



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

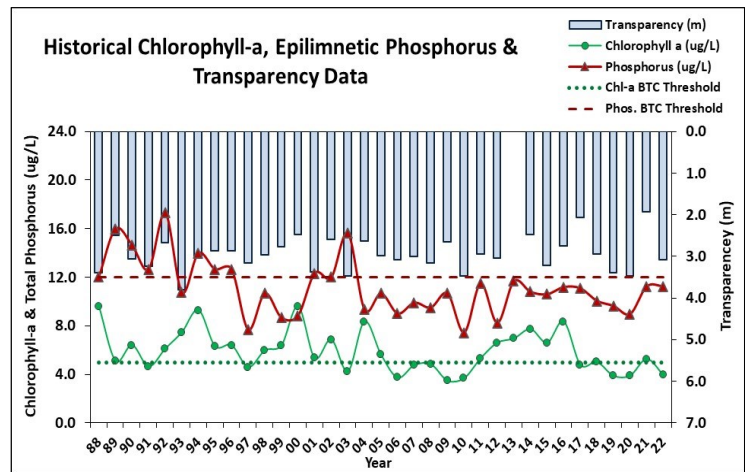
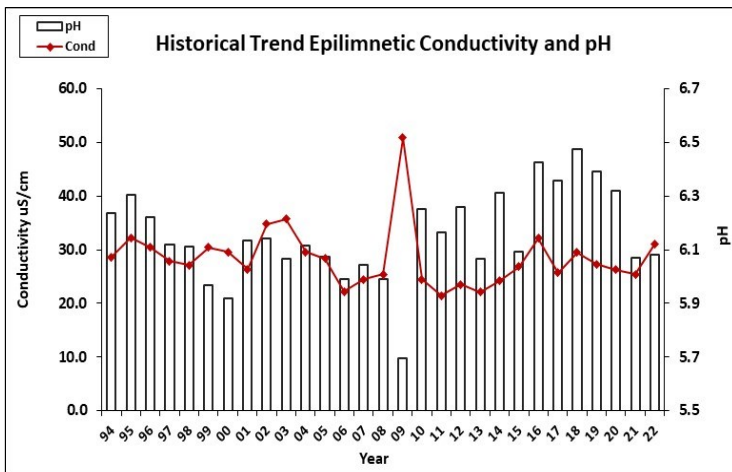
## ISLAND POND, STODDARD

### 2022 DATA SUMMARY

**RECOMMENDED ACTIONS:** Great job sampling in 2022! Pond nutrient (phosphorus) levels remain representative of mesotrophic conditions and the improving levels are encouraging. Algal growth (chlorophyll) has also remained below the threshold for mesotrophic lakes since 2017 following a steady increase which is encouraging, however the pond has experienced brief periods of elevated [cyanobacteria](#) growth in recent years. Factors related to climate change such as shorter periods of winter ice cover, warmer water temperatures, drought conditions, and the increased intensity of storm events are creating an environment more suitable for cyanobacteria growth. Monitor the pond in late spring/early summer for cyanobacteria blooms and consider adding a May sampling event to assess nutrient levels earlier in the summer. Add dissolved oxygen monitoring to better understand if the hypolimnion experiences anoxia as the summer progresses and to what extent. Consider development of a watershed management plan to identify and quantify nutrient (phosphorus) loads to the pond and make recommendations on ways to reduce nutrient loading. If interested contact the NHDES [Watershed Assistance Program](#). Encourage shoreline property owners to be certified [LakeSmart](#) through NH LAKES' lake-friendly living program. Keep up the great work!

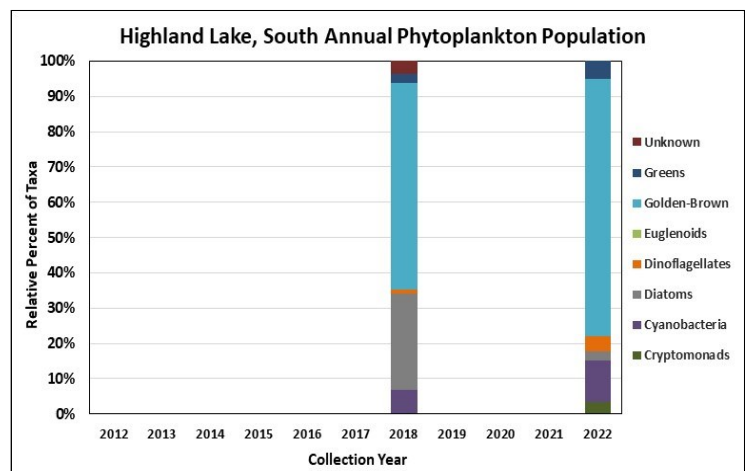
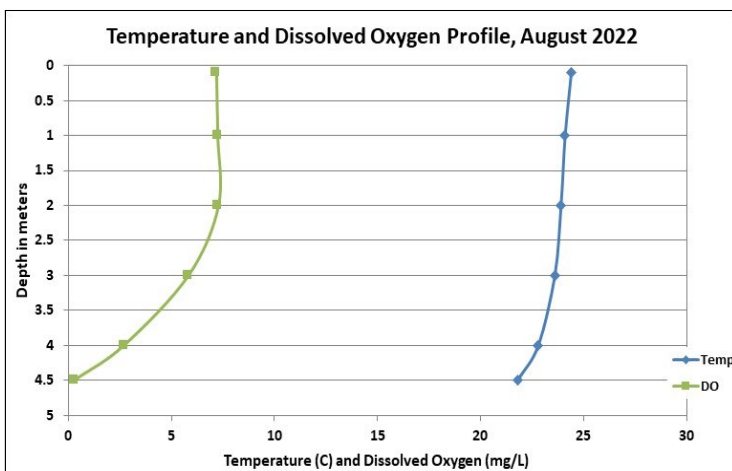
#### HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Parameter	Trend
Conductivity	Stable	Chlorophyll-a	Improving
pH (epilimnion)	Stable	Transparency	Stable
		Phosphorus (epilimnion)	Improving



#### DISSOLVED OXYGEN AND PHYTOPLANKTON

(Note: Information may not be collected annually)





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### ISLAND POND, STODDARD

### 2022 DATA SUMMARY

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

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was low in June, increased to a slightly elevated level in July, and decreased to a low level in August. Average chlorophyll level decreased from 2021 and was less than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (upper water layer), Hypolimnetic (lower water layer), Inlet, and Outlet conductivity and/or chloride levels remained low and less than or approximately equal to the state medians. Historical trend analysis indicates stable epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was highly tea colored, or brown, in June and became less tea colored, or light brown, as the summer progressed.
- ◆ **E. COLI:** Epilimnetic, Hypolimnetic, Inlet, and Outlet E. coli levels fluctuated within a low range from June through August and were much less than the state standards for public beaches and surface waters.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) and Hypolimnetic (lower water layer) phosphorus levels fluctuated within a moderate range from June through August. Average epilimnetic phosphorus level remained stable with 2021, was approximately equal to the state median, and was slightly less than the threshold for mesotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) epilimnetic phosphorus levels since monitoring began. Inlet phosphorus level was stable and within an average range for that station. Outlet phosphorus level was slightly elevated in August following a significant storm event.
- ◆ **TRANSPARENCY:** Transparency measured without the viewscope (NVS) was average (good) in June, remained stable in July, and increased (improved) in August when algal growth was lowest. Average NVS transparency increased (improved) from 2021 and was slightly less (worse) than the state median. Historical trend analysis indicates stable, yet variable, transparency since monitoring began. Viewscope (VS) transparency was higher (better) than NVS transparency and the state median, and is likely a better measure of actual conditions.
- ◆ **TURBIDITY:** Epilimnetic, Hypolimnetic, Inlet, and Outlet turbidity levels fluctuated within a low range.
- ◆ **pH:** Epilimnetic and Hypolimnetic pH levels were slightly acidic and less than the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began. Inlet pH level was slightly less than the desirable range, while Outlet pH level was approximately equal to the low end of the desirable range.

Station Name	Table 1. 2022 Average Water Quality Data for ISLAND POND - STODDARD										
	Alk. (mg/L)	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	3.1	3.95	6	57	39.5	6	11	3.07	3.82	0.56	6.01
Hypolimnion					40.6	7	13			0.74	6.05
Inlet					37.5	19	11			0.36	6.38
Outlet					39.3	2	10			0.45	6.55

#### 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)