



## Volunteer Lake Assessment Program Individual Lake Reports

### DODGE POND, LYMAN, NH

#### MORPHOMETRIC DATA

Watershed Area (Ac.):	2,720	Max. Depth (m):	3	Flushing Rate (yr <sup>1</sup> )	28.3
Surface Area (Ac.):	23	Mean Depth (m):	1.8	P Retention Coef:	
Shore Length (m):	4,200	Volume (m <sup>3</sup> ):	167,500	Elevation (ft):	829

#### TROPHIC CLASSIFICATION

Year	Trophic class
1982	OLIGOTROPIC
2003	OLIGOTROPIC

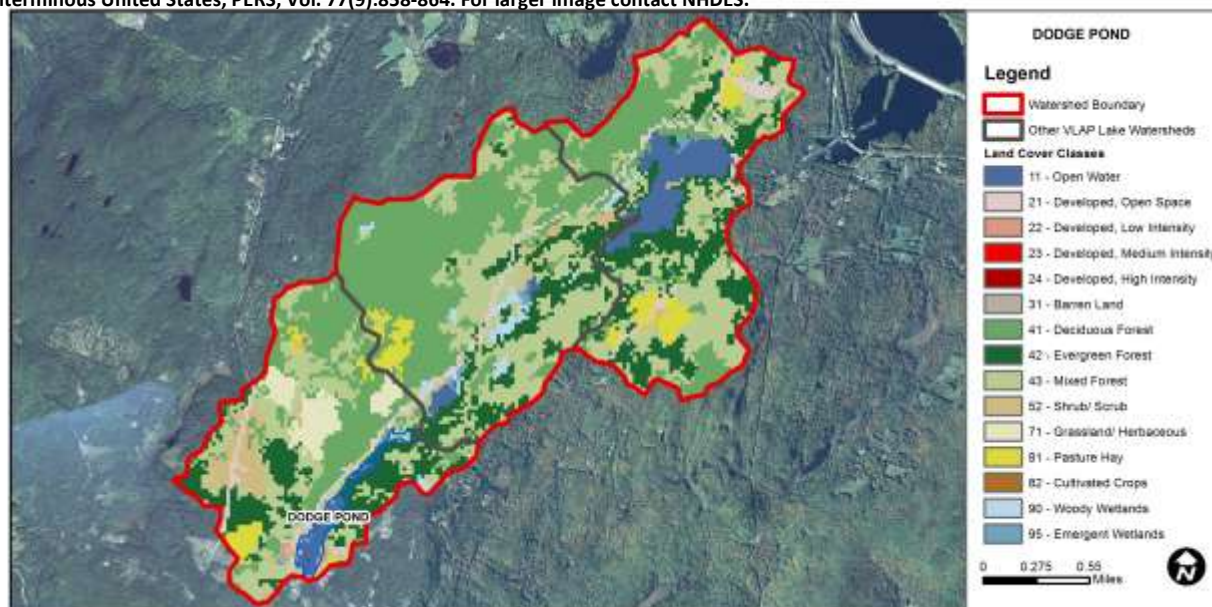
#### KNOWN EXOTIC SPECIES


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](http://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	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	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	Slightly Bad	Data exceed water quality standards or thresholds for a given parameter by a small margin.
	Escherichia coli	Very Good	All sampling data meet water quality standards or thresholds for this parameter.
	Chlorophyll-a	Good	Sampling data commonly 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	4.67	Barren Land	0	Grassland/Herbaceous	2.53
Developed-Open Space	3.19	Deciduous Forest	31.46	Pasture Hay	3.63
Developed-Low Intensity	0.16	Evergreen Forest	18.5	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	31.11	Woody Wetlands	1.27
Developed-High Intensity	0	Shrub-Scrub	3.07	Emergent Wetlands	0.36



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

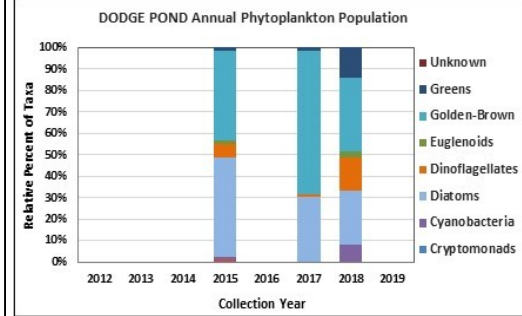
## DODGE POND, LYMAN

### 2019 DATA SUMMARY

**RECOMMENDED ACTIONS:** Pond phosphorus and chlorophyll levels have remained above average, particularly since 2017, and historical trend analysis indicates a worsening trend for phosphorus levels. Survey the watershed for any changes in land use that may be contributing to the higher phosphorus levels since 2017. The increased frequency and intensity of storm events is likely flushing sediments and pollutants into the pond. Educate watershed residents about stormwater management and ways to reduce nutrient loading to the pond. DES' "NH Homeowner's Guide to Stormwater Management" is a great resource. Keep up the great work!

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

- ◆ **CHLOROPHYLL-A:** Chlorophyll level was elevated in June and decreased to a moderate level as the summer progressed. Average chlorophyll level decreased slightly from 2018 and was greater than the state median and the threshold for oligotrophic lakes. Historical trend analysis indicates relatively stable chlorophyll levels since monitoring began.
- ◆ **CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot), Inlet and Outlet conductivity levels were slightly greater than the state median yet less than a level of concern. Epilimnetic, Inlet and Outlet chloride levels remained very low and less than the state median. Historical trend analysis indicates stable epilimnetic conductivity levels since monitoring began.
- ◆ **COLOR:** Apparent color measured in the epilimnion indicates the pond water was moderately tea colored, or brown.
- ◆ **E. COLI:** Beach bacteria levels were very low and much less than the state standard of 88 cts/100 mL for public beaches.
- ◆ **TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were slightly elevated on each sampling event and were highest in June when water levels were high. Average epilimnetic phosphorus level remained stable with 2018, was slightly greater than the state median, and was much greater than the threshold for oligotrophic lakes. Historical trend analysis indicates significantly increasing (worsening) epilimnetic phosphorus levels since monitoring began. Inlet and Outlet phosphorus levels fluctuated within a moderate range.
- ◆ **TRANSPARENCY:** Transparency measured with (VS) and without (NVS) the viewscope was average for the pond in June, decreased in July following a significant storm event, and then increased (improved) in August and the Secchi disk was visible on the pond bottom. Average NVS transparency decreased slightly from 2018 and was less than the state median due to the maximum depth of the pond being shallower than the state median. Historical trend analysis indicates stable transparency since monitoring began.
- ◆ **TURBIDITY:** Epilimnetic turbidity levels were within a low range and increased as the summer progressed. Inlet and Outlet turbidity levels fluctuated within a low range.
- ◆ **pH:** Epilimnetic, Inlet and Outlet pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH levels since monitoring began.



Station Name	Table 1. 2019 Average Water Quality Data for DODGE POND - LYMAN										
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Color pcu	Cond. us/cm	E. coli mpn/100ml	Total P mg/l	Trans. m		Turb. ntu	pH
Epilimnion	27	7.39	3	57	73.6		15	2.46	2.72	1.09	7.16
Beach						10					
Inlet			3		71.4		13			0.71	7.39
Outlet			3		72.1		12			0.88	7.44

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

