

2025 Volunteer Lake Assessment Program

Individual Report: Country Pond – Kingston

Water Quality Summary: Pond quality is generally representative of mesotrophic, or average, conditions, with low levels of algal growth and moderate phosphorus levels. Epilimnetic (upper water layer) phosphorus levels increased slightly and chlorophyll levels decreased slightly from 2024. Transparency continues to fluctuate with decreased (worse) values this year. Conductivity also continues to fluctuate with slightly elevated levels this year and pH has remained consistent for the last two years. On average, Country Pond has lower (worse) water quality compared to the median New Hampshire lake but doesn't exceed any New Hampshire water quality standards.

Recommended Actions: The increased intensity of storm events and associated stormwater runoff, droughts and fluctuating climate conditions resulting in shorter periods of ice cover, warmer water temperatures and longer periods of thermal stratification can accelerate the eutrophication process. This highlights the importance of managing and minimizing [stormwater](#) runoff from the surrounding watershed, particularly shoreline properties and impervious surface such as roads, driveways and roof tops. Consult the Watershed Management Plan for recommendations on high priority areas and target these for remediation. Encourage local road agents and private winter maintenance companies to obtain [Green SnowPro Certification](#). Educate shorefront property owners on ways to reduce stormwater runoff using the [New Hampshire Homeowner's Guide to Stormwater Management](#) and encourage them to become certified [LakeSmart](#) through NH LAKES' lake-friendly living program. Continue sampling at least three times per summer and consider including temperature and dissolved oxygen sampling to better understand internal sources of phosphorus due to anoxic conditions. Historical trends can be determined once 10 consecutive years of data have been collected. Keep up the great work and thank you for your continued participation in VLAP!

Historical Water Quality Graphics - Deep Spot

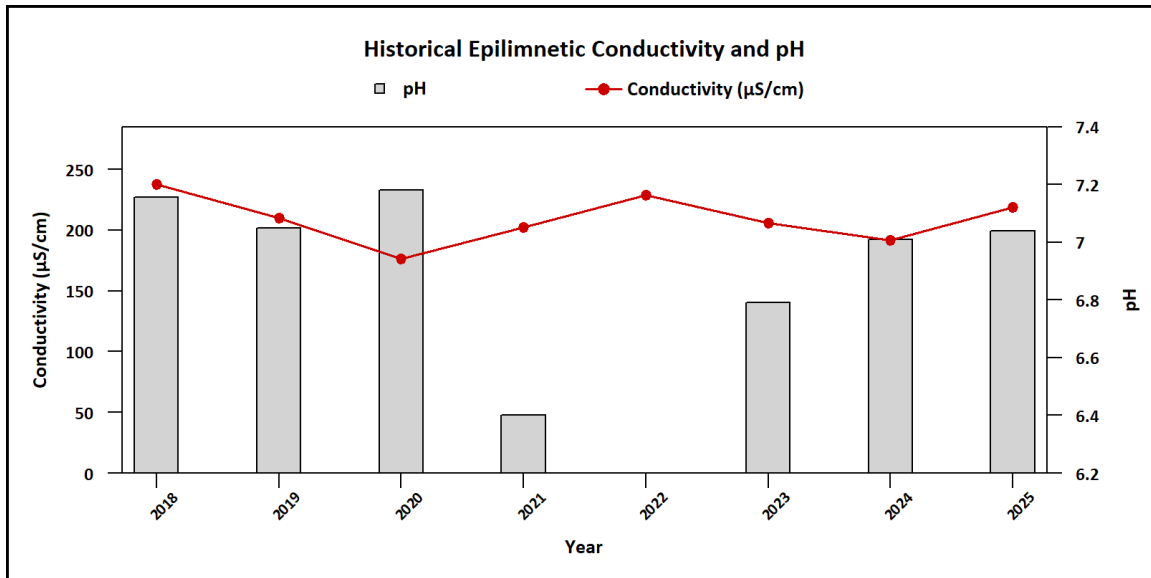


Figure 1. Median epilimnetic pH (gray bars) and conductivity (red points) by year.

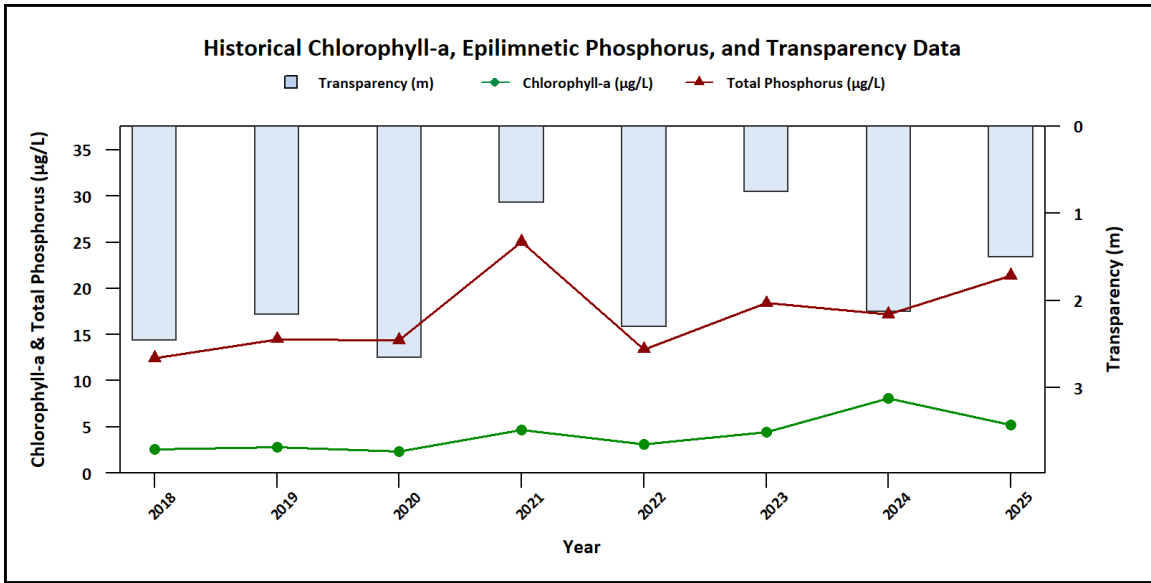


Figure 2. Median Secchi disk transparency (blue bars), epilimnetic phosphorus (red triangles), and chlorophyll-a (green points) by year.

Table 1. 2025 Average Water Quality Data for Country Pond – Kingston

Station	Alk. (mg/L)	Chlor-a (µg/L)	Chloride (mg/L)	Color (pcu)	Cond. (µS/cm)	Total P (µg/L)	Trans. NVS (m)	Trans. VS (m)	Turb. (ntu)	pH
Epilimnion	16.42	4.47	44.44	119.8	220.48	20.96	1.57	1.92	1.24	6.99
Metalimnion	No Value	No Value	No Value	No Value	207.28	20.52	No Value	No Value	2.85	6.48
Hypolimnion	No Value	No Value	42.8	No Value	215.02	28.04	No Value	No Value	7.30	6.54
Northwest Inlet	No Value	No Value	44.6	No Value	218.92	16.56	No Value	No Value	1.83	6.87
Outlet	No Value	No Value	No Value	No Value	215.34	15.88	No Value	No Value	1.00	6.97
South Inlet	No Value	No Value	45.24	No Value	216.78	15.12	No Value	No Value	1.21	6.95

Observations (Refer to Table 1 and Historical Deep Spot Data Graphics):

- Chlorophyll-a (Chlor-a):** Chlorophyll levels fluctuated within an elevated range and were highest and indicative of an algal bloom in June. The median chlorophyll level decreased from 2024 but was still much greater than the state median and the threshold for mesotrophic lakes. Visual inspection of historical data indicates relatively stable chlorophyll levels since 2018.
- Conductivity (Cond.)/Chloride:** Epilimnetic, Metalimnetic (middle water layer), Hypolimnetic (lower water layer), Northwest Inlet, Outlet and South Inlet conductivity levels remained elevated and greater than the state median. Epilimnetic, Hypolimnetic, Northwest Inlet and South Inlet chloride levels were elevated and greater than the state median yet were less than the state chronic chloride standard. Visual inspection of historical data indicates relatively stable epilimnetic conductivity levels since 2018.

- **Color:** Apparent color measured in the epilimnion indicates the water was highly tea colored and was darkest in May. Average water color was higher than measured in 2024.
- **Total Phosphorus (Total P):** Epilimnetic and Metalimnetic phosphorus levels were elevated throughout the summer. The median epilimnetic phosphorus level increased slightly from 2024 and remained much greater than the state median and the threshold for mesotrophic lakes. Hypolimnetic phosphorus levels were elevated and increased slightly as the summer progressed likely due to phosphorus release from bottom sediments under anoxic (no dissolved oxygen) conditions. Visual inspection of historical data indicates worsening (increasing) epilimnetic and hypolimnetic phosphorus levels since 2018. Northwest Inlet, South Inlet and Outler phosphorus levels fluctuated in an average range.
- **Transparency (Trans.):** Transparency measured without (NVS) the viewscope fluctuated within a below average range from May through August but then increased (improved) in September. The median NVS transparency decreased (worsened) from 2024. Visual inspection of historical data indicates variable NVS transparency since monitoring began. Viewscope (VS) transparency was generally higher (better) than NVS transparency and a better measure of actual conditions.
- **Turbidity (Turb.):** Epilimnetic turbidity levels were low in May but then increased to an average range from June through September. Metalimnetic turbidity levels were elevated, especially in August. Hypolimnetic turbidity levels were greatly elevated due to formation and accumulation of organic compounds under anoxic conditions. Northeast Inlet turbidity levels were low, except in August when turbidity was elevated. South Inlet and Outlet turbidity levels were low.
- **pH:** Epilimnetic, Hypolimnetic, Northwest Inlet, Outlet and South Inlet pH levels were within the desirable range of 6.5-8.0 units. Metalimnetic pH levels fluctuated below the low end of the desirable range. Visual inspection of historical data indicates relatively stable epilimnetic pH levels since 2018.

How does your lake compare to New Hampshire lakes and water quality standards?

Table 2. New Hampshire Median Lake Water Quality Values. Median values generated from historic lake monitoring data.

Parameter	Median Value
Alkalinity	4.5 mg/L
Chlorophyll-a	4.39 µg/L
Chloride	5 mg/L
Conductivity	42.3 µS/cm
Total Phosphorus	11 µg/L
Transparency	3.3 m
pH	6.6

Table 3. New Hampshire Water Quality Standards. Numeric criteria for specific parameters. Water quality violation occurs if thresholds are exceeded.

Parameter	Threshold
Chloride	> 230 mg/L (chronic)
E. coli (beach)	> 88 cts/100 mL
E. coli (surface water)	> 406 cts/100 mL
pH	between 6.5-8.0 (unless naturally occurring)
Turbidity	> 10 NTU above natural