



Volunteer Lake Assessment Program Individual Lake Reports

DORRS POND, MANCHESTER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,473	Max. Depth (m):	2.9	Flushing Rate (yr ⁻¹)	31.2
Surface Area (Ac.):	18	Mean Depth (m):	1.3	P Retention Coef:	0.39
Shore Length (m):	1,600	Volume (m ³):	92,000	Elevation (ft):	270

TROPIC CLASSIFICATION

Year	Trophic class
1981	EUTROPHIC
1997	MESOTROPIC

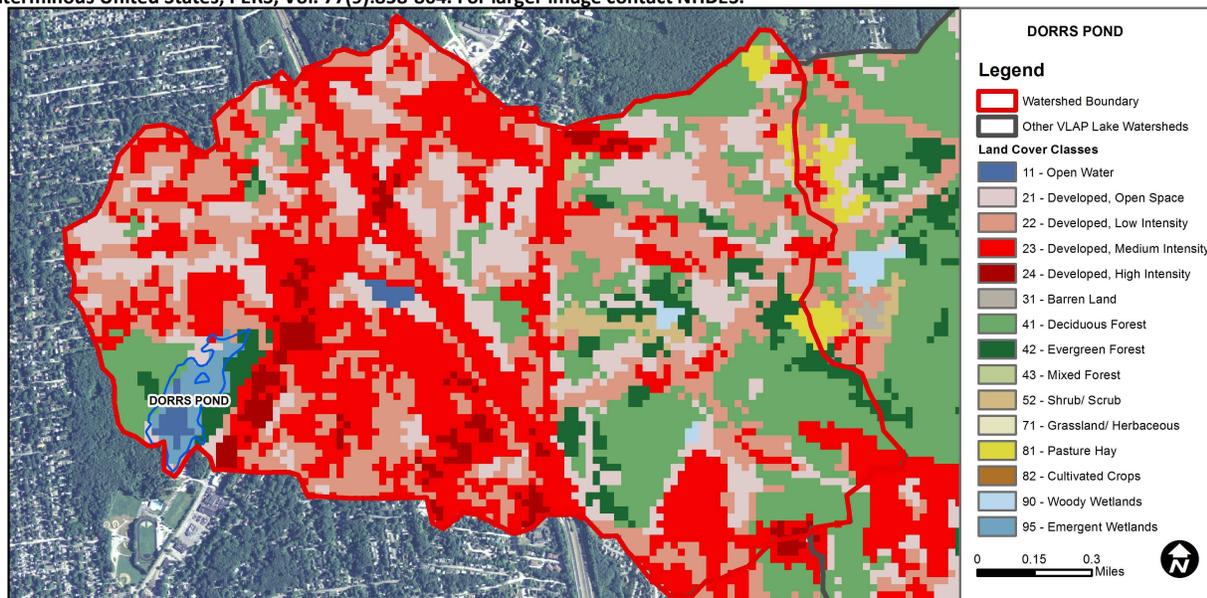
KNOWN EXOTIC SPECIES

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)	Bad	The calculated median is from 5 or more samples and is > 2X indicator and the chlorophyll a indicator is exceeded.
	pH	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.
	Oxygen, Dissolved	Slightly Bad	There are >10% of samples (minimum of 2), exceeding criteria.
	Dissolved oxygen satura	Slightly Bad	There are >10% of samples (minimum of 2), exceeding criteria.
Primary Contact Recreation	Chlorophyll-a	Slightly Bad	The calculated median is from 5 or more samples and is > indicator.
	Escherichia coli	No Data	No data for this parameter.
	Chlorophyll-a	Slightly Bad	There are >10% of samples (minimum of 2), exceeding 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	0.65	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	16.8	Deciduous Forest	16.18	Pasture Hay	0.63
Developed-Low Intensity	25.3	Evergreen Forest	4.15	Cultivated Crops	0
Developed-Medium Intensity	30.9	Mixed Forest	0.13	Woody Wetlands	0.26
Developed-High Intensity	2.94	Shrub-Scrub	0.76	Emergent Wetlands	1.23



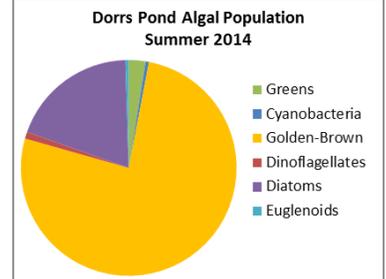
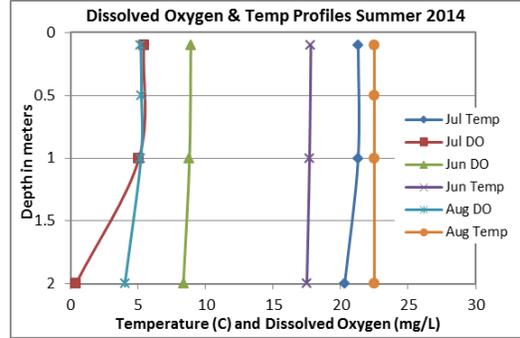
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

DORRS POND, MANCHESTER

2014 DATA SUMMARY

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

- CHLOROPHYLL-A:** Chlorophyll levels were elevated on each sampling event and were much greater than the state median. Phytoplankton analysis showed Golden-Brown Algae were dominant and this genus typically prefers waters with a high saline content. Historical trend analysis indicates significantly decreasing (improving) chlorophyll since monitoring began. We hope to see this continue!
- CONDUCTIVITY/CHLORIDE:** Deep spot and tributary conductivity and chloride were elevated and indicative of the urbanized watershed. East Inlet II and Lessard Inlet average chloride levels were approximately equal to the state chronic chloride standard. Historical trend analysis indicated relatively stable epilimnetic conductivity with moderate variability between years.
- TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were elevated in July and August as algal growth increased. Historical trend analysis indicates stable epilimnetic phosphorus since monitoring began. Lessard Inlet and Outlet phosphorus were elevated in July and August. Juniper St. phosphorus was elevated in August and the turbidity was also greatly elevated which could have contributed to the elevated phosphorus.
- TRANSPARENCY:** Transparency was good in June and decreased in July and August as the algal growth increased. Historical trend analysis indicates relatively stable transparency since monitoring began.
- TURBIDITY:** Epilimnetic turbidity was slightly elevated on each sampling event due to the elevated algal growth. Lessard Inlet and Juniper St. Inlet turbidities were elevated in August potentially due to lower stream flows and the concentration of organic compounds.
- PH:** Epilimnetic and tributary pH levels were within the desirable range 6.5-8.0 units. Historical trend analysis indicates relatively stable epilimnetic pH since monitoring began.
- RECOMMENDED ACTIONS:** The improving chlorophyll trend is a good sign and we hope to see this continue. However, Doors Pond is located within a highly urbanized watershed which leads to poor water quality. It is recommended to address the elevated chloride and phosphorus levels but we recognize the limitations in improving water quality. The installation of a fountain in the pond may lead to improved oxygen levels and help to decrease phosphorus and resulting algal growth. Continued monitoring will measure any impacts, positive or negative, that the fountain may have on water quality.



Station Name	Table 1. 2014 Average Water Quality Data for DORRS POND								
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	Total P ug/l	Trans. m		Turb. ntu	pH
						NVS	VS		
Epilimnion	24.8	9.21	173	667.3	23	1.47	1.50	5.04	6.92
East Inlet II			240	909.3	16			1.00	7.24
Juniper St Inlet			157	611.3	12			5.60	6.49
Lessard Inlet			230	843.7	29			5.97	6.92
Outlet			183	672.7	21			4.17	6.96

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

