Volunteer Lake Assessment Program Individual Lake Reports

GILMORE POND, JAFFREY, NH

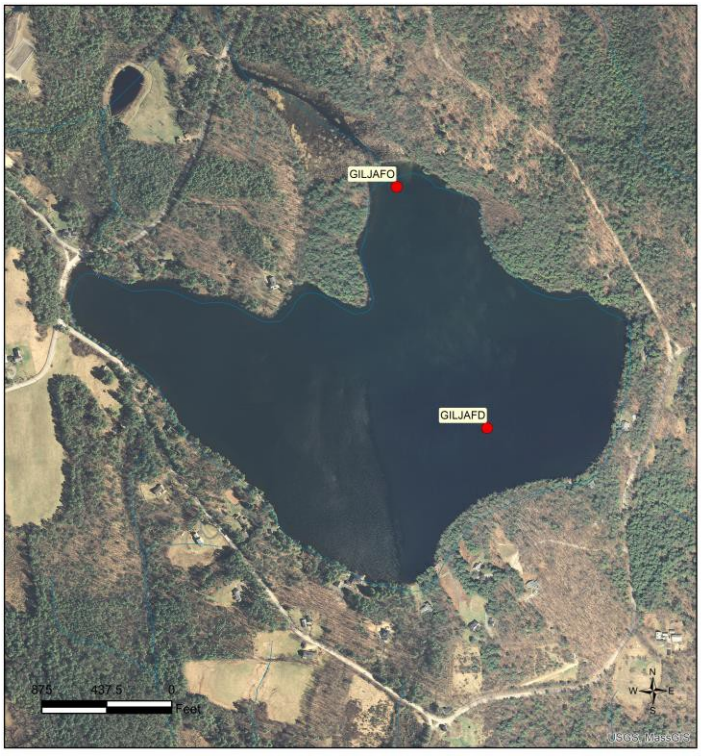
MORPHOMETRIC DATA

						TROPHIC CLASSIFICATION		**KNOWN EXOTIC SPECIES**
Watershed Area (Ac.):	299	**Max. Depth (m):**	13.1	**Flushing Rate (yr^{1})**	0.4	**Year**	**Trophic class**	
Surface Area (Ac.):	115	**Mean Depth (m):**	3.7	**P Retention Coef:**	0.86	2001	OLIGOTROPHIC	
Shore Length (m):	4,000	**Volume (m^3):**	1,736,500	**Elevation (ft):**	1052	2006	OLIGOTROPHIC	

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 this 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	Very Good	Sampling data is 50 percent 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.

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



GILMORE POND
JAFFREY
VOLUNTEER LAKE ASSESSMENT PROGRAM

STATIONID	STATION NAME
GILJAFD	DEEP SPOT
GILJAFO	OUTLET

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
Gilmore Pond, Jaffrey
2020 Data Summary

Recommended Actions: Great job sampling in 2020! Pond quality is representative of oligotrophic, or high quality, conditions. The improving pH levels indicate slow recovery of surface waters from historical impacts of acid rain. For more information on the recovery of NH's surface waters consult NHDES' "Acid Rain Status and Trends Report" available on the website. Pond conductivity levels have steadily improved since 2016 which is a positive sign that management actions taken on the local level may be effective. Continue working with local road agents and winter maintenance companies to utilize best practices when applying road salt on roadways, parking lots, driveways and walkways. 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 June and increased in August but remained within a low range. 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) and Hypolimnetic (lower water layer) conductivity levels were slightly elevated and greater than the state median. Epilimnetic chloride level was also slightly elevated and greater than the state median however remained much less than the state chronic chloride standard. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began. However, epilimnetic conductivity levels have decreased steadily since 2016 and we hope to see this continue!
- **Color:** Apparent color measured in the epilimnion indicates the water was clear with little to no tea, or brown, coloring.
- **Total Phosphorus:** Epilimnetic phosphorus level was low in June and increased slightly in August but remained within a low range. Average epilimnetic phosphorus level increased slightly from 2019 and was less than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels since monitoring began. Metalimnetic and Hypolimnetic phosphorus levels were low in June and increased to a slightly elevated level in August.
- **Transparency:** Transparency measured without the viewscope (NVS) was average in June and decreased (worsened) slightly in August. Average NVS transparency increased (improved) slightly from 2019 and was much higher (better) than the state median. Historical trend analysis indicates stable NVS transparency since monitoring began. Viewscope transparency (VS) was higher (better) than NVS transparency and likely a better measure of actual conditions however historical trend analysis indicates significantly decreasing (worsening) viewscope transparency since 2006.
- **Turbidity:** Epilimnetic, Metalimnetic and Hypolimnetic turbidity levels fluctuated within a low range from June to August.
- **pH:** Epilimnetic pH level was within the desirable range 6.5-8.0 units and historical trend analysis indicates significantly increasing (improving) epilimnetic pH levels since monitoring began. Metalimnetic and Hypolimnetic pH levels were slightly acidic and less than desirable.

Table 1. 2020 Average Water Quality Data for GILMORE POND - JAFFREY

Station Name	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	4.2	1.50	34	20	111.8	7	7.38	8.12	0.38	6.88
Metalimnion					109.2	8			0.42	6.13
Hypolimnion					111.4	12			0.35	6.04

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