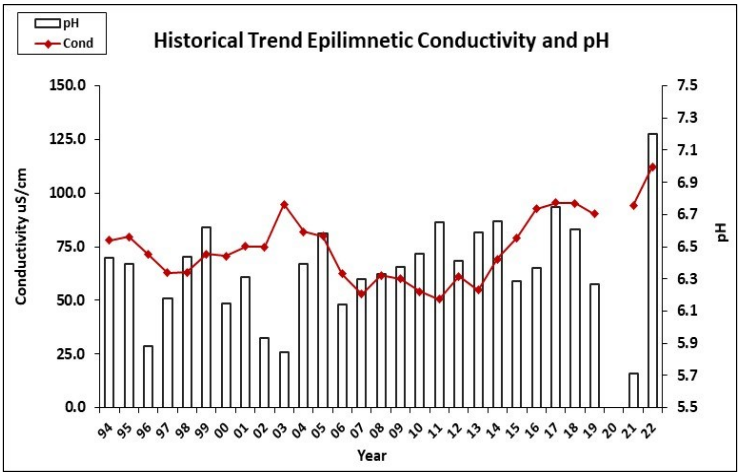
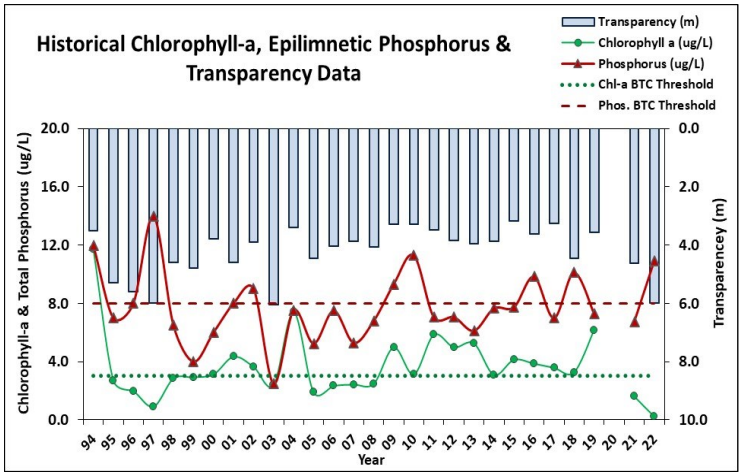
Volunteer Lake Assessment Program Individual Lake Reports
Jenness Pond, Northwood
2022 Data Summary

Recommended Actions: Great job sampling in 2022! Increase monitoring frequency to once per month, typically June, July and August, to better assess summer water quality and reduce variability within the data set. Pond nutrient (phosphorus) levels and algal growth (chlorophyll) have historically fluctuated above the threshold for oligotrophic lakes and the phytoplankton population is dominated by cyanobacteria. Keep an eye on the pond for any signs of cyanobacteria blooms or intermittent surface scums and report them to the NHDES Harmful Algal Bloom Program. The increased frequency and intensity of significant storm events, droughts and low water levels, earlier ice-out, and warmer water temperatures can influence nutrient levels and algal/cyanobacteria growth. Morse Spring Brook phosphorus levels continue to be elevated and it is recommended to conduct bracket sampling upstream to identify any potential sources of nutrients to the tributary. Contact the VLAP Coordinator for further information on bracket sampling. Educate lake and watershed property owners on ways to reduce stormwater runoff. NHDES' NH Homeowner's Guide to Stormwater Management, and NH LAKES' LakeSmart program are great resources. Keep up the great work!

Historical Water Quality Trend Analysis

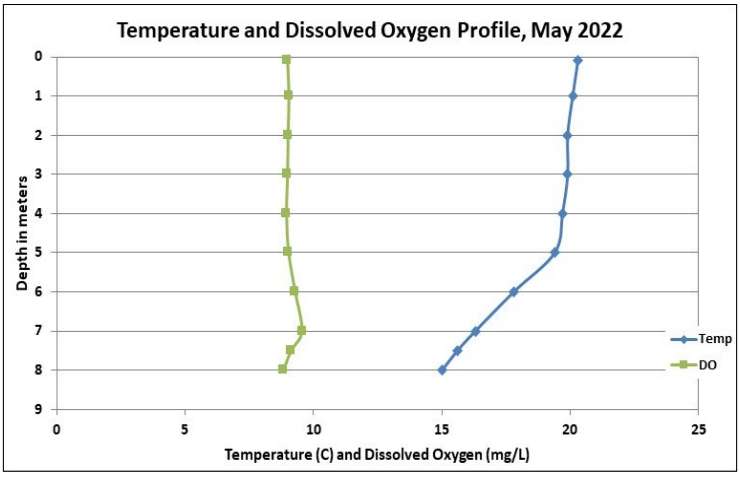
Parameter	Trend	Parameter	Trend
Conductivity	Worsening	**Chlorophyll-a**	Stable
pH (epilimnion)	Stable	**Transparency**	Stable
		Phosphorus (epilimnion)	Stable

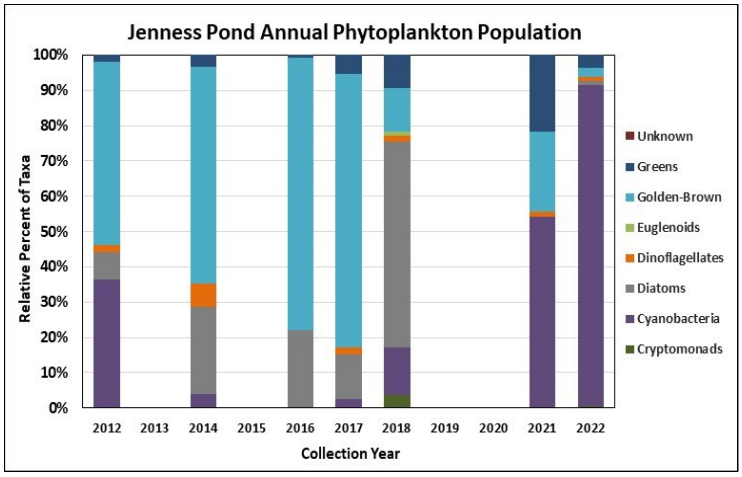




Dissolved Oxygen and Phytoplankton

(Note: Information may not be collected annually)





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

- **Chlorophyll-a:** Chlorophyll level was very low in May, decreased from 2021, was much less than the state median and the threshold for oligotrophic lakes, and was the lowest measured since monitoring began. Historical trend analysis indicates stable, yet variable, chlorophyll levels since monitoring began.
- **Conductivity/Chloride:** Epilimnetic (upper water layer), Hypolimnetic (lower water layer), Hood Brook, Morse Spring Brook, and Tupelo Brook East conductivity levels were slightly elevated and greater than the state median. Chloride levels were also greater than the state median, yet levels were less than the state chronic chloride standard at all stations. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began.
- **Color:** Apparent color measured in the epilimnion indicates the water was clear with little to no tea, or brown, coloring.
- **Total Phosphorus:** Epilimnetic phosphorus level was slightly elevated in May, increased from 2021, was approximately equal to the state median, and was slightly greater than the threshold for oligotrophic lakes. Historical trend analysis indicates stable, yet variable, epilimnetic phosphorus levels since monitoring began. Hood Brook and Tupelo Brook East phosphorus levels were within a low range. Morse Spring Brook phosphorus level was elevated.
- **Transparency:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) in May likely due to the low levels of algal growth. Average NVS transparency increased (improved) from 2021 and was much higher (better) than the state median. Historical trend analysis indicates relatively stable transparency since monitoring began.
- **Turbidity:** Epilimnetic, Hypolimnetic, Hood Brook, and Tupelo Brook East turbidity levels were within a low range. Morse Spring Brook turbidity level was slightly elevated.
- **pH:** Epilimnetic, Hood Brook and Tupelo Brook East pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began. Hypolimnetic and Morse Spring Brook pH levels were slightly less than desirable.

Station Name	Table 1. 2022 Average Water Quality Data for JENNESS POND - NORTHWOOD									
	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	2.1	0.25	24	20	112.3	11	6.00	7.25	0.42	7.20
Hypolimnion					109.2	9			0.58	6.30
Hood Brook			23		112.9	8			0.41	6.60
Morse Spring Brook			25		133.3	26			2.10	6.46
Tupelo Brook East			22		112.7	7			0.33	6.60

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)