



Volunteer Lake Assessment Program Individual Lake Reports

OSSIPPEE LAKE, OSSIPPEE, NH

MORPHOMETRIC DATA

MORPHOMETRIC DATA				TROPIC CLASSIFICATION		KNOWN EXOTIC SPECIES	
Watershed Area (Ac.):	209,595	Max. Depth (m):	18.5	Flushing Rate (yr ⁻¹)	4.6	Year	Trophic class
Surface Area (Ac.):	3250	Mean Depth (m):	8.5	P Retention Coef:	0.39	1987	OLIGOTROPHIC
Shore Length (m):	17,100	Volume (m ³):	108,421,500	Elevation (ft):	406	2003	OLIGOTROPHIC

The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of N.H. waters, and are based on data collected from 2010-2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Website](#).

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	Sampling data is better than the water quality standards or thresholds for this parameter.
	pH	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
	Oxygen, Dissolved	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	Dissolved oxygen satura	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	Chlorophyll-a	Good	Sampling data is better than the water quality standards or thresholds for this parameter.
Primary Contact Recreation	Escherichia coli	No Data	No data for this parameter.
	Chlorophyll-a	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

OSSIPEE LAKE - DEER COVE PB BEACH	Escherichia coli	No Data	No data for this parameter.
OSSIPEE LAKE - OSSIPPEE LAKE NATURAL AREA	Escherichia coli	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
OSSIPEE LAKE - CAMP CODY FOR BOYS BEACH	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
OSSIPEE LAKE - CAMP CALUMET BEACH	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

VLAP SAMPLE STATION MAP: This map depicts the location of routine sampling stations discussed on page two of the report.



OSSIPEE LAKE
OSSIPEE
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
OSSOSSD	DEEP SPOT

Source: The data layers are derived from NHDES data and are under constant revision. NHDES is not responsible for the use or interpretation of this information. Not intended for legal use. NHDES Watershed Management Bureau Date: 2/17/2021





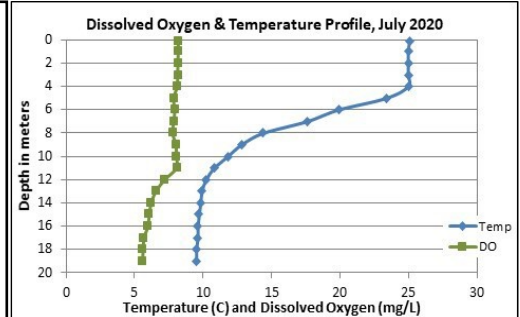
Volunteer Lake Assessment Program Individual Lake Reports

Ossipee Lake, Ossipee

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Lake quality remained representative of oligotrophic, or high quality, conditions. Drought conditions and the lack of flushing of waters rich in dissolved organic carbon that impart a tea color to the water may have helped to improve water clarity. Water color was much lighter in 2020 versus that measured in 2019. Continue to evaluate the relationship between water color and clarity in the lake. Epilimnetic phosphorus levels tend to fluctuate above the threshold for oligotrophic lakes and may be related to the increased frequency and intensity of storm events and the influence of the Bearcamp River. This highlights the importance of managing stormwater runoff within the watershed to reduce nutrient loading. Consider partnering with Soak Up the Rain NH to evaluate the watershed for areas prone to stormwater runoff and implement improvement projects www.soaknh.org. Encourage shoreline property owners to become certified LakeSmart through NHLAKES lake-friendly living program www.nhlakes.org/lakesmart/. Keep up the great work!

- Observations** (Refer to Table 1 and Historical Deep Spot Data Graphics)
- ◆ **Chlorophyll-a:** Chlorophyll level was within a low range in July, remained stable with 2019, and was less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable chlorophyll levels since monitoring began.
 - ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Metalimnetic (middle water layer) and Hypolimnetic (lower water layer) conductivity levels were within a low range for NH lakes and approximately equal to the state median. Epilimnetic chloride level was also within a low range and slightly greater than the state median. Historical trend analysis indicates stable epilimnetic conductivity levels since monitoring began.
 - ◆ **Color:** Apparent color measured in the epilimnion indicates the water was lightly tea colored, or light brown.
 - ◆ **Total Phosphorus:** Epilimnetic, Metalimnetic and Hypolimnetic phosphorus levels were within a low range. Epilimnetic phosphorus level remained stable with 2019, was less than the state median, and was approximately equal to the threshold for oligotrophic lakes. Epilimnetic phosphorus level was slightly higher than deeper layers potentially due to a significantly storm event prior. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels since monitoring began.
 - ◆ **Transparency:** Transparency measured without the viewscope (NVS) was high (good) for the lake in July, increased (improved) greatly from 2019, and was higher (better) than the state median. Historical trend analysis indicates stable, yet variable, NVS transparency since monitoring began. Viewscope transparency (VS) was much higher (better) than NVS transparency and likely a better measure of actual conditions.
 - ◆ **Turbidity:** Epilimnetic, Metalimnetic and Hypolimnetic turbidity levels were within a low range in July.
 - ◆ **pH:** Epilimnetic pH level was within the desirable range 6.5-8.0 units and historical trend analysis indicates stable epilimnetic pH levels since monitoring began. Metalimnetic and Hypolimnetic pH levels were slightly acidic and potentially critical to aquatic life.



Station Name	Table 1. 2020 Average Water Quality Data for OSSIPEE LAKE - OSSIPEE									
	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	5.6	1.64	9	30	43.0	8	4.95	6.00	0.37	6.92
Metalimnion					38.9	6			0.57	5.41
Hypolimnion					34.6	6			0.63	5.06

NH Median Values: Median values for specific parameters 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. Results exceeding criteria are considered a water quality violation.

- Chloride:** > 230 mg/L (chronic)
- E. coli:** > 88 cts/100 mL – public beach
- E. coli:** > 406 cts/100 mL – surface waters
- Turbidity:** > 10 NTU above natural level
- pH:** between 6.5-8.0 (unless naturally occurring)

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data show low variability.	Chlorophyll-a	Stable	Trend not significant; data moderately variable.
pH (epilimnion)	Stable	Trend not significant; data show low variability.	Transparency	Stable	Trend not significant; data highly variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data moderately variable.

