



Volunteer Lake Assessment Program Individual Lake Reports

MOUNTAINVIEW LAKE, SUNAPEE, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	832	Max. Depth (m):	6.7	Flushing Rate (yr ¹)	1	Year	Trophic class	
Surface Area (Ac.):	105	Mean Depth (m):	4.1	P Retention Coef:	0.69	1978	OLIGOTROPHIC	
Shore Length (m):	3,700	Volume (m ³):	1,758,000	Elevation (ft):	1116	1992	OLIGOTROPHIC	

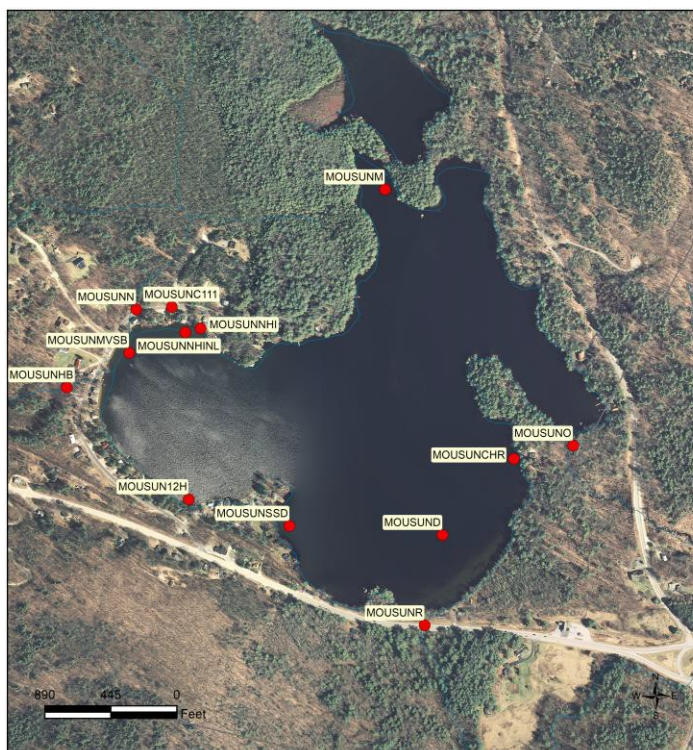
TROPIC CLASSIFICATION

KNOWN EXOTIC SPECIES

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)	Cautionary	Limited data for this parameter predicts exceedance of water quality standards or thresholds; however more data are necessary to fully assess the parameter.
	pH	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
	Oxygen, Dissolved	Encouraging	Limited data for this parameter predicts water quality standards or thresholds are being met; however more data are necessary to fully assess the parameter.
	Dissolved oxygen satura	Encouraging	Limited data for this parameter predicts water quality standards or thresholds are being met; however more data are necessary to fully assess the parameter.
	Chlorophyll-a	Good	Sampling data is better than the water quality standards or thresholds for this parameter.
Primary Contact Recreation	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	Chlorophyll-a	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.



MOUNTAINVIEW LAKE
SUNAPEE
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
MOUSUNND	DEEP SPOT
MOUSUNHB	HAMEL BROOK
MOUSUNNM	MUD PD BROOK
MOUSUNNO	OUTLET
MOUSUNNR	ROUTE 103 INLET
MOUSUNNH	NORTH HAMEL RD INLET
MOUSUNMVS	MT VIEW SHORES BEACH
MOUSUNN	NORTH BROOK
MOUSUNNHINL	N HAMEL RD IN LAKE
MOUSUNNC111	CULVERT AT 111 HAMEL RD
MOUSUNSSD	SUNNYSIDE DR
MOUSUN12H	12 HAMEL RD
MOUSUNCHR	CHANDLER RD

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





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Mountainview Lake, Sunapee

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Lake quality is generally representative of borderline oligotrophic/mesotrophic, high quality to average, conditions. The improving chlorophyll levels are a positive sign and levels appear to have stabilized around the threshold for oligotrophic lakes, however nutrient (phosphorus) levels are more representative of mesotrophic conditions. Drought conditions and low water levels resulted in high levels of organic matter in samples from several tributaries and the Hypolimnion which further results in data being invalidated. Only collect samples if there is sufficient flow or depth to obtain a samples free of sediment and/or organic matter. Chloride levels in Hamel Bk. at 103 have significantly increased in the past two years. Encourage local winter maintenance companies to obtain a Voluntary Salt Applicator license through the Green SnowPro Certification program to help mitigate the increasing conductivity and chloride levels. Keep up the great work!

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

- ◆ **Chlorophyll-a:** Chlorophyll level was low in June, increased slightly in July and then decreased in August. Average chlorophyll level remained stable with 2019, was less than the state median, and was approximately equal to the threshold for oligotrophic lakes. Historical trend analysis indicates significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Hypolimnetic (lower water layer) and Outlet conductivity and/or chloride levels were slightly elevated and greater than the state medians. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began. Hamel Brook and Hamel Brook at 103 conductivity and chloride levels were elevated and the highest measured since monitoring began. Hamel Bk. at 103 chloride levels exceeded the state chronic chloride standard in August. Rt. 103 Inlet conductivity and chloride levels remained very low and less than the state medians.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was lightly tea colored, or light brown, from June to August.
- ◆ **E. coli:** 12 Hamel Rd., Chandler Rd., and Mtn. View Shores Beach E. coli levels were very low and less than the state standards for public beaches and surface waters.
- ◆ **Total Phosphorus:** Epilimnetic phosphorus level was slightly elevated in June, decreased to a low level in July, and increased slightly in August. Average epilimnetic phosphorus level increased slightly from 2019, was less than the state median, and was greater than the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels since monitoring began. Hypolimnetic phosphorus level was slightly elevated in July and lab data noted low levels of organic matter. June and August phosphorus data were invalidated due to high levels of organic matter. Hamel Bk. at 103 phosphorus level was slightly elevated for that station in June; July and August data were invalidated due to high levels of organic matter. Hamel Brook phosphorus levels were within a moderate and average range for this station in June and July; August data were invalidated due to high levels of organic matter. Outlet phosphorus level was slightly elevated in August. Rt. 103 Inlet phosphorus level was elevated in June and August; July data were invalidated due to high levels of organic matter.
- ◆ **Transparency:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) in June, decreased slightly in July, and then increased slightly in August. Average NVS transparency increased (improved) from 2019 and was slightly higher (better) than the state median. Historical trend analysis indicates significantly decreasing (worsening) NVS transparency since monitoring began.
- ◆ **Turbidity:** Epilimnetic turbidity level was slightly elevated in June and decreased as the summer progressed. Hypolimnetic turbidity level was slightly elevated in July and lab data noted low levels of organic matter. Hamel Bk. at 103 turbidity level elevated in June. Hamel Brook turbidity level was slightly elevated in June and July. Outlet turbidity level was slightly elevated in July and August. Rt. 103 Inlet turbidity level was slightly elevated in August. Several data points at tributaries and the Hypolimnion were invalidated due to high levels of organic matter in the samples.
- ◆ **pH:** Epilimnetic, Hamel Bk. at 103, Hamel Brook, and Outlet pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates stable epilimnetic pH levels since monitoring began. Hypolimnetic and Rt. 103 Inlet pH levels were approximately equal to the low end of the desirable range.

Station Name	Table 1. 2020 Average Water Quality Data for MOUNTAINVIEW LAKE - SUNAPEE										
	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	E. coli (cts/100mL)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
								NVS	VS		
Epilimnion	7.7	3.06	38	37	151.0		10	3.44	3.86	1.18	7.03
Hypolimnion			37		148.9		23			3.70	6.47
12 Hamel Rd.						1					
Chandler Rd.						22					
Hamel Bk. at 103			206		714.0		39			5.40	7.18
Hamel Brook			92		361.3		20			3.12	7.07
Mt. View Shores Beach						3					
Outlet			39		151.3		12			1.26	7.01
Route 103 Inlet			2		33.2		38			2.10	6.49

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)

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

Historical Water Quality Trend Analysis

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Worsening	Data significantly increasing.	Chlorophyll-a	Improving	Data significantly decreasing.
pH (epilimnion)	Stable	Trend not significant; data show low variability.	Transparency	Worsening	Data significantly decreasing.
			Phosphorus (epilimnion)	Stable	Trend not significant; data moderately variable.

