



Volunteer Lake Assessment Program Individual Lake Reports

ISLAND POND, STODDARD, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	21,874	Max. Depth (m):	4.5	Flushing Rate (yr ¹)	353
Surface Area (Ac.):	158	Mean Depth (m):	2.4	P Retention Coef:	0
Shore Length (m):	6,300	Volume (m ³):	1,529,500	Elevation (ft):	1281

TROPHIC CLASSIFICATION

Year	Trophic class
1993	MESOTROPHIC
2004	MESOTROPHIC

KNOWN EXOTIC SPECIES

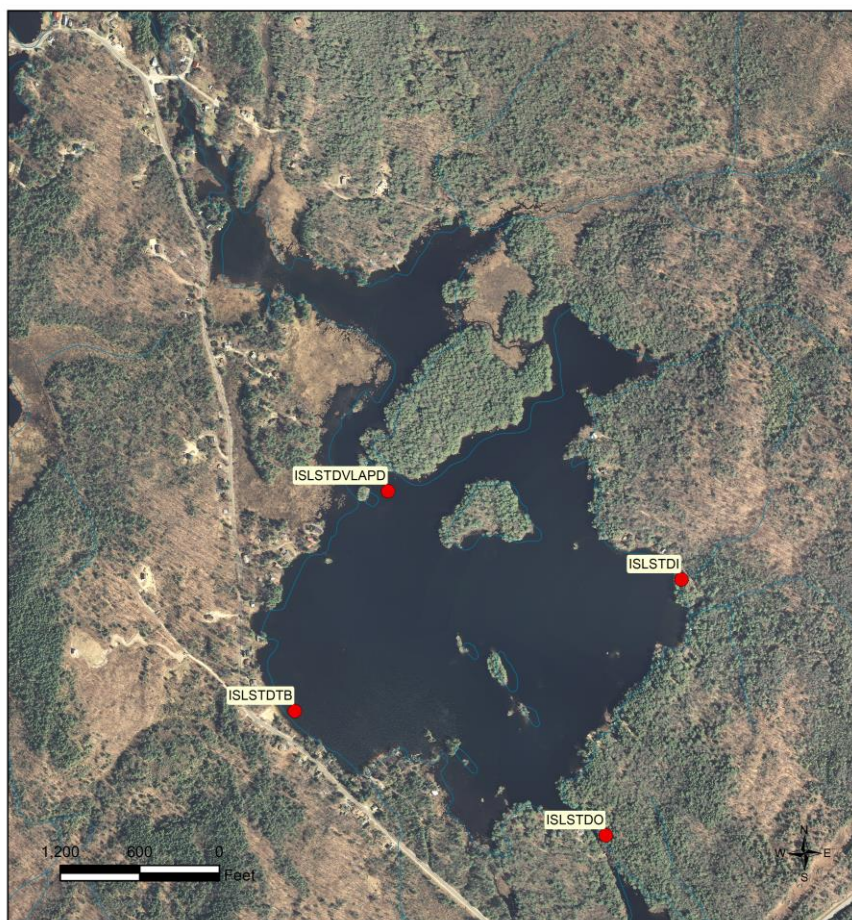
The Waterbody Report Card tables are generated from the DRAFT 2018 305(b) report on the status of N.H. waters, and are based on data collected from 2008-2017. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organization/divisions/water/wmb/swqa/index.htm

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	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

ISLAND POND - PUBLIC BEACH	Escherichia coli	Good	Sampling data commonly meet water quality standards or thresholds for this parameter.
----------------------------	------------------	------	---

VLAP SAMPLE SITE MAP



ISLAND POND STD STODDARD

VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
ISLSTDVLPD	VLP DEEP SPOT
ISLSTDI	INLET
ISLSTDO	OUTLET
ISLSTDB	TOWN 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





VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

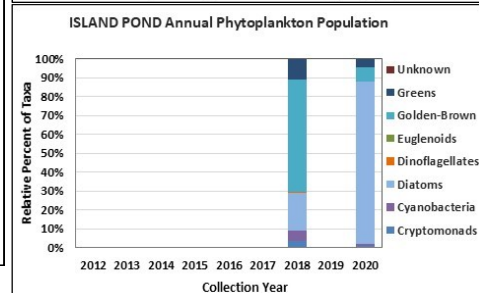
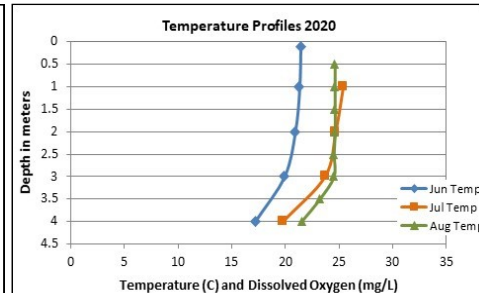
ISLAND POND, STODDARD

2020 DATA SUMMARY

RECOMMENDED ACTIONS: Great job sampling in 2020! Pond nutrient (phosphorus) levels remain representative of mesotrophic conditions and the improving levels are encouraging. Algal growth (chlorophyll) has also remained below the threshold for mesotrophic lakes since 2017 following a steady increase which is also encouraging, however the pond experienced a brief cyanobacteria bloom in early June. This highlights the delicate balance of the pond's ecosystem. Hypolimnetic phosphorus levels may indicate the release of phosphorus from bottom sediments under anoxic conditions. Add dissolved oxygen monitoring to better understand if the hypolimnion experiences anoxia as the summer progresses and to what extent. Water color was lighter and turbidity lower this year likely due to drought conditions and the lack of flushing of wetland systems rich in dissolved organic matter, which led to a slightly improvement in water clarity. Continue to measure the relations between water color, clarity and turbidity. Encourage shoreline property owners to be 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 within a low range in June, increased to a moderate level in July, and then decreased in August. Average chlorophyll level remained stable with 2019 and was less 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), Inlet, and Outlet conductivity levels were within a low range and less than the state median. Epilimnetic chloride level was also low and approximately equal to the state median. Historical trend analysis indicates stable epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was moderately tea colored, or brown in June, and then lightly tea colored, or light brown, in July and August.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus level was low in June and increased as the summer progressed but remained within a low range. 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 significantly decreasing (improving) epilimnetic phosphorus levels since monitoring began. Hypolimnetic phosphorus levels were elevated in July and August potentially indicating the release of phosphorus from bottom sediments under anoxic (low dissolved oxygen) conditions. Inlet phosphorus levels were slightly elevated in June and decreased as the summer progressed. Outlet phosphorus level was elevated in August and lab data note low levels of organic matter in the sample.
- ◆ **TRANSPARENCY:** Transparency measured without the viewscope (NVS) was high (good) in June and decreased slightly as the summer progressed. Average NVS transparency increased (improved) slightly over 2019 and was slightly higher (better) than the state median. Historical trend analysis indicates relatively stable transparency since monitoring began. Viewscope (VS) transparency was slightly higher (better) than NVS transparency and likely a better measure of actual conditions.
- ◆ **TURBIDITY:** Epilimnetic, Hypolimnetic, Inlet, and Outlet turbidity levels fluctuated within a low range.
- ◆ **PH:** Epilimnetic pH level was within the desirable range 6.5-8.0 units and historical trend analysis indicates stable epilimnetic pH levels since monitoring began. Hypolimnetic, Inlet and Outlet pH levels were slightly acidic and potentially critical to aquatic life.



Station Name	Table 1. 2020 Average Water Quality Data for ISLAND POND - STODDARD									
	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	2.9	3.91	6	43	27.3	9	3.46	3.70	0.38	6.57
Hypolimnion					31.4	21			1.01	5.56
Inlet					27.9	15			0.37	5.83
Outlet					27.8	10			0.34	6.05

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

