



Volunteer Lake Assessment Program Individual Lake Reports

GILMORE POND, JAFFREY, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	299	Max. Depth (m):	13.1	Flushing Rate (yr ¹)	0.4
Surface Area (Ac.):	115	Mean Depth (m):	3.7	P Retention Coef:	0.86
Shore Length (m):	4,000	Volume (m ³):	1,736,500	Elevation (ft):	1052

TROPHIC CLASSIFICATION

Year	Trophic class
2001	OLIGOTROPHIC
2006	OLIGOTROPHIC

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)	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.
Primary Contact Recreation	Chlorophyll-a	Very Good	Sampling data is 50 percent better than the water quality standards or thresholds for this parameter.
	Escherichia coli	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	All sampling data meet water quality standards or thresholds for this parameter.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	44.4	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	5.88	Deciduous Forest	7.22	Pasture Hay	3.14
Developed-Low Intensity	0.47	Evergreen Forest	21.8	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	15.92	Woody Wetlands	1.41
Developed-High Intensity	0	Shrub-Scrub	0	Emergent Wetlands	0



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

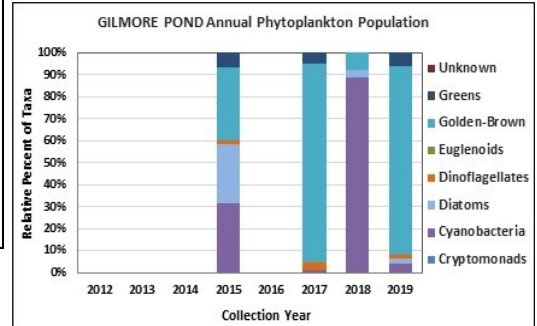
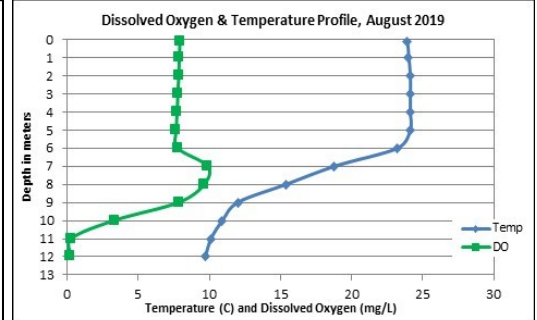
GILMORE POND, JAFFREY

2019 DATA SUMMARY

RECOMMENDED ACTIONS: Pond water quality is generally representative of Oligotrophic, or high quality, conditions. However, pond clarity was likely affected by stormwater runoff again in 2019 indicating stormwater runoff may be an issue in the watershed. The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff in the watershed. Educate and encourage landowners to install stormwater controls to reduce impacts to the pond. DES' "NH Homeowner's Guide to Stormwater Management" is a great resource. Locate any culverts discharging stormwater runoff from roads and roadside ditches. Participate in NH LAKES' LakeSmart program to evaluate and certify lake front properties as lake-friendly. For more information visit www.nhlakes.org/lakesmart/. Consider applying for a Watershed Assistance Grant to develop a watershed management plan to protect high quality waters. 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 in the watershed. Be a Keep up the great work!

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

- ◆ **CHLOROPHYLL-A:** Chlorophyll levels remained fairly stable from June through August and were within a low range. Average chlorophyll level increased slightly from 2018 and was less than the state median and the threshold for oligotrophic lakes.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (upper water layer), Metalimnetic (middle water layer) and Hypolimnetic (lower water layer) conductivity and/or chloride levels were slightly elevated and greater than the state medians. Epilimnetic chloride levels were much less than the state chronic chloride standard, however were much greater than that measured in undisturbed surface waters. Historical trend analysis indicates significantly increasing (worsening) epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the water was clear with little to no tea coloring.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic and Metalimnetic phosphorus levels were slightly elevated in June following a significant storm event and spring turnover, and then decreased to within a low range in July and August. Average epilimnetic phosphorus level remained stable with 2018 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. Hypolimnetic phosphorus levels were low in June and July and slightly elevated in August potentially due to the release of phosphorus from bottom sediments under anoxic (low dissolved oxygen) conditions that occurred in August.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without the viewscope (NVS) was below average (worse) for the pond in June and July and then increased (improved) to within an average range in August. Average NVS transparency decreased slightly from 2018 and was the lowest measured since 1996, however transparency remained much higher (better) than the state median. Historical trend analysis indicates stable transparency since monitoring began.
- ◆ **TURBIDITY:** Epilimnetic and Metalimnetic turbidity levels fluctuated within a low range and were highest in June following a significant storm event and spring turnover. Hypolimnetic turbidity levels increased as the summer progressed but remained within a low range.
- ◆ **pH:** Epilimnetic and Metalimnetic pH levels were within the desirable range 6.5-8.0 units, however epilimnetic pH levels have historically fluctuated below the desirable range. Historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began. Hypolimnetic pH levels were slightly acidic and less than desirable.



Station Name	Table 1. 2019 Average Water Quality Data for GILMORE POND - JAFFREY									
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Color pcu	Cond. us/cm	Total P mg/l	Trans. m		Turb. ntu	pH
Epilimnion	4.4	2.51	37	20	131.5	6	NVS: 6.50	VS: 7.21	0.48	6.68
Metalimnion					131.4	8			0.49	6.70
Hypolimnion					134.4	12			0.65	6.12

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

