



## Volunteer Lake Assessment Program Individual Lake Reports

### CANAAN STREET LAKE, CANAAN, NH

**MORPHOMETRIC DATA**
**TROPHIC CLASSIFICATION**
**KNOWN EXOTIC SPECIES**

<b>Watershed Area (Ac.):</b>	1,571	<b>Max. Depth (m):</b>	6.7	<b>Flushing Rate (yr<sup>-1</sup>)</b>	0.7	<b>Year</b>	<b>Trophic class</b>	
<b>Surface Area (Ac.):</b>	303	<b>Mean Depth (m):</b>	3.4	<b>P Retention Coef:</b>	0.79	2005	OLIGOTROPHIC	
<b>Shore Length (m):</b>	6,400	<b>Volume (m<sup>3</sup>):</b>	4,146,500	<b>Elevation (ft):</b>	1142	2008	OLIGOTROPHIC	

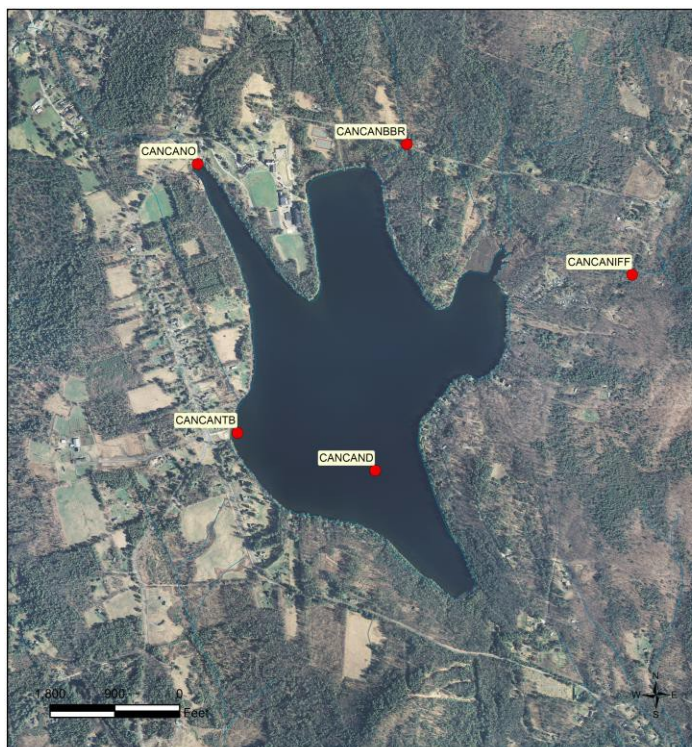
The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of New Hampshire waters, and are based on data collected from 2010- 2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Website](#).

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 a given 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	Very Good	Sampling data is 50 percent 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**

CANAAN ST LAKE - CRESCENT CAMPSITES	Escherichia coli	No Data	No data for this parameter.
CANAAN STREET LAKE - TOWN BEACH	Escherichia coli	Bad	Data periodically exceed water quality standards or thresholds for this parameter by a large margin.
CANAAN STREET LAKE - TOWN BEACH	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).

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



#### CANAAN STREET LAKE CANAAN

**VOLUNTEER LAKE ASSESSMENT PROGRAM**

STATIONID	STATION NAME
CANSAND	DEEP SPOT
CANSANO	OUTLET
CANSANTB	TOWN BEACH
CANSANBBR	BACK BAY RD
CANSANIFF	INLET AT FERNWOOD FARMS

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

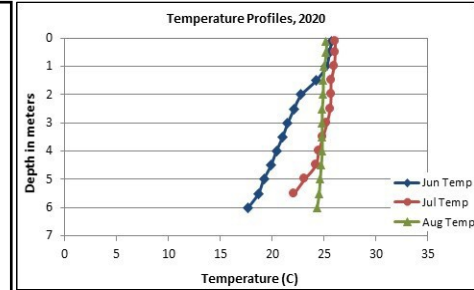
## Canaan St. Lake, Canaan

### 2020 Data Summary

**Recommended Actions:** Great job sampling in 2020! Lake quality is representative of oligotrophic, or high quality, conditions. Drought conditions in 2020 likely helped to keep nutrient levels low and improve water clarity (transparency). However, epilimnetic turbidity levels have significantly increased since monitoring began which may be due to an increase in dissolved organic matter flushing into the pond as a result of the increased frequency and intensity of storm events experienced in the Northeast. Continue to measure the relationship between water color, clarity and turbidity. Encourage local winter maintenance companies and Cardigan Mtn. School staff to obtain NH Voluntary Salt Applicator Licenses through the Green SnowPro Certification program. Encourage shoreline properties to be certified LakeSmart by NHLAKES lake-friendly living program [www.nhlakes.org/lakesmart/](http://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 low in June, increased slightly in July, and then decreased slightly in August. Average chlorophyll level remained stable with 2019 and was less than the state median and 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 chloride levels remained greater than the state medians. However, chloride levels remained much less than the state chronic chloride standard. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was borderline clear to lightly tea (brown) colored on each sampling event.
- ◆ **Total Phosphorus:** Epilimnetic phosphorus level was slightly elevated in June, decreased to a low level in July and remained stable into August. Average epilimnetic phosphorus level decreased from 2019 and was less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels since monitoring began. Hypolimnetic phosphorus levels fluctuated within a low range. Outlet phosphorus levels were elevated in June and decreased to a low range July and August.
- ◆ **Transparency:** Transparency measured without the viewscope (NVS) was high (good) in June, decreased slightly in July and then increased slightly in August. Average NVS transparency increased (improved) from 2019 and was higher (better) than the state median. Historical trend analysis indicates relatively stable transparency since monitoring began. Viewscope transparency (VS) was much higher (better) than NVS transparency and a better measure of actual conditions.
- ◆ **Turbidity:** Epilimnetic and Hypolimnetic turbidity levels fluctuated within a moderate range for those stations. Historical trend analysis indicates significantly increasing (worsening) epilimnetic turbidity levels since monitoring began. Outlet turbidity level was slightly elevated in June when phosphorus levels were also elevated.
- ◆ **pH:** Epilimnetic, Hypolimnetic 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.



Station Name	Table 1. 2020 Average Water Quality Data for CANAAN STREET LAKE - CANAAN									
	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	12.83	1.86	19	27	92.7	6	4.45	5.50	0.74	7.31
Hypolimnion			23		92.4	7			0.99	7.36
Outlet			19		102.7	10			0.94	6.98

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

