



Volunteer Lake Assessment Program Individual Lake Reports

GREAT POND, KINGSTON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	5,376	Max. Depth (m):	14.6	Flushing Rate (yr ⁻¹)	2.6	Year	Trophic class	
Surface Area (Ac.):	204	Mean Depth (m):	4.5	P Retention Coef:	0.53	2004	MESOTROPIC	
Shore Length (m):	6,600	Volume (m ³):	3,700,500	Elevation (ft):	118	2009	EUTROPHIC	

TROPIC CLASSIFICATION

KNOWN EXOTIC SPECIES

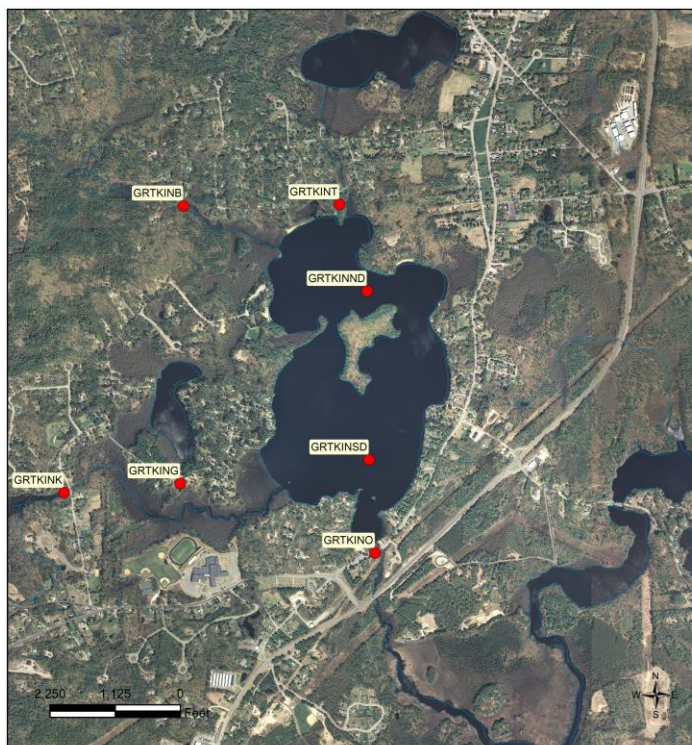
The Waterbody Report Card tables are generated from the DRAFT 2020 305(b) report on the status of N.H. waters, and are based on data collected from 2010-2019. Detailed waterbody assessment and report card information can be found at [NHDES' Water Quality Assessment Website](https://www.nhdes.gov/water-quality-assessment-website).

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	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	No Data	No data for this parameter.
	Chlorophyll-a	Very Good	All sampling data meet water quality standards or thresholds for this parameter.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

GREAT POND - KINGSTON STATE PARK BEACH	Escherichia coli	Slightly Bad	Data periodically exceed water quality standards or thresholds for this parameter by a small margin.
GREAT POND- GREAT POND PARK ASSOCIATION BEACH	Escherichia coli	Bad	Data periodically exceed water quality standards or thresholds for this parameter by a large margin.
GREAT POND - CAMP LINCOLN BEACH	Escherichia coli	Bad	Data periodically exceed water quality standards or thresholds for this parameter by a large margin.
GREAT POND - CAMP BLUE TRIANGLE BEACH	Escherichia coli	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.



GREAT POND KINGSTON VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
GRTKINB	BALL RD INLET
GRTKING	GREAT POND/PARK RD
GRTKINK	KELLEY BROOK INLET
GRTKIND	NORTH DEEP SPOT
GRTKINO	OUTLET
GRTKINSK	SOUTH DEEP SPOT
GRTKINT	THAYER RD INLET

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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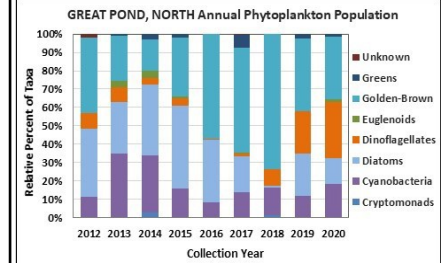
Great Pond, North Stn., Kingston

2020 Data Summary

Recommended Actions: Great job sampling in 2020! Pond algal (chlorophyll) growth and nutrient (phosphorus) levels have generally remained below the threshold for mesotrophic lakes since 2014 and the improving chlorophyll levels are a positive sign. Water clarity (transparency) also appears to have improved since 2014. Drought conditions in 2020 and the lack of stormwater runoff led to improved water quality overall. This highlights the importance of continued management of stormwater runoff within the watershed. Consult NHDES' "Homeowner's Guide to Stormwater Management". Consider partnering with Soak up the Rain NH to install stormwater management controls within the watershed. For more information visit www.soaknh.org. Educate shorefront property owner's on becoming certified LakeSmart through NHLAKES' lake-friendly living program www.nhlakes.org/lakesmart/. Continue to work with local winter maintenance companies to obtain Voluntary NH Salt Applicator license through the Green SnowPro Certification program to help reduce impacts of winter road salt usage on the pond. Keep up the great work!

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

- ◆ **Chlorophyll-a:** Chlorophyll level was low in June and 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 significantly decreasing (improving) chlorophyll levels since monitoring began.
- ◆ **Conductivity/Chloride:** Epilimnetic (upper water layer), Metalimnetic (middle water layer), Hypolimnetic (lower water layer), and Thayer Rd. Inlet conductivity and/or chloride levels remained elevated and much greater than the state medians, however chloride levels did not exceed the state chronic chloride standard. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began. Ball Rd. Inlet conductivity and chloride levels were within an average range for NH lakes.
- ◆ **Color:** Apparent color measured in the epilimnion indicates the water was moderately tea colored, or brown, and remained stable from June to August.
- ◆ **Total Phosphorus:** Phosphorus was not measured in June. Epilimnetic and Metalimnetic phosphorus levels were within a low range in 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 epilimnetic phosphorus levels since monitoring began. Hypolimnetic phosphorus level was elevated in August but within a normal range for that station.
- ◆ **Transparency:** Transparency measured without the viewscope (NVS) was above average (good) in June and remained stable in August. Average NVS transparency increased (improved) from 2019 and was higher (better) than the state median. Historical trend analysis indicates stable, yet variable, NVS transparency since monitoring began. Transparency measured with the viewscope (VS) was slightly less than NVS transparency in June but increased (improved) in August.
- ◆ **Turbidity:** Epilimnetic, Metalimnetic and Hypolimnetic turbidity levels were within a low range for those stations and remained stable from June to August. Ball Rd. Inlet turbidity level was also low in June. Thayer Rd. Inlet turbidity level was slightly elevated in June but was the lowest measured at that station since monitoring began.
- ◆ **pH:** Epilimnetic pH was within the desirable range 6.5-8.0 units and historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began. Metalimnetic and Hypolimnetic pH levels were slightly less than desirable. Ball Rd. Inlet and Thayer Rd. Inlet pH levels were slightly acidic and potentially critical to aquatic life.



Station Name	Table 1. 2020 Average Water Quality Data for GREAT POND , NORTH STN.									
	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	12.4	3.25	48	55	176.8	9	4.00	3.88	0.50	6.96
Metalimnion					173.2	10			0.60	6.42
Hypolimnion					167.8	23			1.68	6.40
Ball Rd. Inlet			13		66.5				0.82	5.44
Thayer Rd. Inlet			46		161.5				1.85	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	Worsening	Data significantly increasing.	Chlorophyll-a	Improving	Data significantly decreasing.
pH (epilimnion)	Stable	Trend not significant; data moderately variable.	Transparency	Stable	Trend not significant; data highly variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data show low variability.

