



Volunteer Lake Assessment Program Individual Lake Reports

CHASE POND, WILMOT, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	9,002	Max. Depth (m):	3.4	Flushing Rate (yr ⁻¹):	62.5	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	39	Mean Depth (m):	1.9	P Retention Coef:	0.19	1989	OLIGOTROPIC	
Shore Length (m):	1,800	Volume (m ³):	296,000	Elevation (ft):	704	1998	OLIGOTROPIC	

TROPIC CLASSIFICATION

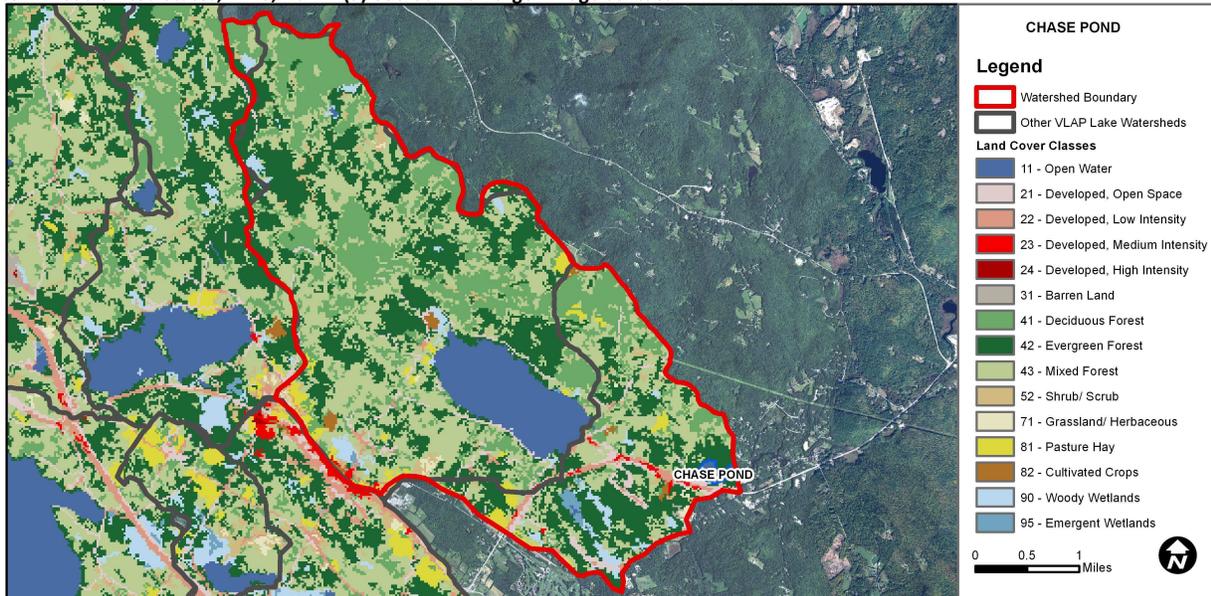
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Slightly Bad	>/=5 samples and median is >threshold.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
Primary Contact Recreation	E. coli	Encouraging	>2 samples exist that are > 75% of geometric mean criteria, but not enough samples to calculate geometric mean. No single sample exceedances. More data needed.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of 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.





VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

CHASE POND, WILMOT, NH

2013 DATA SUMMARY

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

- 🔥 **CHLOROPHYLL-A:** Average chlorophyll levels decreased slightly from 2012 and were below the state median. Visual inspection of historical data indicates relatively stable chlorophyll since 1998.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were average for most NH lakes. Visual inspection of historical data indicates highly variable epilimnetic pH.
- 🔥 **E. COLI:** Beach E. coli was much less than the state standard for public beaches. E. coli levels in the Cove were slightly elevated but not greater than the state standard for surface waters.
- 🔥 **TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were elevated and much greater than normal for the pond. Field data indicate a storm event prior to sampling and stormwater runoff may have contributed to elevated levels. Hypolimnetic, Cove and tributary phosphorus levels were low. Visual inspection of historical data indicates relatively stable phosphorus since 1998.
- 🔥 **TRANSPARENCY:** Pond transparency increased slightly from 2012. Visual inspection of historical data indicates stable transparency.
- 🔥 **TURBIDITY:** All stations had low turbidity levels.
- 🔥 **pH:** pH levels were sufficient to support aquatic life; however historical levels have fluctuated below desirable range 6.5 – 8.0 units. Visual inspection of historical data indicates variable epilimnetic pH.
- 🔥 **RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer (June, July and August) to better assess seasonal variations and water quality trends. Stormwater runoff may have contributed to elevated E. coli and phosphorus levels in surface waters. The “NH Homeowner’s Guide to Stormwater Management” educates homeowners on ways to reduce stormwater runoff from their properties.

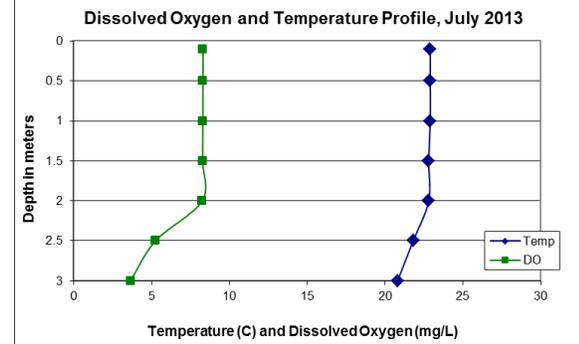


Table 1. 2013 Average Water Quality Data for CHASE POND									
Station Name	Alk.	Chlor-a	Chloride	Cond.	E. Coli	Total P	Trans.	Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	#/100ml	ug/l	m	ntu	
							NVS		
Beach					30				
Cove			6	45.0	270	9		0.80	6.76
Epilimnion	5.80	3.57	6	44.6		18	3.03	0.74	6.75
Hypolimnion				44.9		8		0.75	6.75
Inlet			6	45.6		9		0.73	6.86
Outlet				45.0		9		0.70	6.73

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: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.

