# 2025 Volunteer Lake Assessment Program

## Individual Report: Lake Monomonac – Rindge

**Water Quality Summary:** Lake quality is generally representative of mesotrophic, or average conditions, however algal growth and phosphorus levels tend to fluctuate above the threshold for mesotrophic lakes and a cyanobacteria bloom was reported in May. Historical trend analysis indicates worsening (decreasing) water transparency and epilimnetic (upper water layer) conductivity levels, stable levels of chlorophyll, epilimnetic phosphorus and hypolimnetic (bottom water layer) phosphorus and slightly improving epilimnetic pH levels since monitoring began. On average, Lake Monomonac has similar water quality compared to the median NH lake and doesn't exceed any NH water quality standards.

**Recommended Actions**: Continue monitoring the pond in late spring/early summer for cyanobacteria blooms and report sightings to NHDES' Harmful Algal Bloom Program. Continue education and outreach efforts in regard to stormwater management, specifically focusing on tributaries with high phosphorus or turbidity. Continue working towards development of a watershed management plan to identify and quantify pollutant loads to the lake and make recommendations on management activities to reduce nutrient loading. Improved water quality during drought years highlights the importance of managing stormwater runoff and erosion to the lake. NHDES' NH Homeowner's Guide to Stormwater Management is a great resource. Encourage lake front property owners to be certified LakeSmart through NH LAKES' lake-friendly living program. Keep up the great work and thank you for your continued participation in VLAP!

## Historical Water Quality Trend Analysis

Table 1. Historical Water Quality Trends for Lake Monomonac – Rindge

| Parameter | Trend |
|---|---|
| **Conductivity (Epilimnion)** | Worsening |
| **Chlorophyll-a (Composite)** | Stable |
| **pH (Epilimnion)** | Slightly Improving |
| **Transparency** | Worsening |
| **Phosphorus (Epilimnion)** | Stable |
| **Phosphorus (Hypolimnion)** | Stable |

# Historical Water Quality Graphics - Deep Spot

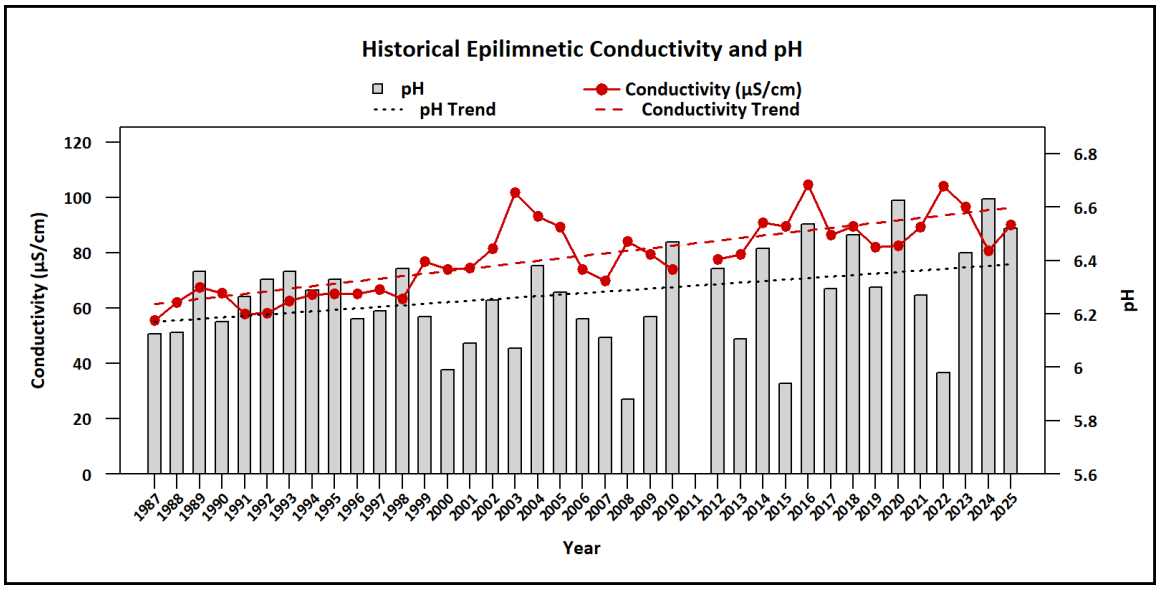


Figure 1. Median epilimnetic pH (red points) and conductivity (gray bars) by year, with corresponding trend lines shown as red and black dashed lines, respectively. Epilimnetic pH is slightly improving and conductivity is worsening since monitoring began.

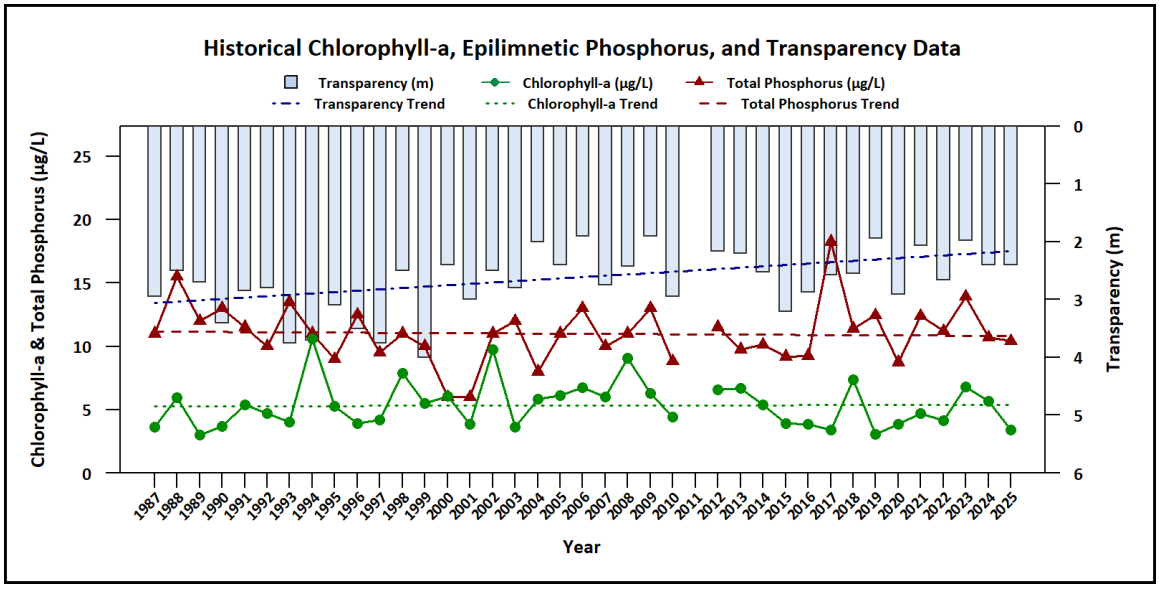


Figure 2. Median Secchi disk transparency (blue bars), epilimnetic phosphorus (red triangles), and chlorophyll-a (green points) by year, with corresponding trend lines shown as blue, red, and green dashed lines, respectively. Water transparency is worsening, phosphorus is stable, and chlorophyll-a is stable since monitoring began.

Table 2. 2025 Average Water Quality Data for Lake Monomonac – Rindge

| 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 | E. coli (mpn/100 mL) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Epilimnion | 3.5 | 3.22 | 17.17 | 100.67 | 89.95 | 11.06 | 2.51 | 3.13 | 1.30 | 6.46 | No Value |
| Hypolimnion | No Value | No Value | No Value | No Value | 90.90 | 16.67 | No Value | No Value | 5.54 | 6.00 | No Value |
| Begun Inlet 2 | No Value | No Value | 25.23 | No Value | 158.93 | 22.23 | No Value | No Value | 4.90 | 6.71 | No Value |
| Colburn 2 | No Value | No Value | 33.45 | No Value | 178.85 | 39.90 | No Value | No Value | 1.97 | 6.13 | No Value |
| Converse 2 | No Value | No Value | 15.2 | No Value | 75.66 | 15.85 | No Value | No Value | 1.06 | 6.06 | No Value |
| Converse Inlet | No Value | No Value | 31.9 | No Value | 159.70 | 20.40 | No Value | No Value | 1.08 | 6.40 | No Value |
| Coot Bay | No Value | No Value | 58 | No Value | 238.45 | 31.20 | No Value | No Value | 0.32 | 6.44 | No Value |
| Dapkas 2 | No Value | No Value | 1.5 | No Value | 21.84 | 32.65 | No Value | No Value | 0.74 | 5.27 | No Value |
| Dapkas Inlet | No Value | No Value | 13.9 | No Value | 63.76 | 20.40 | No Value | No Value | 1.06 | 5.35 | No Value |
| Findley Point 2 | No Value | No Value | 5.53 | No Value | 33.60 | 30.85 | No Value | No Value | 2.24 | 5.40 | No Value |
| Goddard Inlet 2 | No Value | No Value | 34.2 | No Value | 137.57 | 17.27 | No Value | No Value | 1.23 | 6.24 | No Value |
| Loon Bay 2 | No Value | No Value | 10.45 | No Value | 48.48 | 27.35 | No Value | No Value | 1.26 | 5.44 | No Value |
| Marina Inlet | No Value | No Value | 37.1 | No Value | 141.70 | 30.90 | No Value | No Value | 3.33 | 6.54 | 10.9 |
| Marina Inlet Upstream | No Value | No Value | 24.1 | No Value | 113.33 | 21.10 | No Value | No Value | 2.14 | 6.12 | 30.25 |
| Sandbeck Inlet | No Value | No Value | 4.08 | No Value | 25.57 | 105.00 | No Value | No Value | 0.76 | 5.59 | No Value |
| State Line Inlet | No Value | No Value | 15.35 | No Value | 75.75 | 18.85 | No Value | No Value | 1.26 | 5.66 | No Value |
| State Line Intermittent Stream | No Value | No Value | 15.96 | No Value | 88.58 | 8.04 | No Value | No Value | 0.95 | 6.42 | No Value |
| Swan Point 2 | No Value | No Value | 23.45 | No Value | 113.40 | 21.45 | No Value | No Value | 1.19 | 6.09 | 1 |
| Swan Point Inlet | No Value | No Value | 41.1 | No Value | 135.20 | 23.80 | No Value | No Value | 23.40 | 6.24 | No Value |

## Observations *(Refer to Table 2 and Historical Deep Spot Data Graphics)*:

- **Chlorophyll-a (Chlor-a)**: Chlorophyll level fluctuated within a low range throughout the summer. The median chlorophyll level decreased from 2024 and was approximately equal to the state median and the threshold for oligotrophic (high quality) lakes. Historical trend analysis indicates stable, yet variable, chlorophyll levels since monitoring began.
- **Conductivity (Cond.)/Chloride:** Deep Spot, Begun Outlet 2, Colburn 2, Converse 2, Converse Inlet, Coot Bay, Dapkas Inlet, Goddard Inlet 2, Loon Bay 2, Marina Inlet. Marina Inlet Upstream, State Line Inlet and Intermittent Stream, Swan Point and Swan Point 2 conductivity and chloride levels remained greater than the state medians, yet less than a level of concern. Dapkas 2, Findley Point 2 and Sandbeck Inlet conductivity and chloride levels were very low. Historical trend analysis indicates significantly worsening (increasing) epilimnetic conductivity levels since monitoring began.
- **Color**: Apparent color measured in the epilimnion indicates the water was highly tea colored, or brown, throughout the summer and was darkest in June. Average color was much darker than the moderately tea-colored conditions measured in 2024.
- **Total Phosphorus (Total P):** Epilimnetic phosphorus level was slightly elevated in June and decreased to low levels in July and August. The median epilimnetic phosphorus level slightly decreased from 2024, was slightly greater than the state median and was approximately equal to the threshold for mesotrophic lakes. Hypolimnetic phosphorus level was slightly elevated in August. Historical trend analysis indicates relatively stable epilimnetic and hypolimnetic phosphorus levels since monitoring began. Sandbeck Inlet phosphorus levels were highly elevated in July. Colburn 2, Coot Bay, Dapkas 2, Findley Point 2 and Marina Inlet phosphorus levels were moderately elevated. Begun Inlet 2, Dapkas Inlet, Goddard Inlet 2, Loon Bay 2, Marina Inlet Upstream, Stateline Inlet, Swan Point 2 and Swan Point Upstream phosphorus levels were slightly elevated. Stateline Intermittent Stream phosphorus levels were low.
- **Transparency (Trans.)**: Transparency measured without the viewscope (NVS) was below average (worse) in June and increased (improved) as the summer progressed. The median NVS transparency remained stable with 2024; however, historical trend analysis indicates significantly worsening (decreasing) NVS transparency since monitoring began. Viewscope (VS) transparency was higher (better) than NVS transparency and likely a better measure of actual conditions.
- **Turbidity (Turb.):** All stations' turbidity levels fluctuated within a low to moderate range, except for Hypolimnion, Begun Inlet 2 and Swan Point Inlet which had elevated or highly elevated turbidity levels.
- **pH:** All stations' pH levels, except for Marina Inlet, fell outside the desirable range of 6.5-8.0, meaning water was acidic and potentially harmful to aquatic life.
- **E. coli:** Marina Inlet, Marina Inlet Upstream and Swan Point 2 E. coli levels were low and much less than the state standard for surface waters.

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

Table 3. 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 4. 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 |