



# 2023 VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

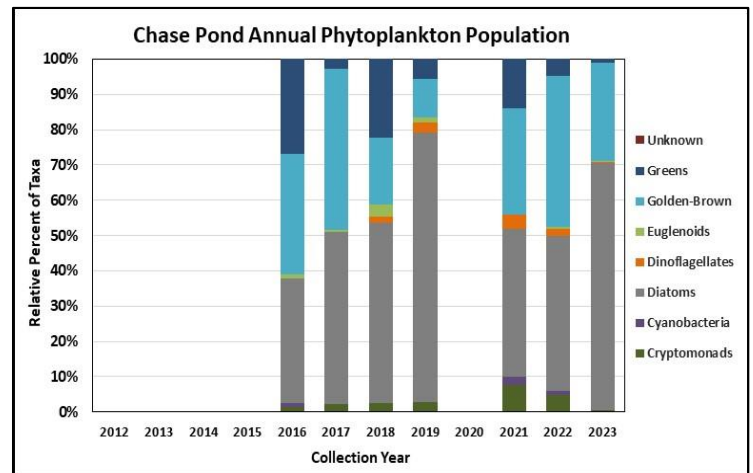
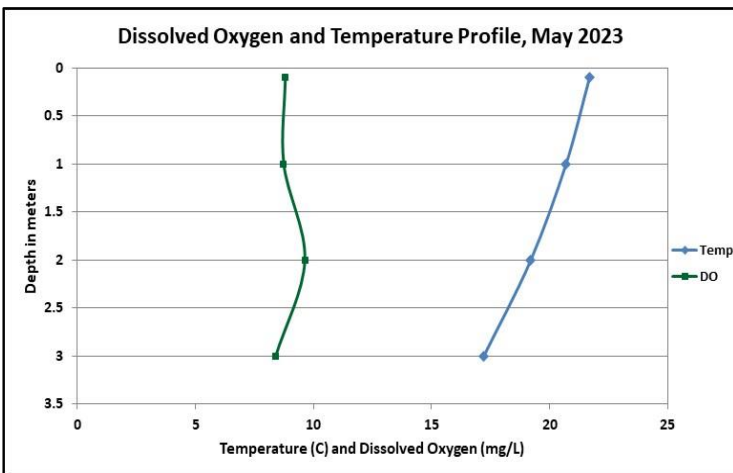
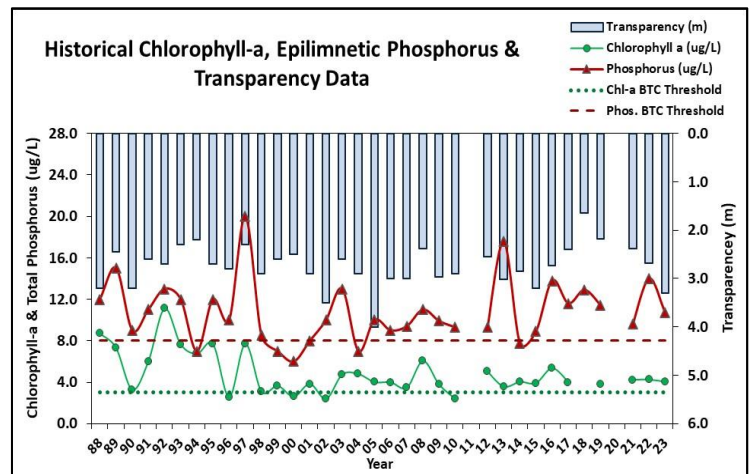
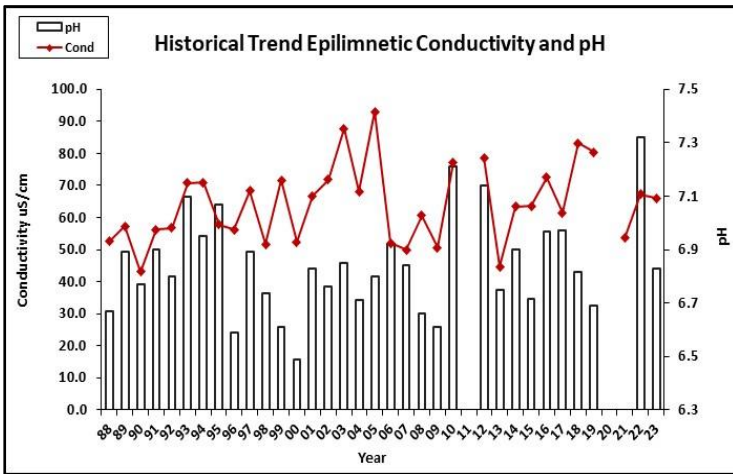
## CHASE POND, WILMOT

**Recommended Actions:** Good job sampling in 2023! Phosphorus and chlorophyll levels are higher than what is expected of oligotrophic lakes and is generally representative of mesotrophic, or average, conditions. It is recommended to increase monitoring frequency to once per month, typically June, July and August, to better understand seasonal water quality conditions and trends over time. The improving chlorophyll levels are a positive sign; however pond phosphorus levels appear to be within a slightly higher range since 2017. The increased intensity of storm events and associated stormwater runoff and flushing of wetland systems rich in dissolved organic matter may be impacting turbidity and phosphorus levels and causing the water to become darker or more tea colored. Identify areas prone to erosion and implement stormwater best practices to prevent runoff into the pond. NHDES' [NH Homeowner's Guide to Stormwater Management](#) is a great resource as is [Soak Up the Rain NH](#). Encourage residents 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	Stable	Chlorophyll-a	Improving
pH (epilimnion)	Stable	Transparency	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 within a slightly elevated range in May, was slightly less than the state median, and was slightly greater than the threshold for oligotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot) and Inlet conductivity and/or chloride levels were slightly greater than the state medians, yet less than a level of concern. Historical trend analysis indicates stable, yet variable, epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was lightly tea colored, or light brown, in May.
- ◆ **E. COLI:** Outlet E. coli level was very low and much less than the state standards for public beaches and surface waters.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus level was slightly elevated in May, decreased from 2022, was approximately equal to the state median, and was greater than the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable, but variable, epilimnetic phosphorus levels since monitoring began. Inlet phosphorus level was within a low range.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) for the pond in May and the Secchi disk was visible on the pond bottom. Transparency increased (improved) from 2022 and was slightly higher (better) than the state median. Historical trend analysis indicates relatively stable NVS transparency since monitoring began.
- ◆ **TURBIDITY:** Epilimnetic and Inlet turbidity levels were within a low and average range for those stations.
- ◆ **pH:** Epilimnetic and Inlet pH levels were within the desirable range of 6.5-8.0 units. Historical trend analysis indicates stable, yet variable, epilimnetic pH levels since monitoring began.

Table 1. 2023 Average Water Quality Data for CHASE POND - WILMOT

Station Name	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	E. coli (mpn/100mL)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
							NVS	VS		
Epilimnion	4.05	13	45	66.1	-	11	3.30	3.30	0.90	6.83
Inlet	-	13	-	75.0	-	9	-	-	0.96	6.86
Outlet	-	-	-	-	6	-	-	-	-	-

#### 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 thresholds 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)