



Volunteer Lake Assessment Program Individual Lake Reports

GOOSE POND, CANAAN, NH

MORPHOMETRIC DATA

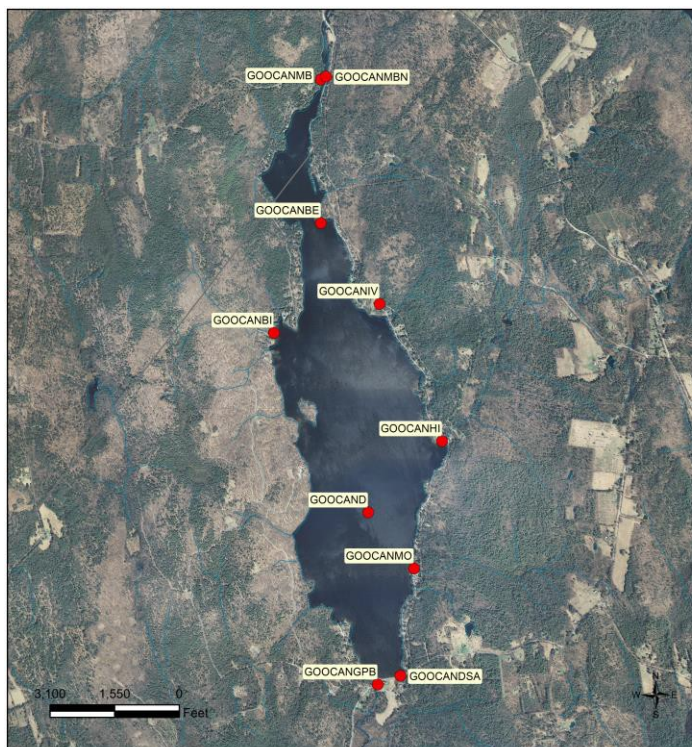
Watershed Area (Ac.):	10,176	Max. Depth (m):	10.1	Flushing Rate (yr¹)	1.6	Year	Trophic class	
Surface Area (Ac.):	554	Mean Depth (m):	5.2	P Retention Coef:	0.57	1988	OLIGOTROPHIC	
Shore Length (m):	10,100	Volume (m³):	11,769,000	Elevation (ft):	829	2005	MESOTROPHIC	

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)	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	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.
	Cyanobacteria hepatoto	Slightly Bad	Cyanobacteria bloom(s).
	Chlorophyll-a	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

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



**GOOSE POND
CANAAN**
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
GOOCAND	DEEP SPOT
GOOCANIV	ISLAND VIEW BROOK
GOOCANMB	MARSHALL BROOK
GOOCANHI	HINKSON BROOK
GOOCANMO	MOURTON INLET
GOOCANBI	BIG ISLAND COVE BROOK
GOOCANGPB	GOOSE POND BROOK
GOOCANBE	BEACH
GOOCANDSA	DAM SWIMMING AREA
GOOCANMBN	MARSHALL BROOK NORTH

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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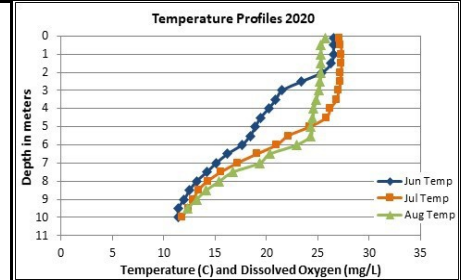
Goose Pond, Canaan

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Pond quality is generally representative of oligotrophic, or high quality, conditions, however chlorophyll levels tend to fluctuate above the threshold for oligotrophic lakes. Drought conditions in 2020 generally led to improved lake clarity (transparency) and the lack of stormwater runoff likely reduced nutrient loading and overall algal growth. However, warmer water temperatures and ample sunlight provided conditions perfect for cyanobacteria growth and an alert was issued due to a surface bloom. Pond pH levels appear to be recovering from the impacts of historical acid precipitation. For more information on the recovery of NH's surface waters consult the *Acid Rain Status and Trends Report* on the NHDES website. Encourage shorefront 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 June, increased to a moderate range in July, and decreased to a low level in August. Average chlorophyll level decreased from 2019 and was less than the state median and the threshold for oligotrophic 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), Goose Pond Brook, and Marshall Brook conductivity and/or chloride levels were low and slightly less than the state medians. Historical trend analysis indicates relatively stable epilimnetic conductivity levels since monitoring began.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was borderline clear to lightly tea colored, or light brown.
- ◆ **E. coli:** Beach and Dam Swimming Area E. coli levels were less than the state standard for public beaches and were higher in July.
- ◆ **Total Phosphorus:** Epilimnetic, Metalimnetic, and Hypolimnetic phosphorus levels fluctuated within a low range. Metalimnetic phosphorus level was higher in July when algal growth was slightly higher. Average epilimnetic phosphorus level increased slightly from 2019 but remained less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates stable epilimnetic phosphorus levels since monitoring began. Goose Pond Brook and Marshall Brook phosphorus levels were within a low range for those stations.
- ◆ **Transparency:** Transparency measured with (VS) and without (NVS) the viewscope was high (good) in June and increased (improved) gradually as the summer progressed. Average NVS transparency increased (improved) slightly from 2019, was better than the state median, and was the highest (best) measured since monitoring began. Historical trend analysis indicates relatively stable transparency since monitoring began.
- ◆ **Turbidity:** Epilimnetic, Metalimnetic, Hypolimnetic, and Goose Pond Brook turbidity levels fluctuated within a low to average range for those stations. Marshall Brook turbidity level was slightly elevated in June and organic matter was noted in the sample.
- ◆ **pH:** Epilimnetic, Metalimnetic, Goose Pond Brook, and Marshall Brook pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates significantly increasing (improving) epilimnetic pH levels since monitoring began. Hypolimnetic pH levels were slightly less than desirable.



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)

Station Name	Alk. (mg/L)	Chlor-a (ug/L)	Chloride (mg/L)	Color (pcu)	Cond. (us/cm)	E. coli (cts/100 ml)	Total P (ug/L)	Trans. (m)		Turb. (ntu)	pH
								NVS	VS		
Epilimnion	7.5	2.52	4	27	36.6		7	5.50	6.00	0.44	7.17
Metalimnion					36.6		6			0.83	6.91
Hypolimnion					36.2		8			1.19	6.35
Beach						32					
Goose Pond Brook			4		38.4		6			0.70	7.10
Dam Swimming Area						28					
Marshall Brook			4		36.3		11			1.26	6.95

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)	Improving	Data significantly increasing.	Transparency	Stable	Trend not significant; data moderately variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data show low variability.

