



Volunteer Lake Assessment Program Individual Lake Reports

BAPTIST POND, SPRINGFIELD, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,664	Max. Depth (m):	7.5	Flushing Rate (yr ¹)	3.7	Year	Trophic class	
Surface Area (Ac.):	99	Mean Depth (m):	2.4	P Retention Coef:	0.56	1980	MESOTROPHIC	
Shore Length (m):	2,900	Volume (m ³):	972,500	Elevation (ft):	1266	1996	MESOTROPHIC	

TROPIC CLASSIFICATION

KNOWN EXOTIC SPECIES

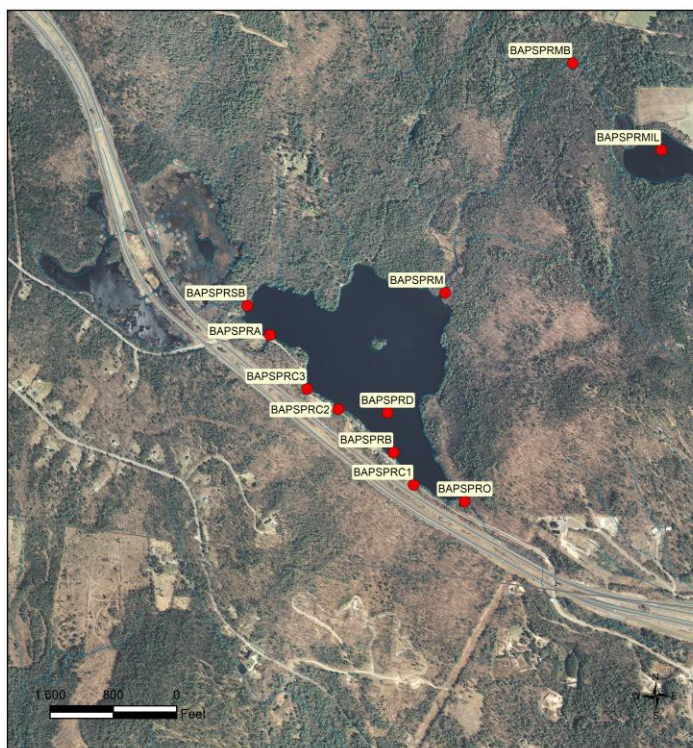
The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of New Hampshire waters, and are based on data collected from 2010- 2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Website](#).

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	Slightly Bad	Data periodically exceed water quality standards or thresholds for a given parameter by a small margin.
	Chlorophyll-a	Slightly Bad	Data exceed water quality standards or thresholds for a given parameter by a small margin.
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

BAPTIST POND - CAMP SUNAPEE	Escherichia coli	Very Good	All sampling data 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.



BAPTIST POND SPRINGFIELD

VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
BAPSPRD	DEEP SPOT
BAPSPRSB	INLET
BAPSPRM	MCALVIN INLET
BAPSPRO	STONE BROOK OUTLET
BAPSPRMIL	MCALVIN IN LAKE
BAPSPRA	STATION A
BAPSPRB	STATION B
BAPSPRMB	MCALVIN BROOK
BAPSPRC1	CULVERT #1
BAPSPRC2	CULVERT #2
BAPSPRC3	CULVERT #3

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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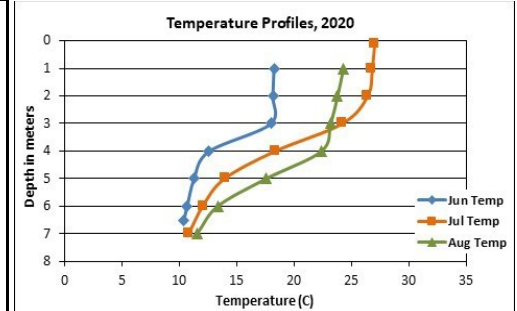
Baptist Pond, Springfield

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Drought conditions in 2020 resulted in low lake levels, higher nutrient (phosphorus) levels and algal growth, and a brief cyanobacteria scum was noted in the fall. Hypolimnetic phosphorus and turbidity levels indicate the development of anoxic (low dissolved oxygen) conditions as the summer progresses. This could result in the release of phosphorus from bottom sediments that is readily available for uptake by algae and cyanobacteria potentially prompting late summer increases in algal and/or cyanobacteria growth. Keep an eye out and alert NHDES' Harmful Algal Bloom Program HAB@des.nh.gov if cyanobacteria are observed. Consider developing a watershed management plan to help identify and quantify nutrient and chloride loading and make recommendations on best practices to reduce loading to the pond. The NHDES Watershed Assistance Section offers grants for planning and development of watershed management plans. For more information contact the VLAP Coordinator. Keep up the great work!

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

- ◆ **Chlorophyll-a:** Chlorophyll level was low in June, remained stable in July, and increased to an elevated level in August. Average chlorophyll level decreased from 2019 but remained slightly greater than the state median and the threshold for mesotrophic lakes. Historical trend analysis indicates relatively stable chlorophyll levels since monitoring began.
- ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Hypolimnetic (lower water layer) and Outlet conductivity levels remained slightly elevated and greater than the state median. Epilimnetic chloride levels were also greater than the state median yet much less than the state chronic chloride standard. Historical trend analysis indicates relatively stable epilimnetic conductivity levels since monitoring began. McAlvin Inlet and McAlvin Pond conductivity levels were low. Stoney Brook conductivity and chloride levels remained elevated and increased slightly as the summer progressed.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was moderately tea colored, or brown. Apparent color measured in Stoney Brook Inlet indicates highly tea colored, or dark brown conditions.
- ◆ **Total Phosphorus:** Epilimnetic and Outlet phosphorus levels were low and decreased as the summer progressed. Average epilimnetic phosphorus level decreased slightly 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 levels fluctuated within a slightly elevated range. McAlvin Inlet phosphorus level was elevated in June due to stagnant conditions. McAlvin Pond phosphorus levels were slightly elevated in June and decreased to a low level as the summer progressed. Stoney Brook phosphorus levels fluctuated within an average range for that station.
- ◆ **Transparency:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) in June, increased (improved) in July, and then decreased (worsened) in August when algal growth was elevated. Average NVS transparency increased (improved) slightly from 2019 but remained lower (worse) than the state median. Historical trend analysis indicates significantly decreasing (worsening) transparency since monitoring began. VS transparency was slightly higher (better) than NVS transparency and likely a better measure of actual conditions.
- ◆ **Turbidity:** Epilimnetic and Outlet turbidity levels fluctuated within an average range for that station. Hypolimnetic turbidity levels were elevated in June and August. McAlvin Inlet turbidity level was slightly elevated in June during stagnant conditions. McAlvin Pond turbidity levels were slightly elevated in June and July when phosphorus levels were also slightly elevated. Stoney Brook turbidity levels were slightly elevated in June and increased to elevated levels in July and August during low flows.
- ◆ **pH:** Epilimnetic, McAlvin Pond, Outlet, and Stoney Brook 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 McAlvin Inlet pH levels were slightly less than desirable and McAlvin Inlet pH levels were slightly acidic.



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)

Station Name	Table 1. 2020 Average Water Quality Data for BAPTIST POND - SPRINGFIELD									
	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	5.77	6.04	33	55	142.5	9	2.47	3.00	1.25	7.13
Hypolimnion					146.9	16			2.51	6.25
McAlvin Inlet					26.5	30			2.46	5.98
McAlvin Pond In Lake					19.2	17			1.32	6.52
Outlet					136.6	10			1.33	6.75
Stoney Brook Inlet			78	230	315.1	23			5.67	6.6

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 moderately variable.
pH (epilimnion)	Stable	Trend not significant; data show low variability.	Transparency	Worsening	Data significantly decreasing.
			Phosphorus (epilimnion)	Stable	Trend not significant; data highly variable.

