



Volunteer Lake Assessment Program Individual Lake Reports

BEARCAMP POND, SANDWICH, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	7,680	Max. Depth (m):	9.2	Flushing Rate (yr¹)	8.5	Year	Trophic class	
Surface Area (Ac.):	167	Mean Depth (m):	2.7	P Retention Coef:	0.46	1982	MESOTROPHIC	
Shore Length (m):	4,200	Volume (m³):	1,769,500	Elevation (ft):	596	1998	MESOTROPHIC	

TROPHIC CLASSIFICATION
KNOWN EXOTIC SPECIES

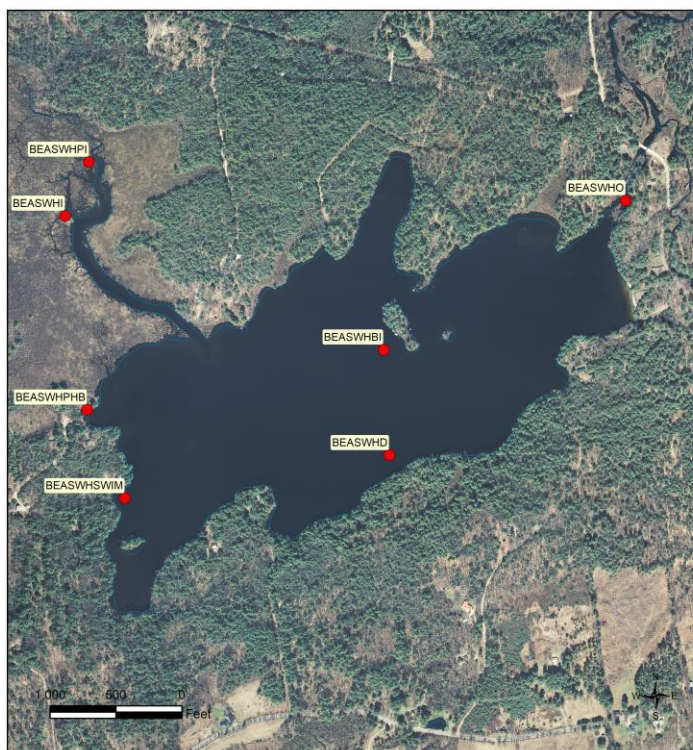
The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of New Hampshire waters, and are based on data collected from 2010- 2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Webpage](#).

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	Slightly Bad	Data periodically exceed water quality standards or thresholds for a given parameter by a small margin.
	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	Good	Sampling data commonly meet water quality standards or thresholds for this parameter.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

BEARCAMP POND - TOWN BEACH	Escherichia coli	Good	Sampling data commonly meet water quality standards or thresholds for this parameter.
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VLAP SAMPLE STATION MAP: This map depicts the location of routine sampling stations discussed on page two of the report.



**BEARCAMP POND
SANDWICH
VOLUNTEER LAKE ASSESSMENT PROGRAM**

STATIONID	STATION NAME
BEASWHD	DEEP SPOT
BEASWHI	INLET
BEASWHO	OUTLET
BEASWHP1	PREINLET
BEASWHBI	BIG ISLAND SWIM
BEASWHSWIM	SWIM AREA
BEASWPHB	PARTRIDGE HILL BEACH

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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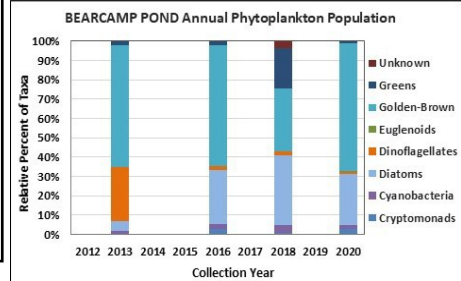
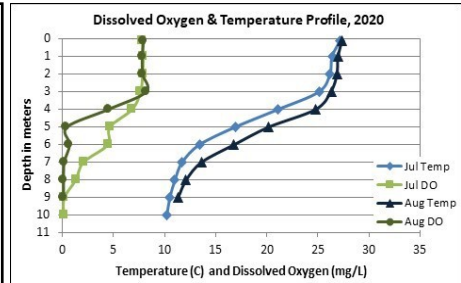
Bearcamp Pond, Sandwich

2020 Data Summary

Recommended Actions: Great job conducting enhanced sampling in 2020! Drought conditions and the lack of flushing of systems rich in dissolved organic matter that impart a tea, or brown, color to the water helped to improve water clarity (transparency) and nutrient levels, and decrease water color by half that measured in 2019. The increased frequency and intensity of storm events will continue to influence nutrient levels, color, algal growth, and clarity. Continue efforts to manage and reduce stormwater runoff from shoreline properties and the watershed. 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 low in July and then increased to a slightly elevated level in August. Average chlorophyll level remained stable with 2019 and was slightly greater than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates stable chlorophyll levels since monitoring began.
- ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Metalimnetic (middle water layer), Hypolimnetic (lower water layer), Inlet, Outlet, and Pre-Inlet conductivity levels remained within a low range for NH lakes and were less than the state median. Epilimnetic chloride level was very low and much less than the state median. Historical trend analysis indicates relatively 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 Outlet phosphorus levels were low in July and August. Average epilimnetic phosphorus level decreased from 2019 and was less than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates stable, yet variable, epilimnetic phosphorus levels since monitoring began. Hypolimnetic phosphorus level was slightly elevated in July and increased to an elevated level in August potentially due to the release of phosphorus from bottom sediments under anoxic (no dissolved oxygen) conditions. Inlet phosphorus level was slightly elevated in August during drought and low flow conditions. Pre-Inlet phosphorus levels fluctuated within a moderate range.
- ◆ **Transparency:** Transparency measured without the viewscope (NVS) was within an average range for the pond in July and increased (improved) in August. Average NVS transparency increased from 2019 and was approximately equal to the state median. Historical trend analysis indicates stable, yet variable, NVS transparency since monitoring began. Viewscope transparency (VS) was higher (better) than NVS transparency and likely a better measure of actual conditions.
- ◆ **Turbidity:** Epilimnetic, Metalimnetic, Inlet, Pre-Inlet, and Outlet turbidity levels fluctuated within low ranges. Hypolimnetic turbidity levels were slightly elevated in July and August potentially due to the formation and accumulation of organic compounds under anoxic conditions.
- ◆ **pH:** Epilimnetic and Pre-Inlet pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began. Inlet and Outlet pH levels were slightly less than desirable. Metalimnetic, Hypolimnetic pH levels were slightly acidic and potentially critical to aquatic life.



Station Name	Table 1. 2020 Average Water Quality Data for BEARCAMP POND - SANDWICH									
	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	4.6	5.94	3	45	18.5	8	3.25	3.85	0.34	6.78
Metalimnion					19.0	11			0.86	5.53
Hypolimnion					22.3	20			2.38	5.74
Inlet					24.9	16			0.38	6.14
Outlet					18.4	6			0.18	6.30
Pre-Inlet					26.3	12			0.32	6.68

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

