



## Volunteer Lake Assessment Program Individual Lake Reports

### SHELLCAMP POND, GILMANTON, NH

**MORPHOMETRIC DATA**

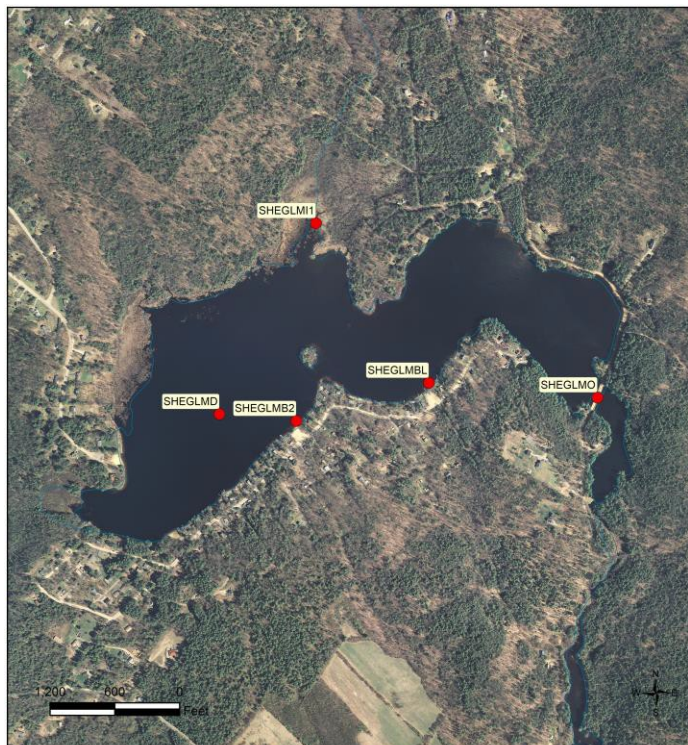
<b>Watershed Area (Ac.):</b>	2,052	<b>Max. Depth (m):</b>	4.9	<b>Flushing Rate (yr<sup>-1</sup>)</b>	4.7	<b>Year</b>	<b>Trophic class</b>	
<b>Surface Area (Ac.):</b>	149	<b>Mean Depth (m):</b>	1.6	<b>P Retention Coef:</b>	0.59	1982	MESOTROPHIC	
<b>Shore Length (m):</b>	5,300	<b>Volume (m<sup>3</sup>):</b>	950,000	<b>Elevation (ft):</b>	832	2000	MESOTROPHIC	

**TROPHIC 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)	Slightly Bad	Data exceed water quality standards or thresholds for a given parameter by a small margin.
	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	Slightly Bad	Data exceed water quality standards or thresholds for a given parameter by a small margin.
Primary Contact Recreation	Escherichia coli	No Data	No data for this parameter.
	Chlorophyll-a	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.

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



**SHELLCAMP POND**  
GILMANTON  
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
SHEGLMBL	BOAT LAUNCH
SHEGLMD	DEEP SPOT
SHEGLM1	HUCKINS BROOK INLET 1
SHEGLMO	OUTLET
SHEGLMB2	BEACH 2

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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## Shellcamp Pond, Gilmanton

### 2020 Data Summary

**Recommended Actions:** Great job sampling in 2020! Continue monthly and annual monitoring program to re-establish a baseline data set to better assess seasonal and annual water quality trends. Pond nutrient (phosphorus) levels and algal growth (chlorophyll-a) increased sharply in 2020 and were indicative of an algal bloom. This is concerning and may have been the result of drought conditions, low water levels and lack of flushing of nutrients out of the pond, as well as increased recreational boating use disturbing bottom sediments and releasing phosphorus into the water column. Educate boat owners to minimize disturbance of bottom sediments while recreating. NHDES fact sheet WD-WMB-25 "Impacts of Motorized Craft on New Hampshire's Waterbodies" is a great resource. The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff and erosion from dirt/gravel roads, sandy beaches, and the shoreline. NHDES' "NH Homeowner's Guide to Stormwater Management" and Maine DEP's "Camp Road Maintenance Manual" are great resources. Keep up the great work!

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

- ◆ **Chlorophyll-a:** Chlorophyll level was elevated in July and remained stable in September. Average chlorophyll level increased sharply from 2019, was much greater than the state median and the threshold for mesotrophic lakes, and was indicative of an algal bloom. Visual inspection of historical data indicates highly variable 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, however chloride levels were much less than the state chronic chloride standard. Visual inspection of historical data indicates highly variable epilimnetic conductivity levels since monitoring began.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was highly tea colored, or dark brown, and was darkest in July and lightest in September.
- ◆ **Total Phosphorus:** Epilimnetic and Hypolimnetic phosphorus levels were elevated in July and decreased to a slightly elevated level in September. Average epilimnetic phosphorus level increased from 2019 and was greater than the state median and the threshold for mesotrophic lakes. Visual inspection of historical data indicates relatively stable epilimnetic phosphorus levels since monitoring began. Outlet phosphorus level was slightly elevated in September and lab data noted sediment in the sample.
- ◆ **Transparency:** Transparency measured without the viewscope (NVS) was below average (worse) in July when water color was darker, and then increased (improved) in September when water color was lighter. Average NVS transparency decreased (worsened) slightly from 2019 and visual inspection of historical data indicates relatively stable NVS transparency since monitoring began. Viewscope (VS) transparency was much higher (better) than NVS transparency and likely a better measure of actual conditions.
- ◆ **Turbidity:** Epilimnetic turbidity level fluctuated within a low range. Hypolimnetic turbidity level was slightly elevated in July. Outlet turbidity level was slightly elevated in September and lab data noted sediment in the sample.
- ◆ **pH:** Epilimnetic and Hypolimnetic pH levels were slightly less than the desirable range 6.5-8.0 units. Visual inspection of historical data indicates variable epilimnetic pH levels since monitoring began. Outlet pH level was within the desirable range.

Station Name	Table 1. 2020 Average Water Quality Data for SHELLCAMP POND - GILMANTON									
	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	7.7	15.1	36	95	124.6	21	1.62	2.35	0.87	6.36
Hypolimnion					125.7	25			1.68	6.20
Outlet					120.2	20			1.23	6.99

**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	N/A	Ten years of data necessary for analysis.	Chlorophyll-a	N/A	Ten years of data necessary for analysis.
pH (epilimnion)	N/A	Ten years of data necessary for analysis.	Transparency	N/A	Ten years of data necessary for analysis.
			Phosphorus (epilimnion)	N/A	Ten years of data necessary for analysis.

