



Volunteer Lake Assessment Program Individual Lake Reports

MOORES POND, TAMWORTH, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	12,224	Max. Depth (m):	11.3	Flushing Rate (yr ⁻¹)	34
Surface Area (Ac.):	50	Mean Depth (m):	4.4	P Retention Coef:	0.14
Shore Length (m):	2,600	Volume (m ³):	886,000	Elevation (ft):	440

TROPHIC CLASSIFICATION

Year	Trophic class
1984	MESOTROPHIC
2004	MESOTROPHIC

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

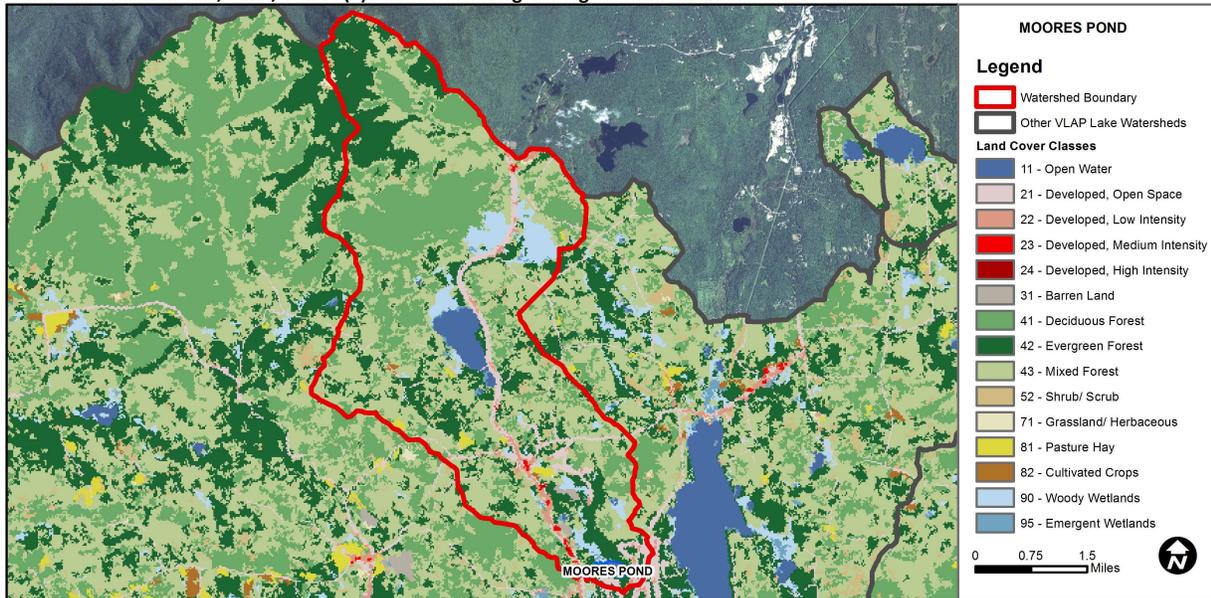
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	The calculated median is from 5 or more samples and is < indicator and > 1/2 indicator and the chlorophyll a indicator is okay.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	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	Good	The calculated median is from 5 or more samples and is < indicator and > 1/2 indicator.
Primary Contact Recreation	Escherichia coli	Very Good	Where there are no geometric means, all bacteria samples are < 75% of the geometric mean. Where there are geometric means all single bacteria samples are < the SSMC and all geometric means are < geometric mean criteria.
	Chlorophyll-a	Encouraging	There are < 10 samples with 0 exceedances of indicator. More data needed.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

MOORES POND - ASSOCIATION BEACH	Escherichia coli	Good	There are geometric means and all geometric means are < geometric mean criteria; and there has been a single sample exceedance.
MOORES POND - MOORES POND SKI AND BEACH	Escherichia coli	Bad	There are >=1 exceedance(s) of the geometric mean and/or >=2 single sample criterion exceedances. One or more exceedance is >2X criteria.

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	2.53	Barren Land	0.31	Grassland/Herbaceous	0.11
Developed-Open Space	4.8	Deciduous Forest	24.4	Pasture Hay	0.55
Developed-Low Intensity	1.29	Evergreen Forest	21.43	Cultivated Crops	0.1
Developed-Medium Intensity	0.21	Mixed Forest	37.58	Woody Wetlands	4.62
Developed-High Intensity	0.02	Shrub-Scrub	1.57	Emergent Wetlands	0.46



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

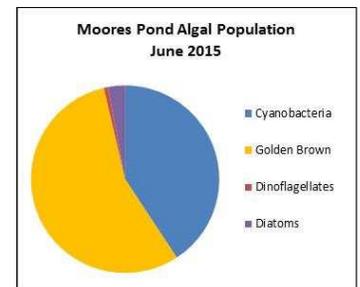
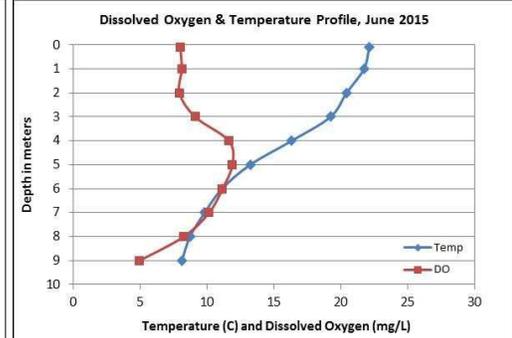
MOORES POND, TAMWORTH

2015 DATA SUMMARY

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 reduce variability within the data set. Overall pond water quality is generally indicative of oligotrophic, or high quality water, conditions. However, the increased frequency and intensity of storm events highlights the importance of managing stormwater runoff from the surrounding watershed, particularly from steep slopes. DES' "N.H. 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 levels were in a low range in June, remained stable with 2014 and were less than the state median. Historical trend analysis indicates relatively stable chlorophyll levels with moderate variability between years.
- **CONDUCTIVITY/CHLORIDE:** Epilimnetic (upper water layer), metalimnetic (middle water layer), hypolimnetic (lower water layer), Campground Shore, Inlet and Outlet conductivity and chloride levels were slightly greater than the state medians but not above a level of concern. Historical trend analysis indicates relatively stable epilimnetic conductivity with moderate variability between years.
- **E. COLI:** Campground Shore E. coli levels were low and much less than the state standards for public beaches (88 cts/100 mL) and surface waters (406 cts/100 mL).
- **TOTAL PHOSPHORUS:** Phosphorus levels were very low at all stations. Epilimnetic phosphorus levels decreased from 2014 and were much less than the state median. Historical trend analysis indicates relatively stable epilimnetic phosphorus levels with high variability between years.
- **TRANSPARENCY:** Transparency (NVS) was lower (worse) than normal for the pond in June and was approximately equal to the state median. Historical trend analysis indicates relatively stable transparency with high variability between years. Transparency measured with the viewscope (VS) was much better than that measured without (NVS) and likely a better representation of actual conditions.
- **TURBIDITY:** Epilimnetic and metalimnetic turbidities were within a low range yet slightly above average for those stations. The recent rain event prior to sampling and stormwater runoff may have contributed to turbidity. Turbidity at all other stations was within a low and normal range.
- **pH:** Deep spot and tributary pH levels were slightly less than the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH with moderate variability between years.



Station Name	Table 1. 2015 Average Water Quality Data for MOORES POND									
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	E. Coli #/100ml	Total P ug/l	Trans. m		Turb. ntu	pH
							NVS	VS		
Epilimnion	5.4	2.62	10	76.6		3	3.25	4.65	0.81	6.45
Metalimnion				78.1		3			0.84	6.27
Hypolimnion				75.5		3			1.00	6.01
Campground Shore				69.9	30	3			0.57	6.46
Inlet				68.5		5			0.67	6.35
Outlet				77.3		3			0.58	6.39

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

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 moderately variable.	Chlorophyll-a	Stable	Trend not significant; data moderately variable.
pH (epilimnion)	Stable	Trend not significant; data moderately variable.	Transparency	Stable	Trend not significant; data highly variable.
			Phosphorus (epilimnion)	Stable	Trend not significant; data highly variable.

