



2024 VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

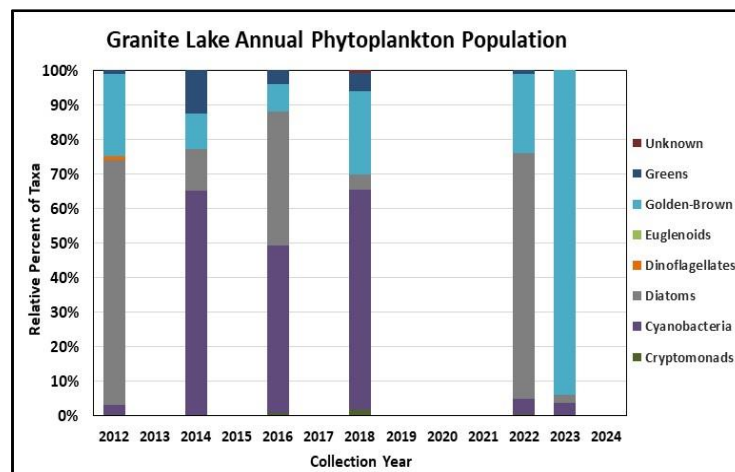
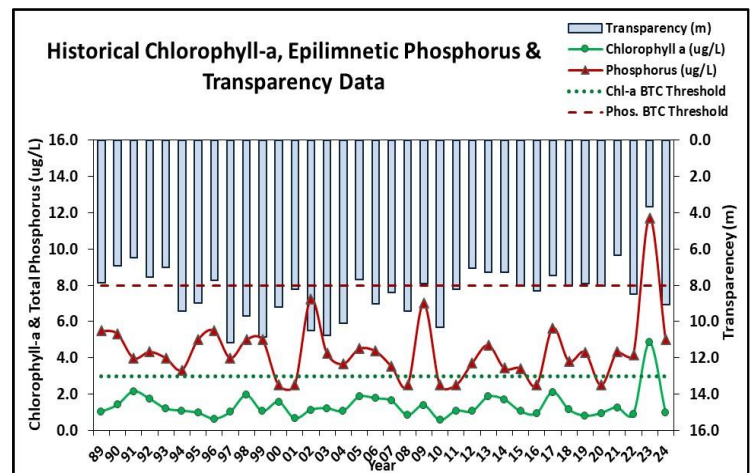
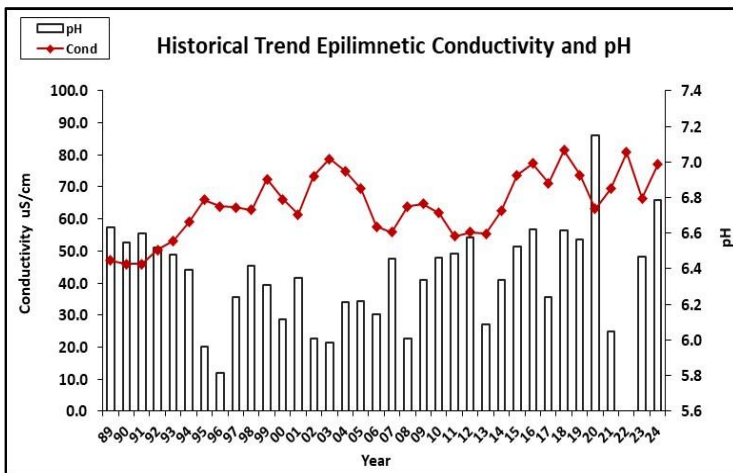
GRANITE LAKE, STODDARD

RECOMMENDED ACTIONS: Great job monitoring water quality in 2024! Lake quality remains representative of oligotrophic, or high quality, waters with low levels of nutrients (phosphorus) and algal (chlorophyll-a) growth. Water quality recovered from elevated levels of phosphorus, chlorophyll, and turbidity measured in 2023 following excessive summer rainfall and severe flooding around the lake. This is a positive sign! However, a significant storm event in August caused several tributaries to experience elevated phosphorus and turbidity levels. Focus stormwater management efforts on these sub-watersheds. This highlights the delicate balance of the lake ecosystem and the sensitivity to changes in climate and water quality. The increased frequency and intensity of storm events highlights the importance of continually managing [stormwater](#) runoff within the watershed by stabilizing [dirt/gravel roads](#), stream banks and [shorelines](#) to minimize erosion and sedimentation during extreme storm events. Continue to inventory culverts around the lake and prioritize culvert replacement to ensure properly sized culverts that can handle 100-year storm events on a regular basis. Encourage shoreline property owners to be certified [LakeSmart](#) through NH LAKES' lake-friendly living program. Keep up the great work!

HISTORICAL WATER QUALITY TREND ANALYSIS

PARAMETER	TREND	PARAMETER	TREND
Conductivity	Worsening	Chlorophyll-a	Stable
pH (epilimnion)	Stable	Transparency	Stable
Phosphorus (hypolimnion)	Stable	Phosphorus (epilimnion)	Stable

HISTORICAL WATER QUALITY GRAPHICS





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

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was low in July and decreased in August. Average chlorophyll level decreased from 2023 and was much less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates stable chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Deep Spot, 603 Granite Lk. Rd., Outlet, and Townline Inlet conductivity and/or chloride levels were slightly greater than the state medians yet less than a level of concern. However, historical trend analysis indicates significantly increasing (worsening) epilimnetic (upper water layer) conductivity levels since monitoring began. 210, 305 and 395 North Shore Rd., Foxweldon, North Shore West Shore, and North Shore End conductivity and/or chloride levels were low and less than the state median. 586 Granite Lk. Rd., Boat Ramp, Inlet, and 58 West Shore Rd. conductivity and chloride levels were elevated, and chloride levels approached the state chronic standard at West Shore Rd. station.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was clear, with little to no tea, or brown coloring.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer), Metalimnetic (middle water layer), and Hypolimnetic (lower water layer) phosphorus levels were within a low range. Average epilimnetic phosphorus level decreased from 2023 and was much less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable epilimnetic and hypolimnetic phosphorus levels since monitoring began. 210, 305, and 395 North Shore Rd., Boat Ramp, Foxweldon, Inlet, North Shore end, North Shore West Shore, and Townline Inlet experienced elevated phosphorus and turbidity levels following a significant storm event during low flow conditions. 586 and 603 Granite Lk. Rd, 58 West Shore Rd., and Outlet phosphorus levels were low.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without (NVS) the viewscope were high (good) in July and increased (improved) in August. Average NVS transparency increased (improved) from 2023 and was the highest (best) measured since 2010. Historical trend analysis indicates relatively stable NVS transparency since monitoring began.
- ◆ **TURBIDITY:** Deep spot, 586 Granite Lk. Rd., and Outlet turbidity levels were within a low range. All other stations experienced elevated turbidity levels in August following a significant storm event during low flow conditions.
- ◆ **pH:** Epilimnetic, Metalimnetic, 210, 305, and 395 North Shore Rd., 586 Granite Lk. Rd., Boat Ramp, Foxweldon, North Shore End, and Outlet pH levels were within the desirable range of 6.5-8.0 units. Historical trend analysis indicates stable, yet variable, epilimnetic pH levels. Hypolimnetic, 58 West Shore Rd., 603 Granite Lk. Rd., Inlet, North Shore West Shore, and Townline Inlet pH levels were acidic to slightly acidic and less than desirable.

Table 1. 2024 Average Water Quality Data for GRANITE LAKE - STODDARD

Station Name	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
							NVS	VS		
Epilimnion	3	0.99	22	14	77.2	5	9.38	9.18	0.64	6.78
Metalimnion	-	-	-	-	75.3	7	-	-	0.90	6.64
Hypolimnion	-	-	-	-	75.1	6	-	-	0.62	6.16
210 North Shore Rd.	-	-	-	-	28.7	36	-	-	3.64	6.77
305 North Shore Rd.	-	-	-	-	22.0	18	-	-	5.60	6.61
395 North Shore Rd.	-	-	2	-	27.4	15	-	-	2.02	6.54
58 West Shore Rd	-	-	190	-	578.0	12	-	-	3.10	6.33
586 Granite Lake Rd.	-	-	88	-	260.0	13	-	-	1.17	6.62
603 Granite Lake Rd.	-	-	34	-	108.3	7	-	-	0.78	4.86
Boat Ramp	-	-	69	-	214.0	19	-	-	2.62	6.57
Foxweldon	-	-	-	-	42.6	21	-	-	3.47	6.98
Inlet	-	-	60	-	184.6	25	-	-	6.04	6.35
North Shore End	-	-	-	-	23.2	27	-	-	4.92	6.50
North Shore West Shore	-	-	-	-	18.6	20	-	-	3.14	5.97
Outlet In Stream	-	-	-	-	78.1	4	-	-	0.46	6.63
Townline Inlet	-	-	34	-	104.7	44	-	-	5.24	6.33

NH Median Values

Median values generated from historic lake monitoring data.

Alkalinity: 4.5 mg/L
Chlorophyll-a: 4.39 ug/L
Conductivity: 42.3 uS/cm
Chloride: 5 mg/L
Total phosphorus: 11 ug/L
Transparency: 3.3 m
pH: 6.6

NH Water Quality Standards

Numeric criteria for specific parameters. Water quality violation if exceeded.

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