



Volunteer Lake Assessment Program Individual Lake Reports

RESERVOIR POND, DORCHESTER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	289	Max. Depth (m):	13.7	Flushing Rate (yr ⁻¹)	0.4
Surface Area (Ac.):	111	Mean Depth (m):	3.8	P Retention Coef:	0.84
Shore Length (m):	3,700	Volume (m ³):	1,728,000	Elevation (ft):	1340

TROPHIC CLASSIFICATION

Year	Trophic class
1981	OLIGOTROPIC
2001	OLIGOTROPIC

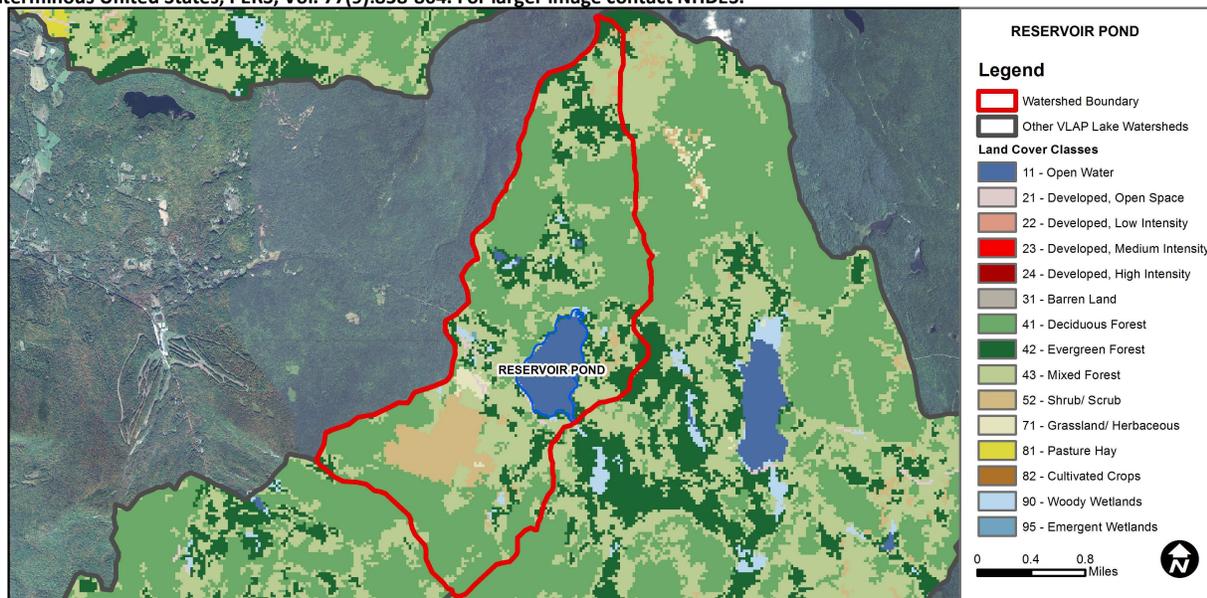
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the DRAFT 2014 305(b) report on the status of N.H. waters, and are based on data collected from 2004-2013. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organizations/divisions/water/wmb/swqa/index.htm

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	The calculated median is from 5 or more samples and is > indicator and the chlorophyll a indicator is exceeded.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	Oxygen, Dissolved	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Dissolved oxygen satura	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Chlorophyll-a	Slightly Bad	The calculated median is from 5 or more samples and is > indicator.
Primary Contact Recreation	Escherichia coli	No Data	No data for this parameter.
	Chlorophyll-a	Very Good	There are a total of at least 10 samples with 0 exceedances of indicator.

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	5.66	Barren Land	0	Grassland/Herbaceous	0.75
Developed-Open Space	0.52	Deciduous Forest	42.36	Pasture Hay	0
Developed-Low Intensity	0	Evergreen Forest	13.48	Cultivated Crops	0
Developed-Medium Intensity	0	Mixed Forest	28.03	Woody Wetlands	0.91
Developed-High Intensity	0	Shrub-Scrub	8.16	Emergent Wetlands	0.05



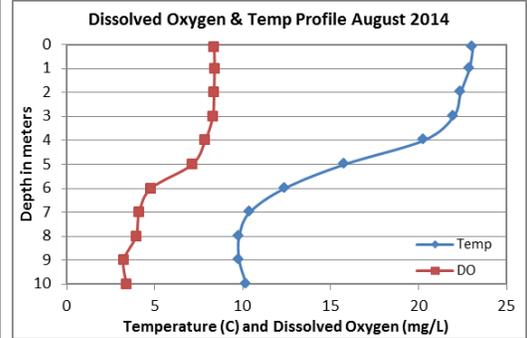
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

RESERVOIR POND, LYME

2014 DATA SUMMARY

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

- CHLOROPHYLL-A:** Chlorophyll levels increased slightly from 2013 and were slightly greater than the state median. However, the field duplicate sample collected was outside the acceptable range and the data were questionable. Historical trend analysis indicates relatively stable chlorophyll levels with moderate variability since monitoring began.
- CONDUCTIVITY/CHLORIDE:** Deep spot and tributary conductivity levels were low and less than the state median. Cutter and Townline Brook conductivity levels were slightly higher than the other stations but still at low levels. Historical trend analysis indicates highly variable epilimnetic (upper water layer) conductivity since monitoring began.
- TOTAL PHOSPHORUS:** Deep spot phosphorus levels were very low and much less than the state median. Historical trend analysis indicates highly variable epilimnetic phosphorus since monitoring began. Cutter Brook and Mud Pond Inlet phosphorus levels were slightly elevated but lower than normal for those stations. Townline Brook and Outlet phosphorus levels were low to average.
- TRANSPARENCY:** Transparency was good and slightly better than the state median. Transparency measured with the viewscope (VS) was much better than that measured without the viewscope (NVS) and likely a better representation of actual conditions. Historical trend analysis indicates highly variable transparency since monitoring began.
- TURBIDITY:** Deep spot turbidity was low. Mud Pond Inlet, Outlet and Townline Brook turbidities were low. Cutter Brook turbidity was slightly elevated.
- pH:** Epilimnetic pH was within the desirable range 6.5-8.0 units and historical trend analysis indicates significantly increasing (improving) epilimnetic pH since monitoring began. We hope to see this continue! Metalimnetic (middle water layer) and Hypolimnetic (lower water layer) pH levels continue to be less than desirable. Mud Pond Inlet pH levels were also less than desirable due to the accumulation of acids from decomposition of organic matter in wetland areas.
- RECOMMENDED ACTIONS:** Increase monitoring frequency to once per month during the summer, typically June, July and August, to better assess seasonal and historical water quality trends and decrease data variability. Epilimnetic phosphorus levels appear to have decreased from the higher levels measured between 2002-2009; although not significant, this is a good sign and we hope to see this continue.



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	Table 1. 2014 Average Water Quality Data for RESERVOIR POND								
	Alk. mg/l	Chlor-a ug/l	Cond. uS/cm	Total P ug/l	Trans. m		Turb. ntu	pH	
					NVS	VS			
Epilimnion	3.0	4.99	16.7	3	3.50	4.25	0.52	6.95	
Metalimnion			16.9	6				1.69	6.09
Hypolimnion			18.4	6				1.08	5.80
Cutter Brook			31.2	14				1.43	6.62
Mud Pd. Inlet			14.1	16				0.94	5.57
Outlet			16.5	3				0.74	6.45
Townline Brook			26.6	12				0.74	6.74

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Stable	Trend not significant; data moderately variable.
pH (epilimnion)	Improving	Data significantly increasing.	Transparency	Stable	Trend not significant; data highly variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data highly variable.

