



## Volunteer Lake Assessment Program Individual Lake Reports

### ROCK POND, WINDHAM, NH

#### MORPHOMETRIC DATA

Watershed Area (Ac.):	425	Max. Depth (m):	8.2	Flushing Rate (yr <sup>-1</sup> ):	2.5
Surface Area (Ac.):	35	Mean Depth (m):	3	P Retention Coef:	0.59
Shore Length (m):	1,800	Volume (m <sup>3</sup> ):	418,500	Elevation (ft):	153

#### TROPIC CLASSIFICATION

Year	Trophic class
1978	OLIGOTROPIC
1987	MESOTROPIC

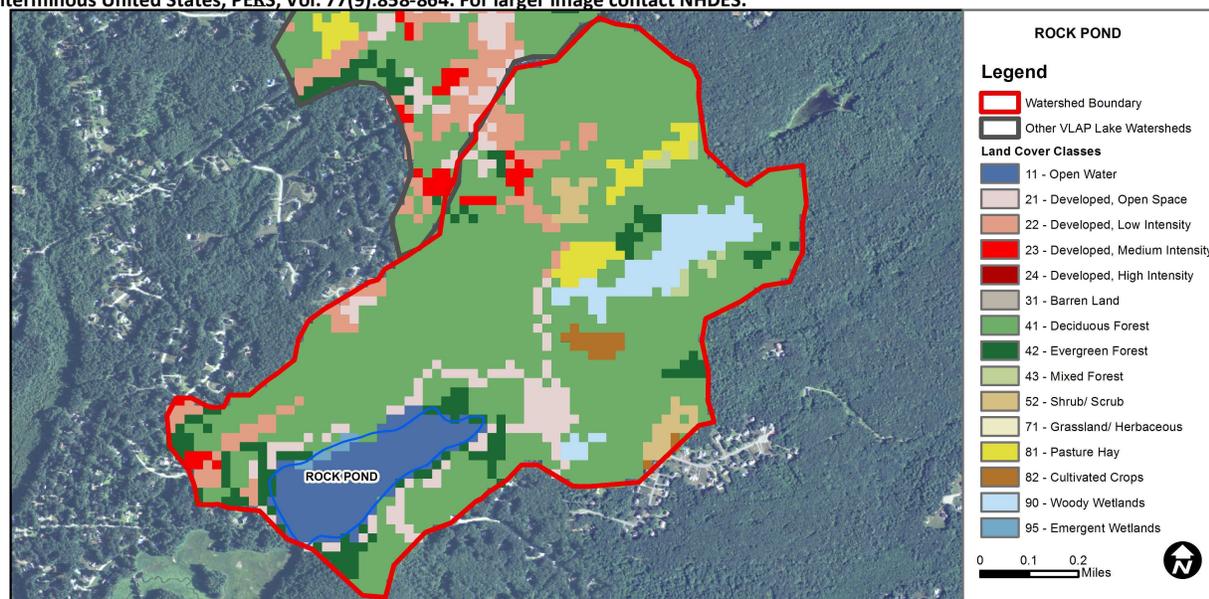
#### KNOWN EXOTIC SPECIES


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)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	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)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
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.
	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).
	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.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	7.71	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	5.93	Deciduous Forest	64.23	Pasture Hay	2.3
Developed-Low Intensity	4.55	Evergreen Forest	5.98	Cultivated Crops	0.96
Developed-Medium Intensity	0.96	Mixed Forest	0.67	Woody Wetlands	4.69
Developed-High Intensity	0	Shrub-Scrub	1.77	Emergent Wetlands	0.38



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

## ROCK POND, WINDHAM, NH

### 2012 DATA SUMMARY

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

- ♣ **CHLOROPHYLL-A:** Chlorophyll levels were low in 2012 and below the NH lake median. Historical trend analysis indicates a significantly improving (decreasing) chlorophyll level since monitoring began. We hope to see this continue!
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity levels were slightly elevated at all stations and greater than the NH lake median.
- ♣ **E. COLI:** E. coli levels were low at all stations and much less than state standards for public beaches and surface waters.
- ♣ **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus levels decreased again from a spike in 2010 and were lower than the NH lake median. Historical trend analysis indicates epilimnetic phosphorus tends to fluctuate from year to year. Hypolimnetic (lower water layer) phosphorus levels were slightly elevated potentially due to low oxygen levels and subsequent phosphorus release from lake sediments.
- ♣ **TRANSPARENCY:** Transparency improved slightly from 2011 and was well above the NH lake median. Historical trend analysis indicates a significantly improving (increasing) transparency since monitoring began. We hope to see this continue!
- ♣ **TURBIDITY:** Turbidity was low at all stations monitored.
- ♣ **pH:** pH tends to decrease to undesirable levels in the hypolimnion.
- ♣ **RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer to better assess summer water quality and historical trends. The improving chlorophyll and transparency trends are positive signs. Keep up the great work!

Station Name	Table 1. 2012 Average Water Quality Data for ROCK POND							
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.	Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m	ntu	
						NVS		
Burgess				10				
Carpenter				10				
Deep Epilimnion	8.8	2.99	103.5		8	6.00	0.49	7.17
Deep Hypolimnion			104.9		19		0.97	6.76
Inlet			104.2	10	9		0.67	7.21
Outlet			104.7		9		0.53	7.25
Swett				30				

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

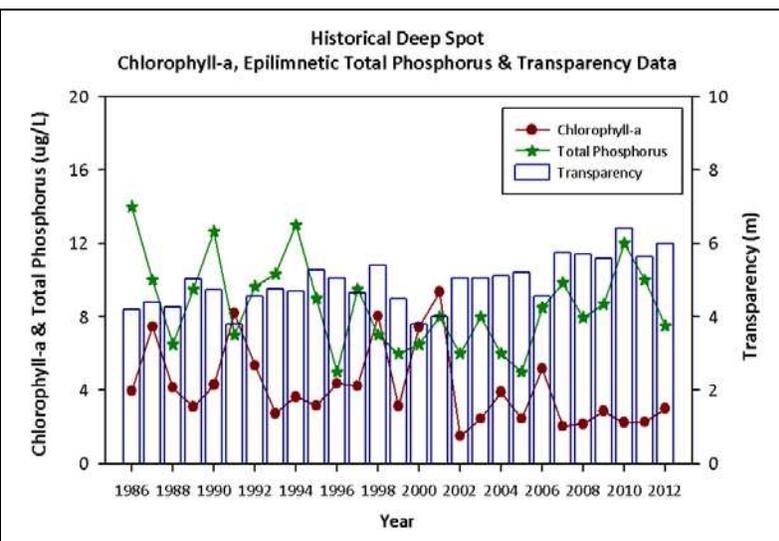
**Alkalinity:** 4.9 mg/L  
**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>  
**Conductivity:** 40.0 uS/cm  
**Chloride:** 4 mg/L  
**Total Phosphorus:** 12 ug/L  
**Transparency:** 3.2 m  
**pH:** 6.6

**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
Chlorophyll-a	Improving	Data significantly decreasing.
Transparency	Improving	Data significantly increasing.
Phosphorus (epilimnion)	Variable	Data fluctuate annually, but are not significantly increasing or decreasing.



This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:  
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