



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

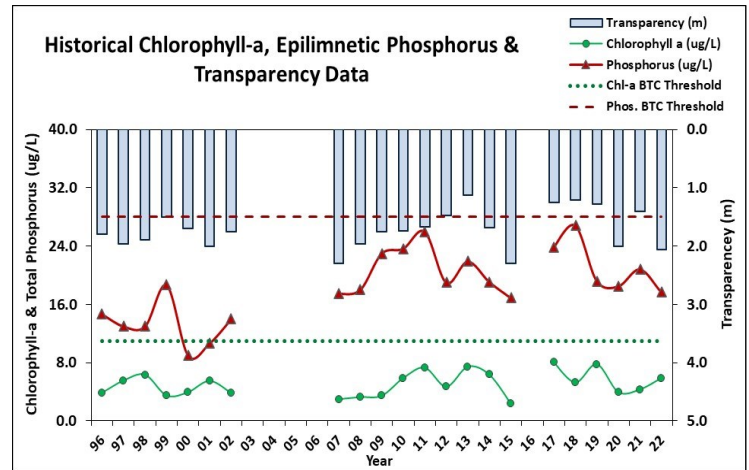
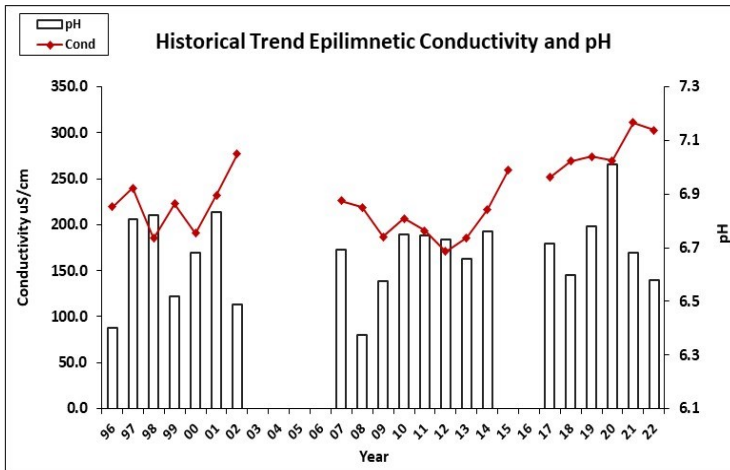
## TUREE POND, BOW

### 2022 DATA SUMMARY

**RECOMMENDED ACTIONS:** Great job sampling in 2022! Drought conditions and lack of stormwater runoff and flushing of tributaries rich in dissolved organic matter resulted in lower pond phosphorus levels and lighter water color which led to lower chlorophyll levels and improved water clarity. Erosion continues to be an issue at the boat launch and it is recommended to work with the NH Fish and Game Department to implement stormwater improvement projects at the launch. NHDES' [NH Homeowner's Guide to Stormwater Management](#) and Maine DEP's Camp Road [website](#) are great resources and this may be a good project to collaborate on with Bow High School. Conductivity and chloride levels remained elevated and chloride levels exceeded the state chronic chloride standard at the Drainage Ditch and Bow Center Rd. East locations. Continue chloride monitoring program to better assess contributions to the pond and identify areas to implement best practices for application of winter de-icing materials. Keep up the great work!

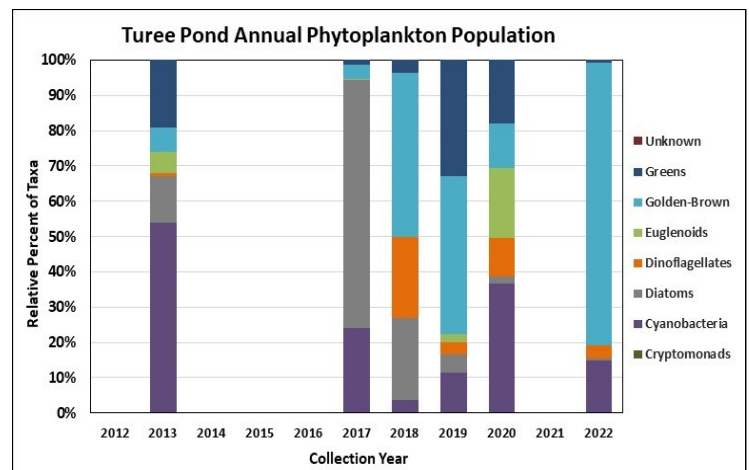
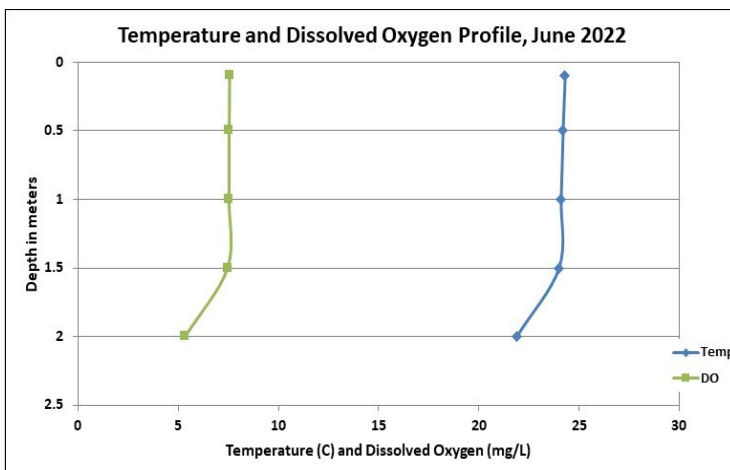
#### HISTORICAL WATER QUALITY TREND ANALYSIS

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



#### DISSOLVED OXYGEN AND PHYTOPLANKTON

(Note: Information may not be collected annually)





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### TUREE POND, BOW

### 2022 DATA SUMMARY

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

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was within a low range in June and increased gradually as the summer progressed but remained within a low range. Average chlorophyll level increased slightly from that measured in 2021, was slightly greater than the state median, and was much less than the threshold for eutrophic lakes. Historical trend analysis indicates relatively stable chlorophyll levels since 2007.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot) conductivity and chloride levels were elevated and much greater than the state medians. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since 2007. Seasonal Inlet, 1B, Bow Center Rd., Firehouse Pond Inlet, Firehouse Pond Outlet, and Outlet conductivity and chloride levels were also elevated however chloride levels did not exceed the state chronic chloride standard. Bow Center Rd. East, Drainage Ditch and White Rock Hill Rd. Culvert conductivity levels were greatly elevated. White Rock Hill Rd. chloride levels approached the state chronic chloride standard in late summer. Bow Center Rd. East chloride levels exceeded the state standard in May and June. Drainage Ditch chloride levels exceeded the state standard on each sampling event.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was highly tea colored, or dark brown, from June through July, and then lightened to within a moderate tea colored range in August.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus level was within a moderate range in June and decreased gradually as the summer progressed. Average epilimnetic phosphorus level decreased from 2021, was greater than the state median, and was less than the threshold for eutrophic lakes. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels since 2007. Station 1B, Bow Center Rd. East and Drainage Ditch phosphorus levels were within a low to moderate range in June. Bow Center Rd., Seasonal Inlet and White Rock Hill Rd. Culvert phosphorus levels were elevated in July following a storm event during low flow conditions. Firehouse Pond Inlet phosphorus levels fluctuated within a slightly elevated range. Firehouse Pond Outlet and Outlet phosphorus levels fluctuated within a moderate range.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) in June, decreased (worsened) in July, and increased (improved) to a high level in August. Average NVS transparency increased (improved) from 2021 likely due to drought conditions and lighter water color. Historical trend analysis indicates relatively stable NVS transparency since 2007.
- ◆ **TURBIDITY:** Epilimnetic, Bow Center Rd. and Seasonal Inlet turbidity levels were slightly elevated in July. Station 1B, Drainage Ditch, Firehouse Pond Outlet and White Rock Hill Rd. Culvert turbidity levels fluctuated within a low range. Bow Center Rd. East turbidity level was slightly elevated in June. Firehouse Pond Inlet and Turee Pond Outlet turbidity levels increased from low to slightly elevated levels in August during low flow conditions.
- ◆ **PH:** Epilimnetic, Station 1B, Bow Center Rd., Firehouse Pond Inlet, Firehouse Pond Outlet, Outlet, Seasonal Inlet, and White Rock Hill Rd. Culvert pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH levels since 2007. Bow Center Rd. East and Drainage Ditch pH levels were slightly acidic and less than desirable.

Station Name	Table 1. 2022 Average Water Quality Data for TUREE POND - BOW									
	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	12.5	5.86	81	98	297.5	18	2.06	2.24	0.98	6.58
1B			50		191.2	22			0.22	6.75
Bow Center Rd.			69		260.2	24			0.91	6.71
Bow Center Rd. East			243		792.8	13			3.74	6.00
Drainage Ditch			655		2237.5	18			0.08	6.32
Firehouse Pond Inlet			81		304.0	27			1.34	6.75
Firehouse Pond Outlet			56		219.5	19			0.62	6.75
Outlet			80		297.3	17			0.94	6.73
Seasonal Inlet			52		221.8	29			1.02	6.82
White Rock Hill Rd. Culvert			109		394.0	18			0.51	6.77

#### 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)