



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

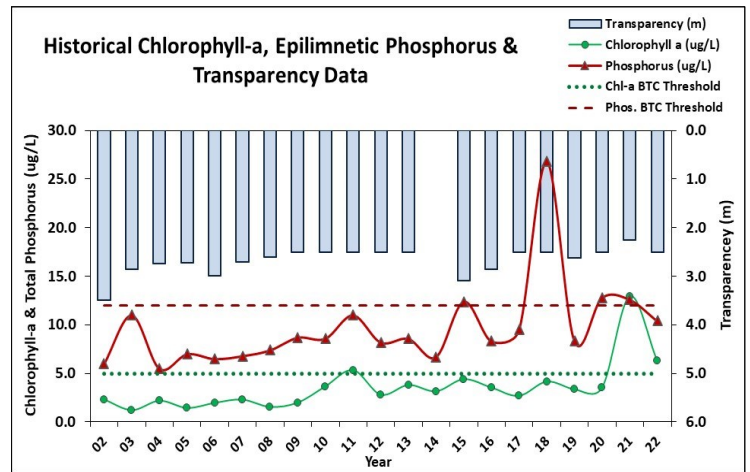
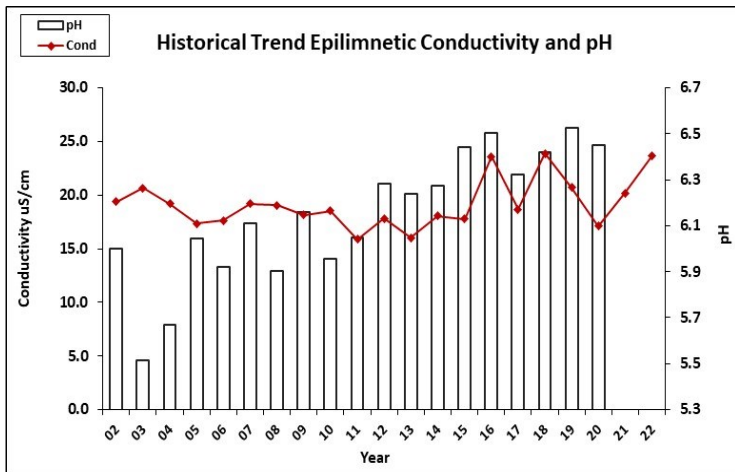
PRATT POND, NEW IPSWICH

2022 DATA SUMMARY

RECOMMENDED ACTIONS: Great job sampling in 2022! Pond quality is generally representative of mesotrophic, or average conditions, however pond phosphorus levels and algal growth (chlorophyll) have significantly increased since monitoring began and have become more variable since 2012. Algal growth remained elevated this year likely due to the increase in pond phosphorus levels. South Inlet phosphorus levels were elevated following a storm event. Continue to monitor this site to better understand water quality and address potential pollution sources. The worsening water quality trends are concerning and efforts should be made to better understand what is driving these changes. The increased frequency and intensity of storm events, management of pond water levels, [stormwater runoff](#) and erosion of dirt/gravel surfaces, [fertilizer use](#), [boating activities](#), and [septic systems](#) could all factor into the worsening water quality. The association should evaluate these sources and any potential connections to water quality. Great job increasing the monitoring frequency in recent years. The improving pond pH levels are encouraging and a result of the recovery of surface waters from historical impacts of acid precipitation. For more information on the recovery of NH’s surface waters consult the [Acid Rain Status and Trends Report](#). Contact the [VLAP Coordinator](#) to schedule a biologist visit in 2023. Keep up the great work!

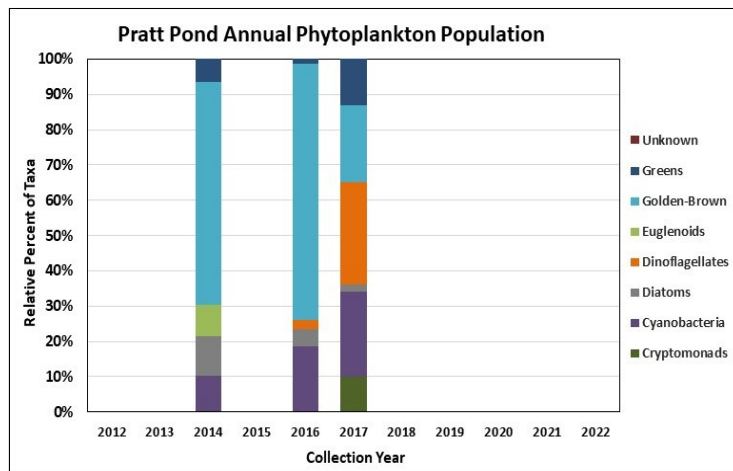
HISTORICAL WATER QUALITY TREND ANALYSIS

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



DISSOLVED OXYGEN AND PHYTOPLANKTON

(Note: Information may not be collected annually)





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2022 DATA SUMMARY

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

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was within a slightly elevated range in July, decreased from 2021, but remained greater than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates significantly increasing (worsening) chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot), South Inlet and West Shore conductivity levels were within a low range and less than the state median. Epilimnetic chloride levels were also low and less than the state median. Historical trend analysis indicates relatively stable epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was lightly tea colored, or light brown, in July.
- ◆ **E. COLI:** South Inlet E. coli level was within a moderate range and was less than the state standard of 406 cts/100 mL for surface waters. West Shore E. coli level was within a very low range.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus level was within a low range in July, decreased slightly from 2021, and was slightly less than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates significantly increasing (worsening) epilimnetic phosphorus levels since monitoring began. South Inlet phosphorus level was elevated in July following a storm event. West Shore phosphorus level was within a low range.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) and the Secchi disk was visible on the pond bottom. Historical trend analysis indicates significantly decreasing (worsening) NVS transparency since monitoring began, however since the Secchi disk is visible on the pond bottom, the trend is likely more representative of water level and not water clarity.
- ◆ **TURBIDITY:** Epilimnetic, South Inlet and West Shore turbidity levels were within a low range.
- ◆ **PH:** Epilimnetic pH data was invalidated due to a laboratory instrument error and we apologize for the inconvenience. South Inlet pH levels were slightly acidic and less than the desirable range 6.5-8.0 units. West Shore pH level was approximately equal to the low end of the desirable range. Historical trend analysis indicates significantly increasing (improving) epilimnetic pH levels since monitoring began.

Station Name	Table 1. 2022 Average Water Quality Data for PRATT POND - NEW IPSWICH										
	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	E. coli (mpn/100 mL)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
								NVS	VS		
Epilimnion	2.1	6.26	3	40	23.7		10	2.50	2.50	0.89	
South Inlet					22.5	261	44			0.68	6.28
West Shore					23.2	5	7			0.65	6.43

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)