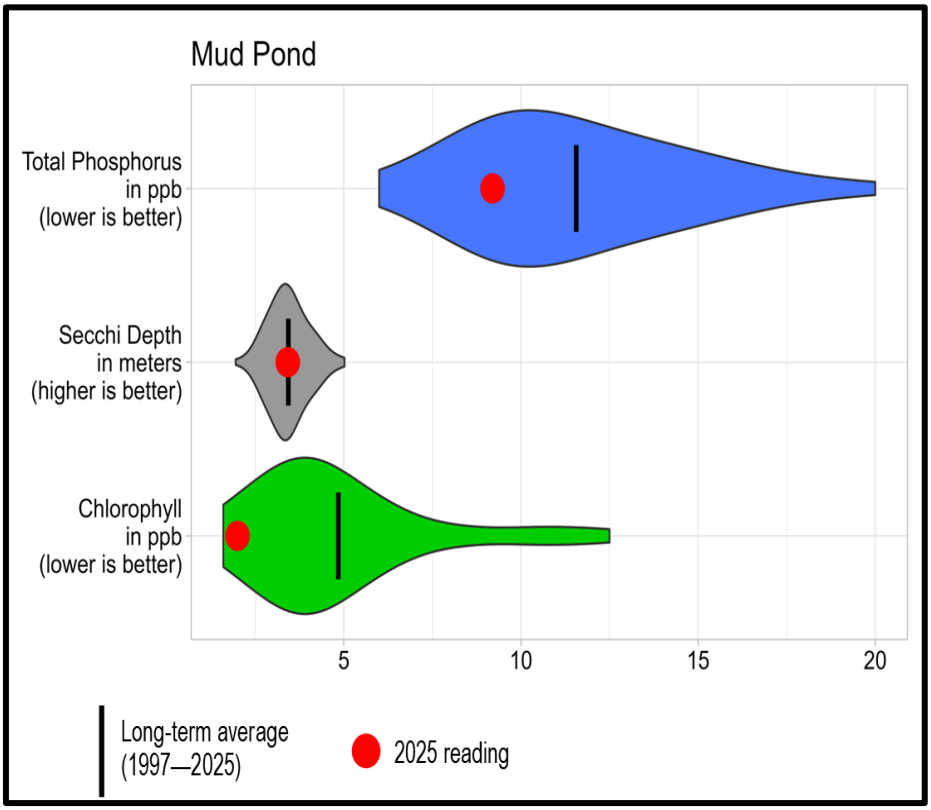
- The water column of Moose Pond's south basin was weakly stratified when sensors were deployed.
- There were 3 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-July.
- Shallow waters began to cool and mix with waters from the middle depths in September.
- The water column mixed for the season in mid-October.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/18/2025	28.1/82.6	7/17/2025	10/12/025	10/28/2025

Morning fog on Moose Pond's south basin, with Pleasant Mountain in the background.

Mud Pond – MIDAS 3422

Water Quality



Total Phosphorus
2025 Average: 9.2 ppb, which is below the long-term average
- moderate amounts overall
- high phosphorus readings and low oxygen near bottom indicate some level of internal phosphorus loading

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 3.4 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity levels over time

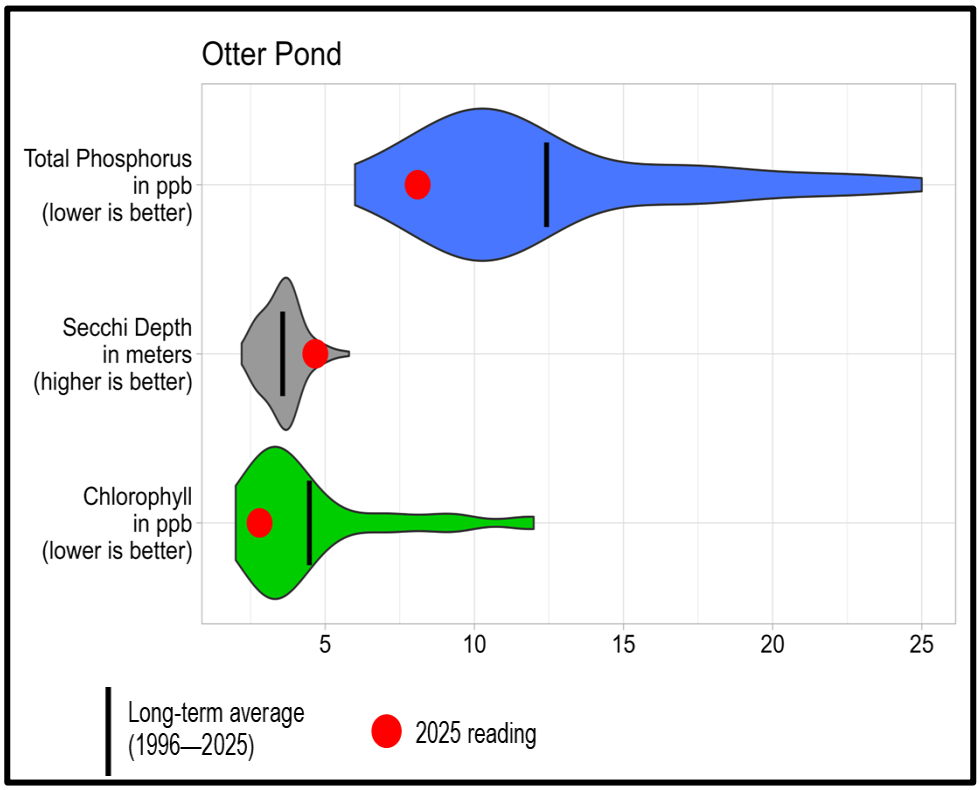
Chlorophyll
2025 Average: 2.0 ppb, which is below the long-term average
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

Paddling from Back Pond to Middle Pond during a water testing visit to the Five Kezar Ponds.

Otter Pond – MIDAS 3458

Water Quality



Total Phosphorus
2025 Average: 8.1 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 4.7 meters, which is deeper than the long-term average
- moderate clarity overall

Trend: increasing clarity over time

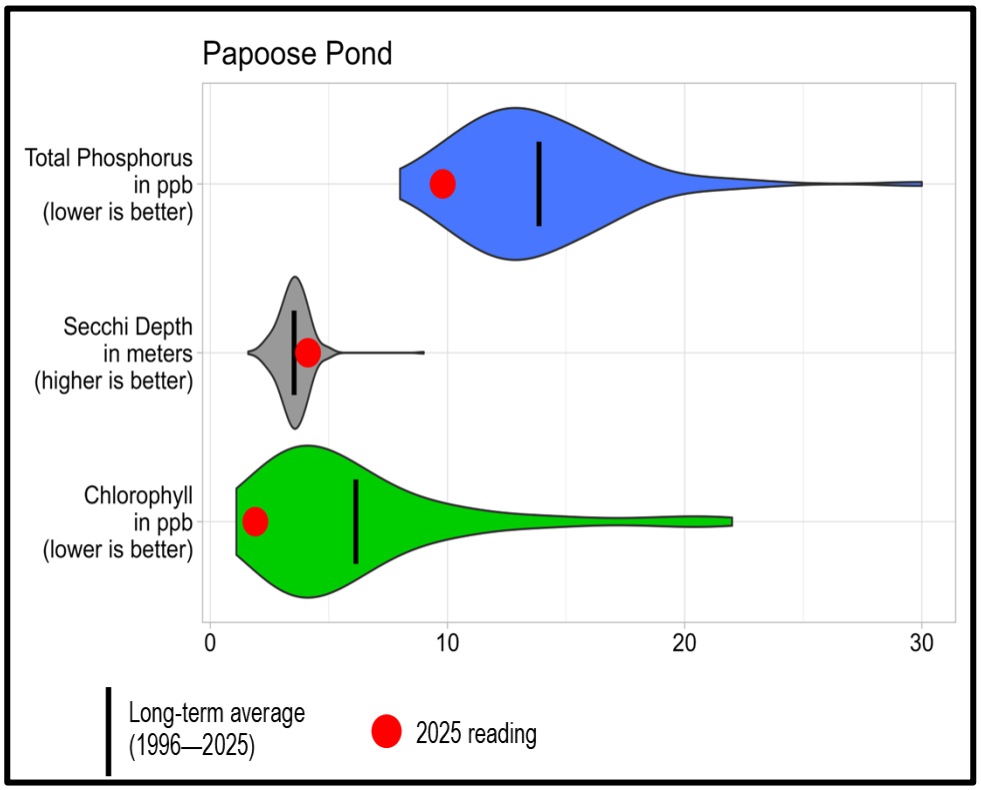
Chlorophyll
2025 Average: 2.8 ppb, which is below the long-term average
- moderate amounts overall

Trend: decreasing chlorophyll levels over time

View of Otter Pond from the south shore.

Papoose Pond – MIDAS 3414

Water Quality



Total Phosphorus
2025 Average: 9.8 ppb, which is below the long-term average
- high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: 4.1 meters, which is deeper than the long-term average
- moderate clarity overall

Trend: increasing clarity over time

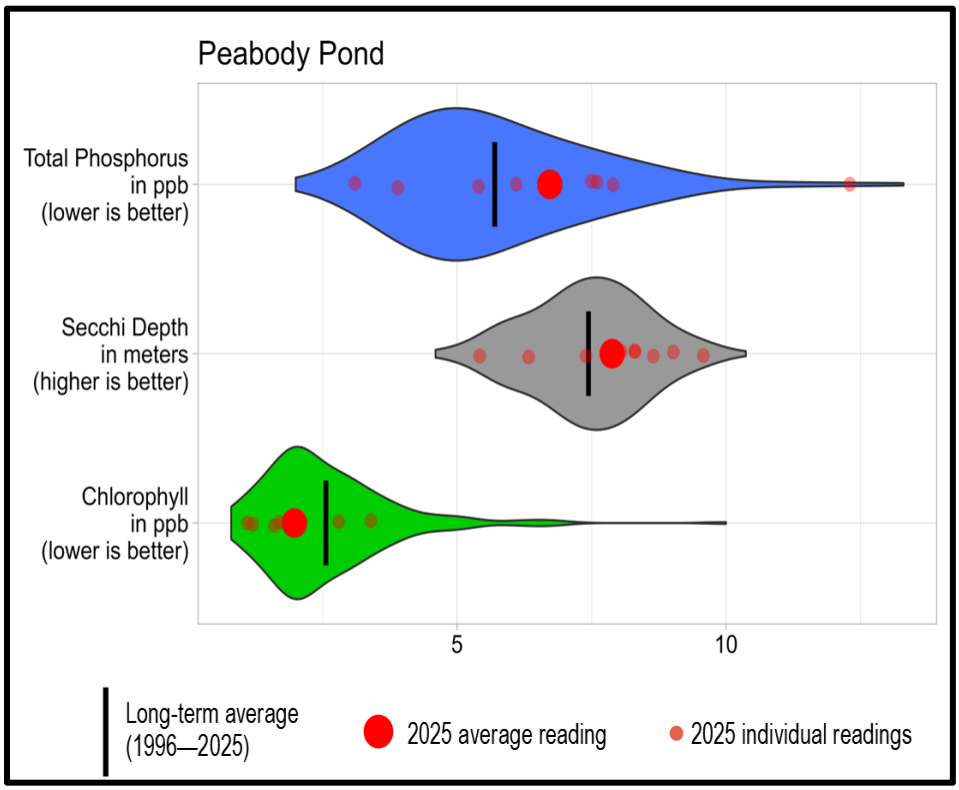
Chlorophyll
2025 Average: 1.9 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

Water testing equipment needed to collect samples on lakes every August.

Peabody Pond – MIDAS 3374

Water Quality



Total Phosphorus
2025 Average: 6.7 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

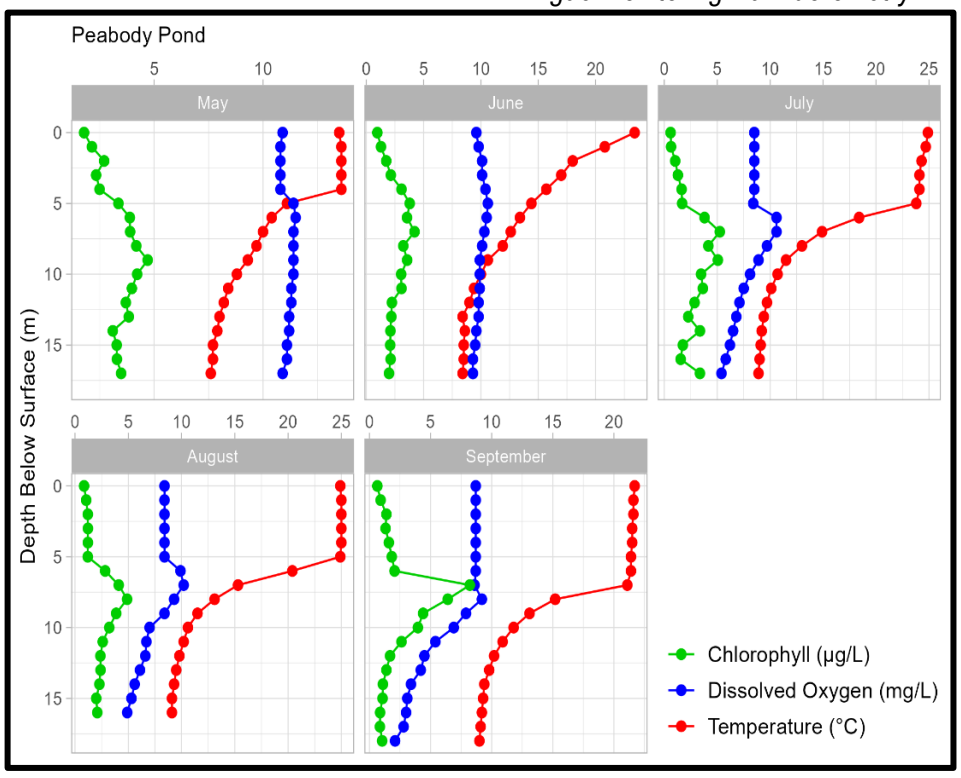
Secchi Depth
2025 Average: 7.9 meters, which is deeper than the long-term average
- moderate to high clarity overall

Trend: increasing clarity over time

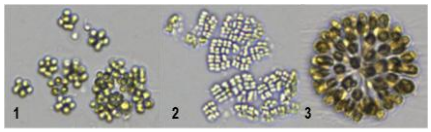
Chlorophyll
2025 Average: 2.0 ppb, which is below the long-term average
- low to moderate amounts overall

Trend: decreasing chlorophyll levels over time

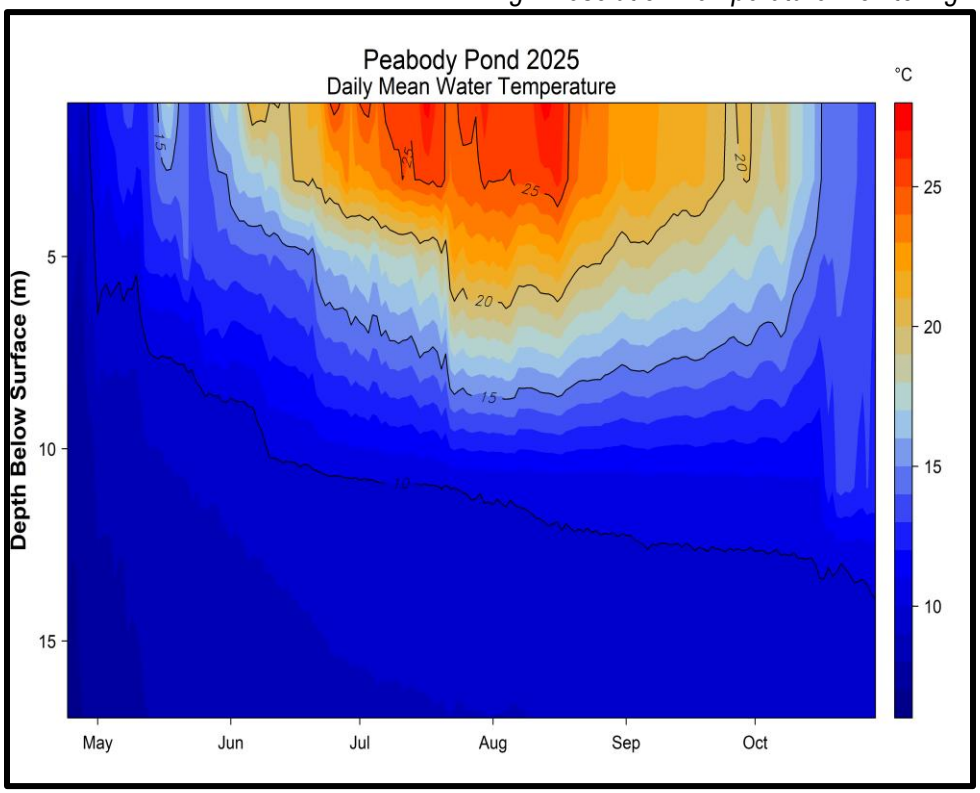
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest between 7 and 8 meters, which is below the portion of the water column people typically use or see
- 2025's dominant algal genus included: 1) *Sphaerocystis* (chlorophyceae), 2) *Merismopedia* (cyanobacteria), and 3) *Synura* (chrysophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



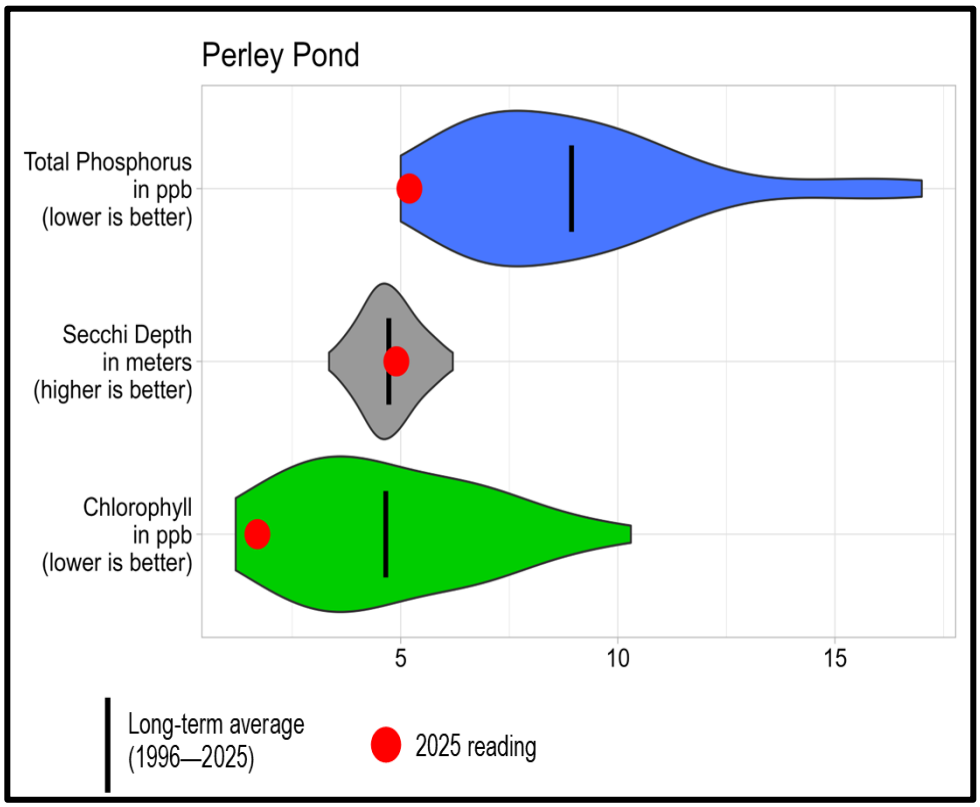
- The water column of Peabody Pond was weakly stratified when sensors were deployed.
- There were at least 3 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in early September
- Temperatures throughout the water column were becoming more uniform, but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/24/2025	28.8/ 83.8	8/14/2025	After Retrieval	10/29/2025

Junior volunteer Oliver Blair practices taking a Secchi reading on Peabody Pond to determine water clarity.

Perley Pond – MIDAS 3410

Water Quality



Total Phosphorus
2025 Average: 5.2 ppb, which is below the long-term average
- moderate amounts overall
- high phosphorus readings and low oxygen concentrations near the bottom indicate some level of internal phosphorus loading

Trend: decreasing phosphorus levels overtime

Secchi Depth
2025 Average**:** 4.9 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

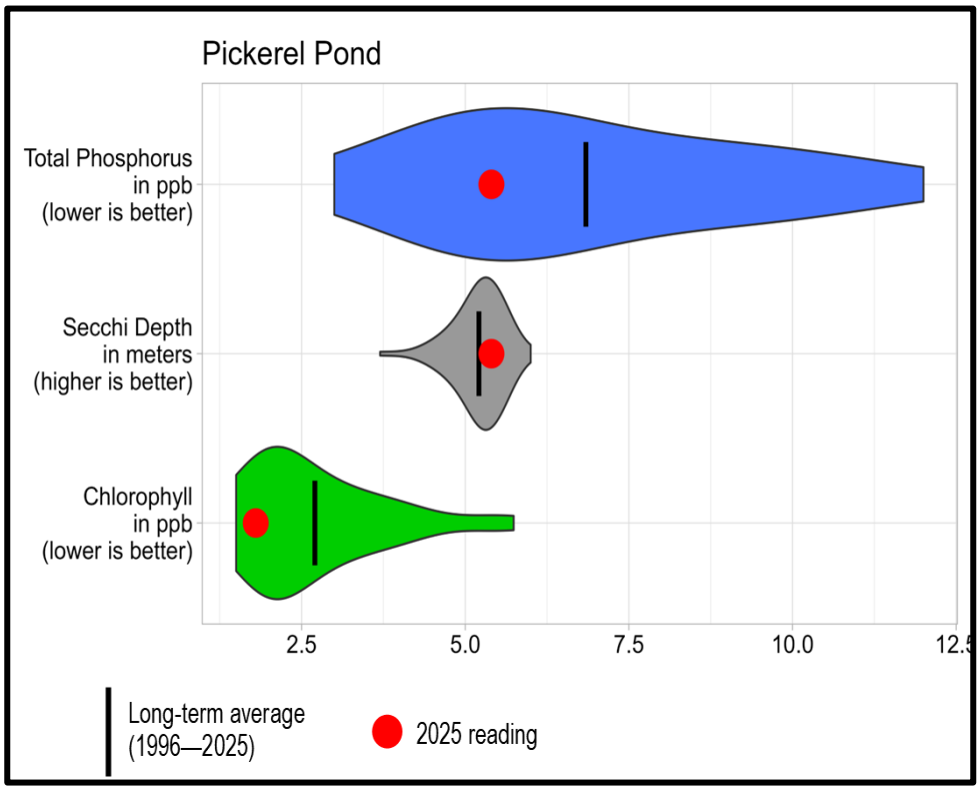
Chlorophyll
2025 Average: 1.7 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

A Bald Eagle on the lookout at Perley Pond.

Pickerel Pond – MIDAS 9687

Water Quality



Total Phosphorus
2025 Average: 5.4 ppb, which is below the long-term average
- moderate amounts overall

Trend: increasing phosphorus levels over time

Secchi Depth
2025 Average: 5.4 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

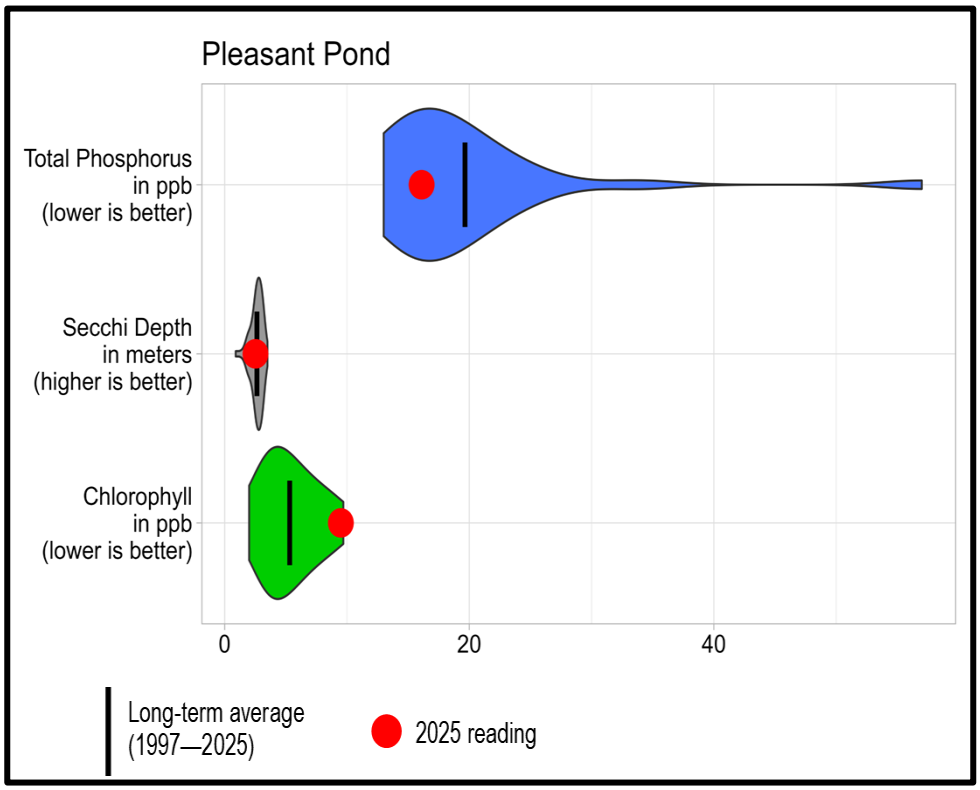
Chlorophyll
2025 Average: 1.8 ppb, which is below the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

Intern Billy O'Connor collects a water sample to identify and quantify Gloeotrichia echenulata colonies.

Pleasant Pond – MIDAS 3252

Water Quality



Total Phosphorus
2025 Average: 16.1 ppb, which is below the long-term average
• high amounts overall
Trend: stable levels over time

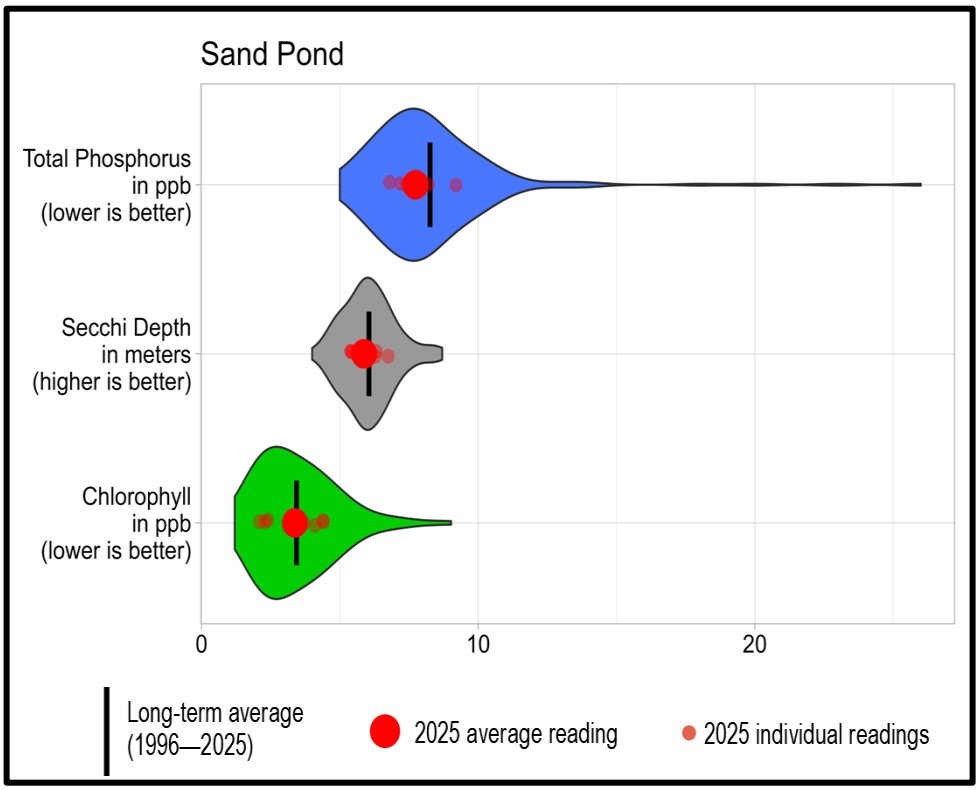
Secchi Depth
2025 Average**:** 2.5 meters, which is near the long-term average
• low clarity overall
Trend: decreasing clarity over time

Chlorophyll
2025 Average: 9.5 ppb, which is above the long-term average
• moderate amounts overall
Trend: stable chlorophyll levels over time

View of Pleasant Pond from the Inland Fisheries and Wildlife carry-in site.

Sand Pond – MIDAS 3130

Water Quality



Total Phosphorus

2025 Average: 7.7 ppb, which is below the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 5.9 meters, which is near the long-term average

- moderate clarity overall

Trend: decreasing clarity over time

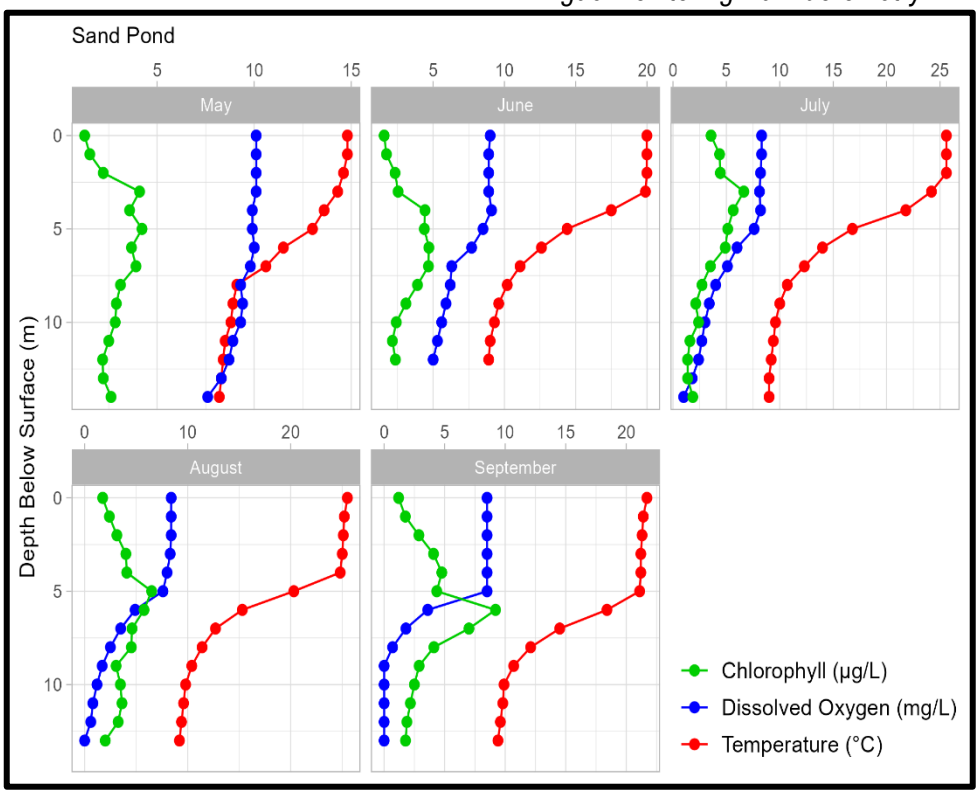
Chlorophyll

2025 Average: 3.4 ppb, which is near the long-term average

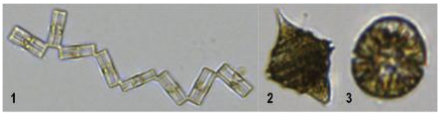
- moderate amounts overall

Trend: stable chlorophyll levels over time

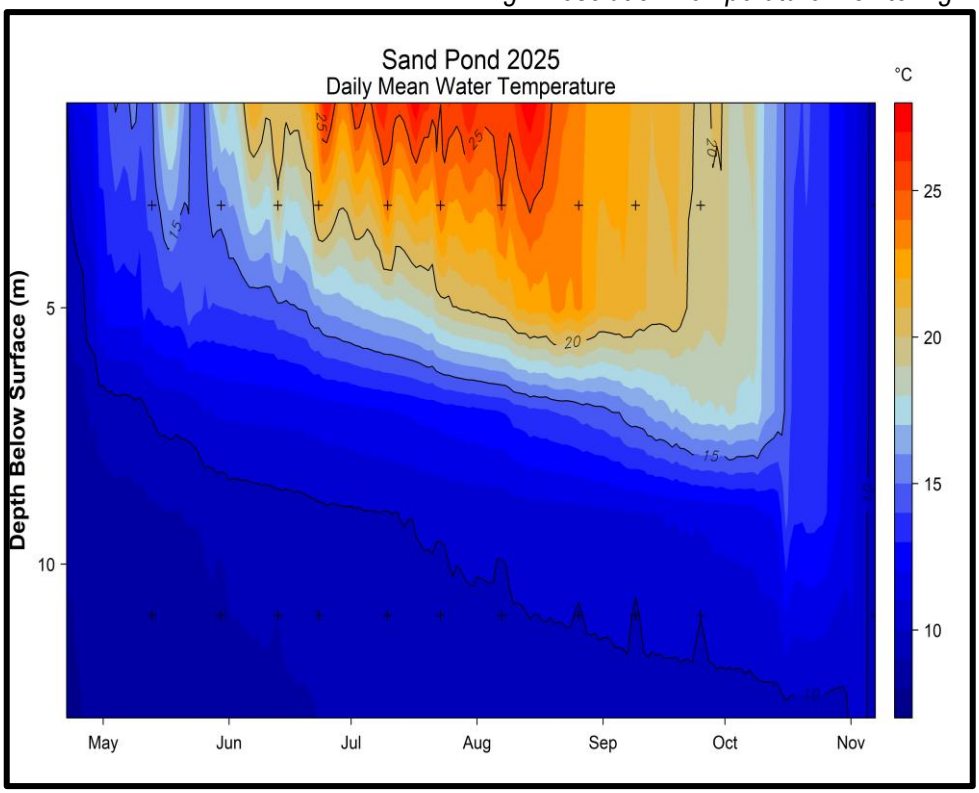
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence tended to be highest between 3 and 6 meters, which is below the portion of the water column people typically use or see
- 2025's dominant algal genus included: 1) *Tabellaria* (bacillariophyceae), 2) *Peridinium* (dinophyceae), and 3) *Gymnodinium* (dinophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



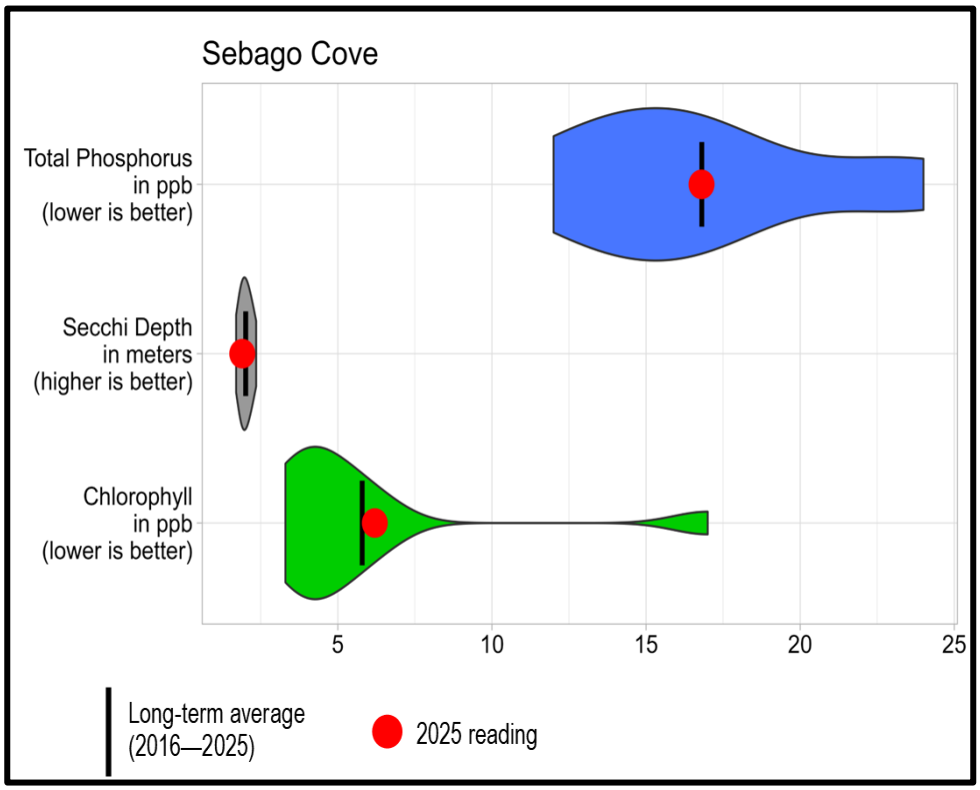
- The water column of Sand Pond was weakly stratified when sensors were deployed.
- There were 3-4 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in September.
- The water column mixed for the season in mid-October.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring, represented by a + symbol, were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/22/2025	28.3/ 82.9	8/14/2025	11/1/2025	11/7/2025

Lauren VanBibber helps tow a loon raft for winter storage after pulling the HOBO temperature buoy on Sand Pond.

Sebago Cove – MIDAS 5786

Water Quality



Total Phosphorus
2025 Average: 16.8 ppb, which is near the long-term average
- high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth
2025 Average: not reported
- Secchi disk hit bottom during reading

Trend: not reported because Secchi disk has hit bottom each year measured

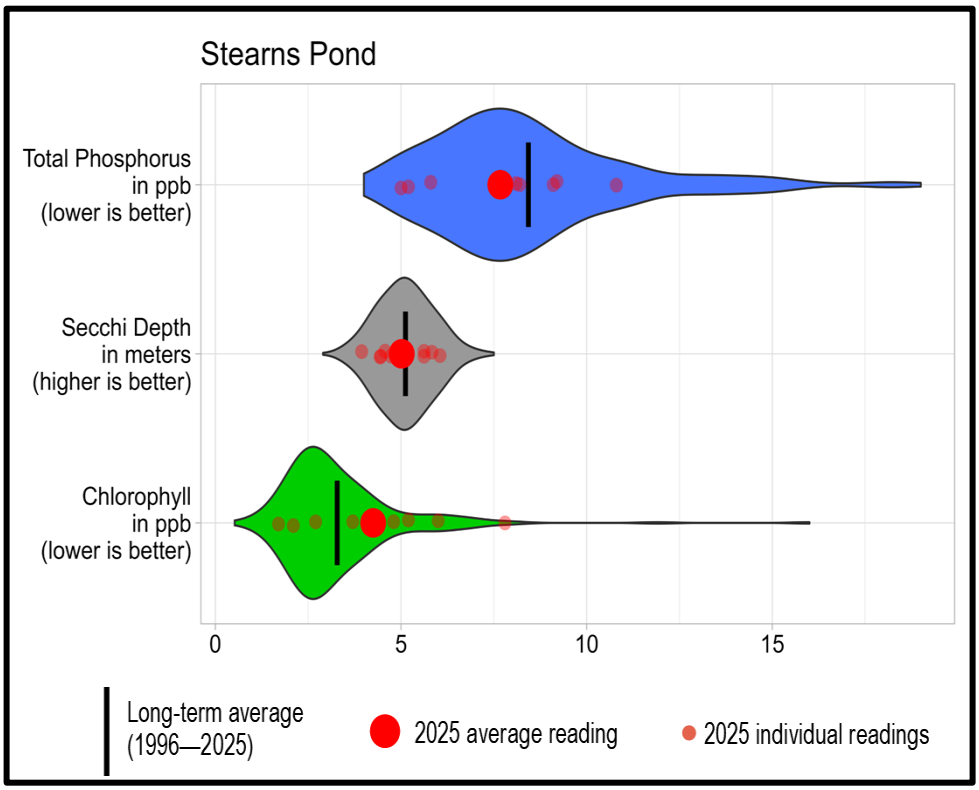
Chlorophyll
2025 Average: 6.2 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable chlorophyll levels over time

Intern Henry Baker collecting a composite water sample from the upper, sunlit portion of Sand Pond for analysis back at the Maine Lake Science Center.

Stearns Pond – MIDAS 3234

Water Quality



Total Phosphorus

2025 Average: 7.7 ppb, which is below the long-term average

- moderate amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: 5.0 meters, which is near the long-term average

- moderate clarity overall

Trend: stable clarity over time

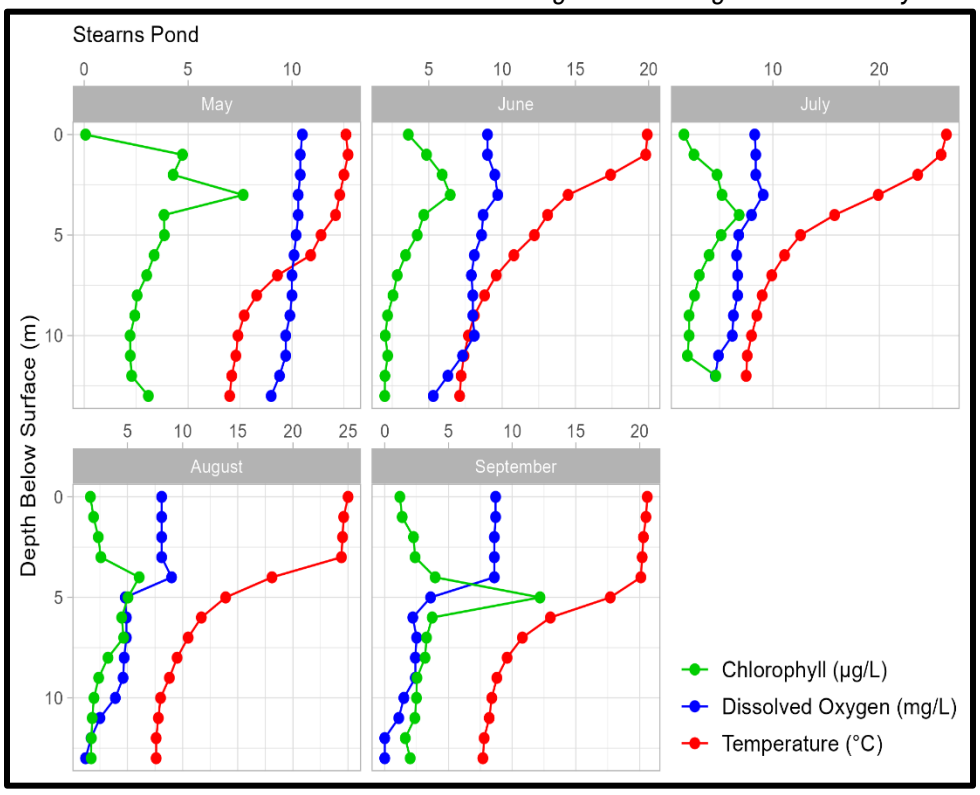
Chlorophyll

2025 Average: 4.3 ppb, which is above the long-term average

- moderate amounts overall

Trend: stable chlorophyll levels over time

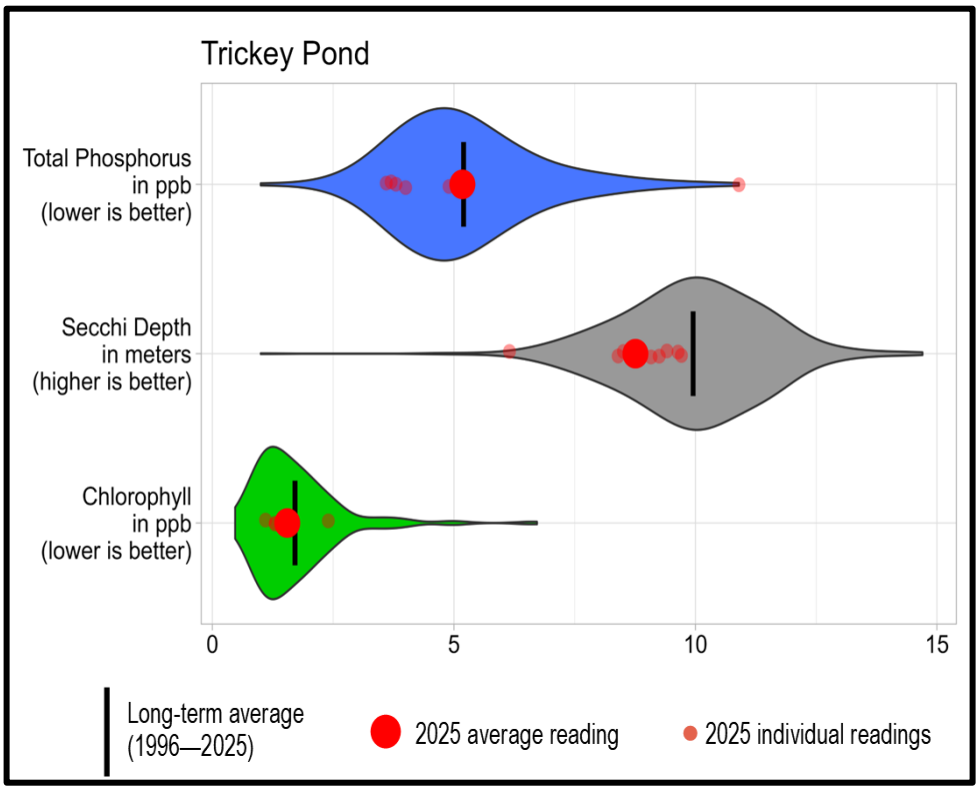
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- 2025's fluorescence peaks were relatively shallow in the water column during the early season and influenced Secchi depths. Highest fluorescence was observed in September at 5 meters, which is below the portion of the water column people typically use or see

Trickey Pond – MIDAS 3382

Water Quality



Total Phosphorus

2025 Average: 5.2 ppb, which is near the long-term average

- moderate amounts overall

Trend: decreasing phosphorus levels over time

Secchi Depth

2025 Average: 8.8 meters, which shallower than the long-term average

- high clarity overall

Trend: decreasing clarity over time

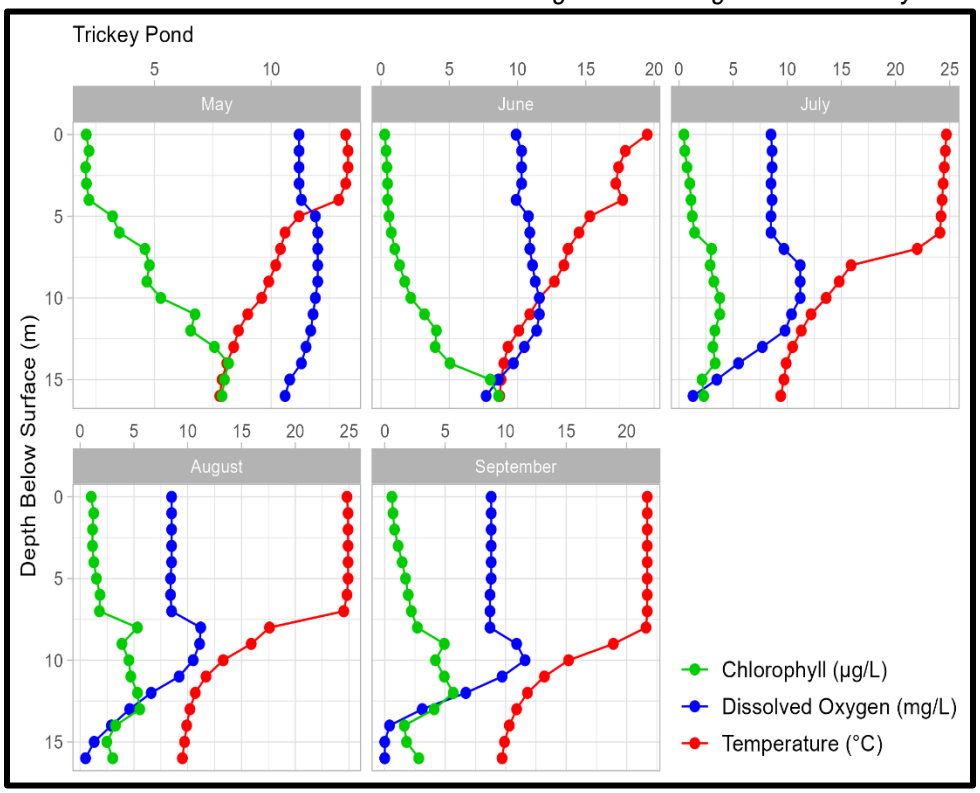
Chlorophyll

2025 Average: 1.6 ppb, which is near the long-term average

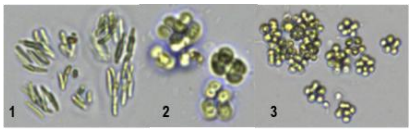
- low amounts overall

Trend: increasing chlorophyll levels over time

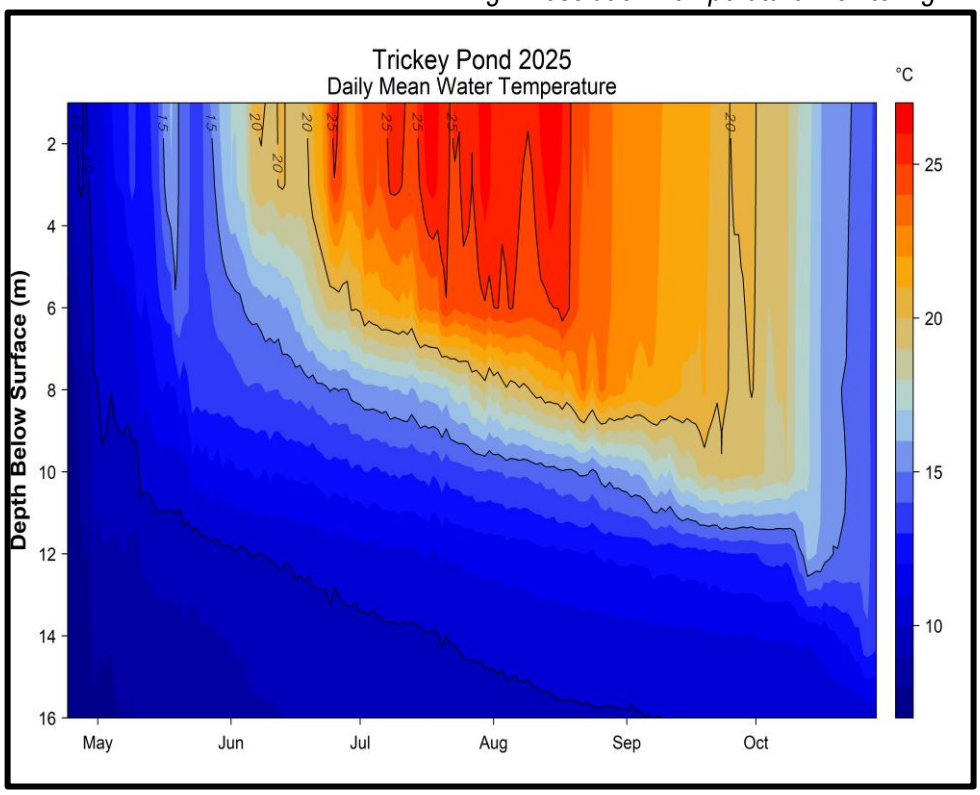
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- Fluorescence peaks tended to be deep within the water column and well below the portion of the water column people typically use or see
- 2025's dominant algal genus included: 1) *Rhabdoderma* (cyanobacteria), 2) *Chroococcus* (cyanobacteria), and 3) *Sphaerocystis* (chlorophyceae)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



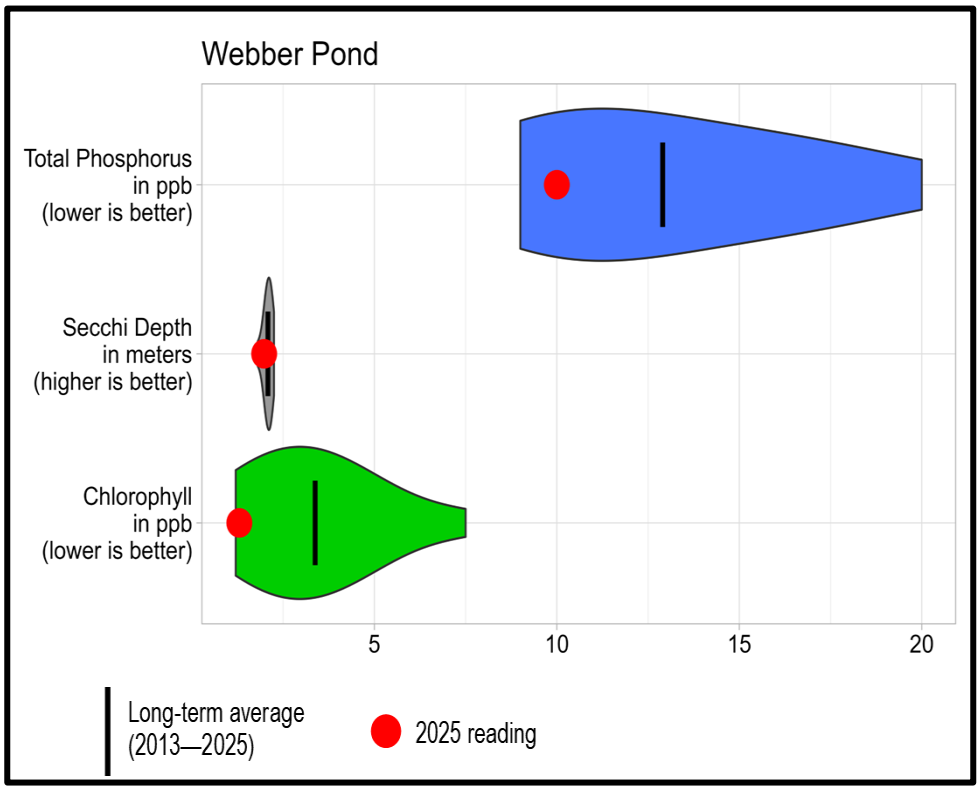
- The water column of Trickey Pond was weakly stratified when sensors were deployed.
- There were at least 4 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in late July.
- Temperatures throughout the water column were becoming more uniform but full mixing had not yet occurred when sensors were retrieved.
- Due to sensor failure, some temperature data are absent. Data collected during regular water monitoring were used to supplement available sensor data.

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/24/2025	28.1/ 82.6	7/30/2025	After Retrieval	10/29/2025

Ready to launch the "Iron Lotus" from the boat launch on Trickey Pond.

Webber Pond – MIDAS 3236

Water Quality



Total Phosphorus

2025 Average: 10.0 ppb, which is below the long-term average

- high amounts overall

Trend: stable phosphorus levels over time

Secchi Depth

2025 Average: not reported

- Secchi disk hit bottom during reading

Trend: not reported because Secchi disk has hit bottom each year measured

Chlorophyll

2025 Average: 1.3 ppb, which is below the long-term average

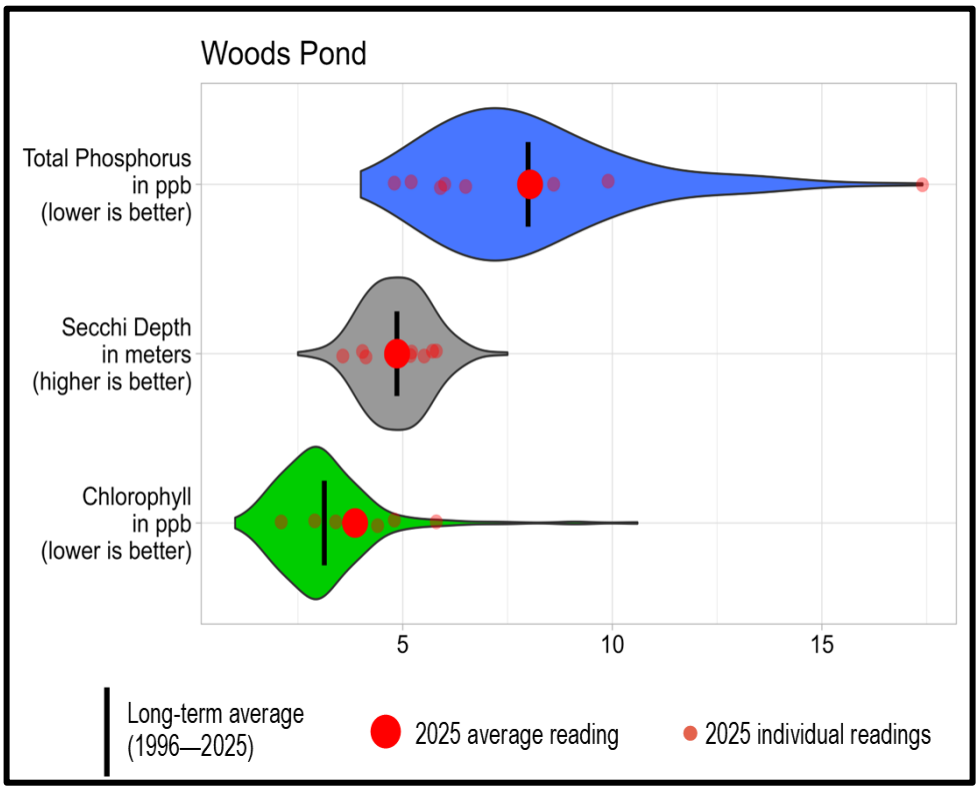
- moderate amounts overall

Trend: stable chlorophyll levels over time

Tim out on the pond for a water testing visit in August.

Woods Pond – MIDAS 3456

Water Quality



Total Phosphorus
2025 Average: 8.0 ppb, which is near the long-term average
- moderate amounts overall

Trend: stable phosphorus levels over time

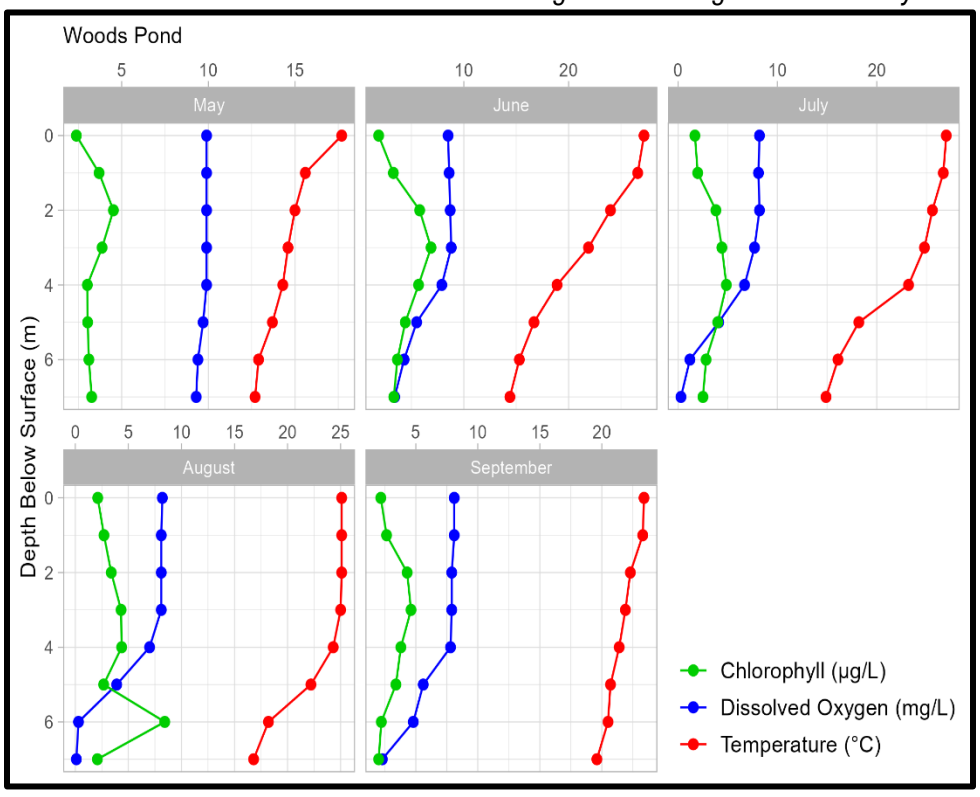
Secchi Depth
2025 Average: 4.9 meters, which is near the long-term average
- moderate clarity overall

Trend: stable clarity over time

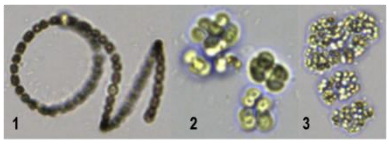
Chlorophyll
2025 Average: 3.9 ppb, which is above the long-term average
- moderate amounts overall

Trend: stable chlorophyll over time

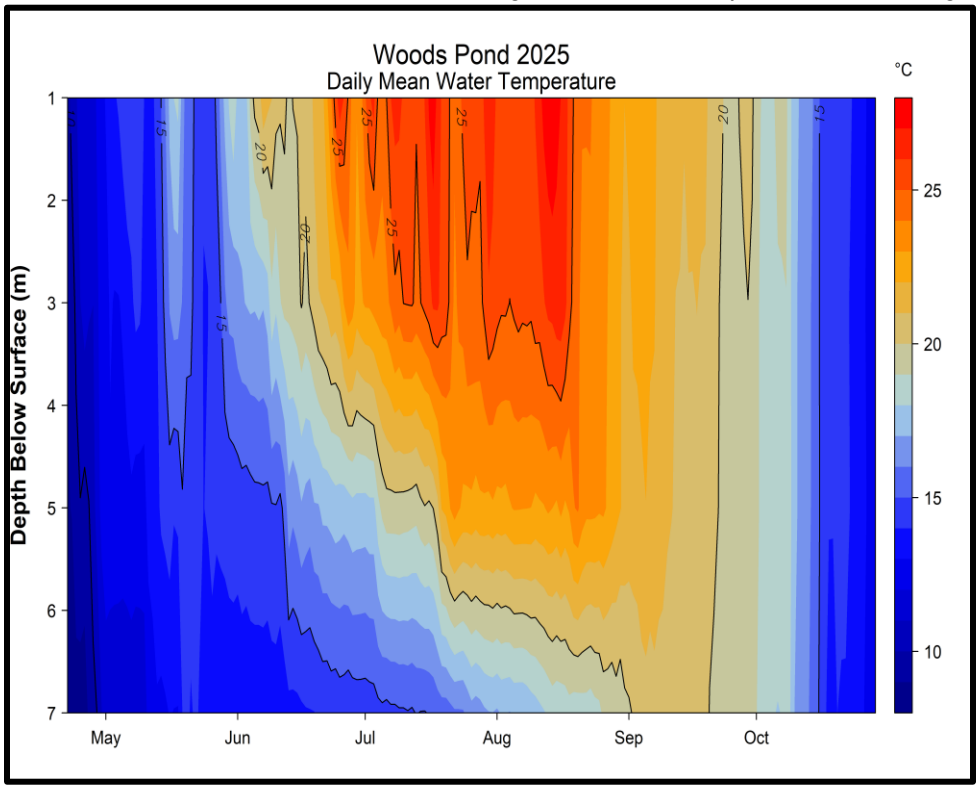
Algae Monitoring via Fluorometry



- No algae blooms were observed this year
- With the exception of August, fluorescence peaks were relatively shallow but not very high. The peak at 6 meters in August was likely a result of sediment interference.
- 2025's dominant algal genus included: 1) *Dolichospermum* (cyanobacteria), 2) *Chroococcus* (cyanobacteria), and 3) *Gloeocapsa* (cyanobacteria)
- Despite finding multiple nuisance genera, none of the taxa in those groups were found at high enough densities to cause concern



High-Resolution Temperature Monitoring



- The water column of Woods Pond was weakly stratified when sensors were deployed.
- There were 4-5 distinct warm spells seen in the surface waters with temperatures reaching near-peak levels in June, July, and August. Peak temperature this year was recorded in mid-August.
- Shallow waters began to cool and mix with waters from the middle depths in late August
- The water column mixed for the season in late October

Deployment Date	Peak Temperature (°C/ °F)	Date of Peak Temperature	Full Mixing	Retrieval Date
4/22/2025	28.6/ 83.5	8/13/2025	10/13/2024	10/29/2025

Intern Catherine Wheaton taking a temperature and dissolved oxygen profile on Woods Pond.

Thank you for supporting our work

Lakes Environmental Association
230 Main Street
Bridgton, ME 04009
207-647-8580
www.mainelakes.org