



Volunteer Lake Assessment Program Individual Lake Reports

BEECH POND, LOWER, TUFTONBORO, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,600	Max. Depth (m):	15.2	Flushing Rate (yr ⁻¹)	0.8
Surface Area (Ac.):	155	Mean Depth (m):	6.8	P Retention Coef:	0.63
Shore Length (m):	4,700	Volume (m ³):	4,250,500	Elevation (ft):	968

TROPIC CLASSIFICATION

Year	Trophic class
1980	OLIGOTROPIC
2001	OLIGOTROPIC

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.

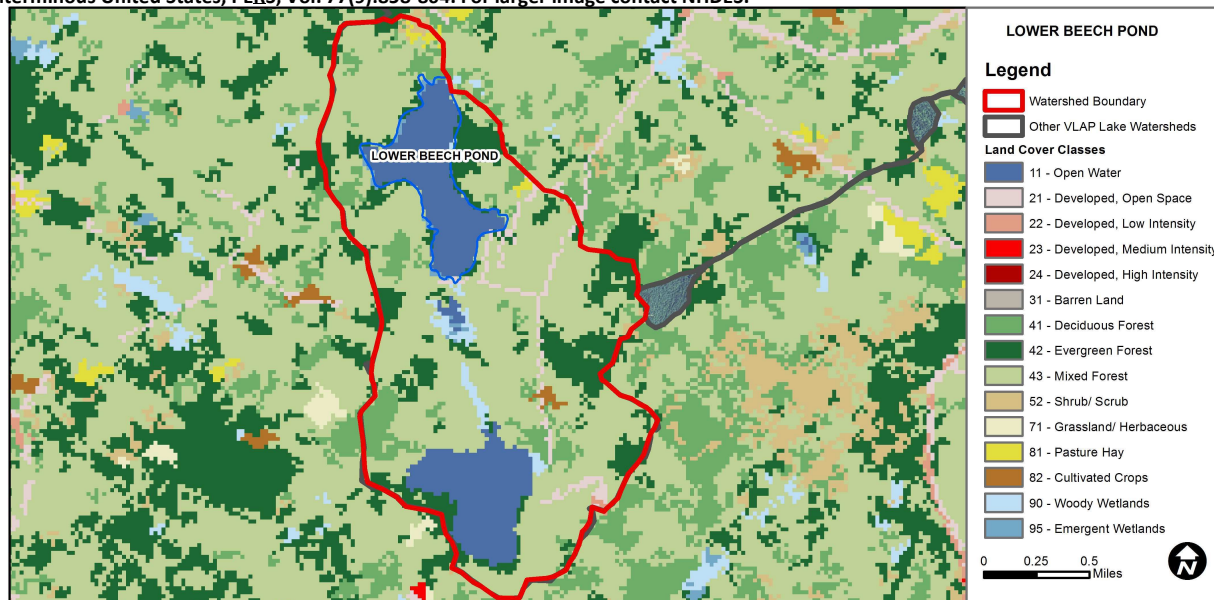
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

LOWER BEECH POND - WILLIAM LAWRENCE CAMP BEACH	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
--	---------	------	---

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	17.6	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	2.37	Deciduous Forest	7.5	Pasture Hay	0.42
Developed-Low Intensity	0.11	Evergreen Forest	15.44	Cultivated Crops	0.31
Developed-Medium Intensity	0	Mixed Forest	53.72	Woody Wetlands	1.57
Developed-High Intensity	0	Shrub-Scrub	0.44	Emergent Wetlands	0.59



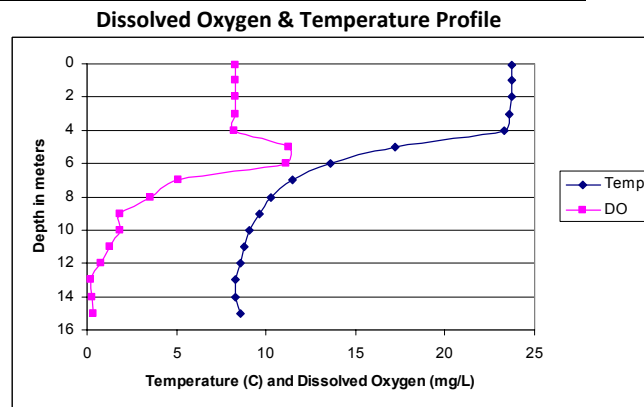
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

LOWER BEECH POND, TUFTONBORO, NH

2012 DATA SUMMARY

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

- ♣ **CHLOROPHYLL-A:** Chlorophyll levels decreased as the summer progressed and the summer average was below the NH lake median. Historical trend analysis indicates the chlorophyll level tends to fluctuate from year to year.
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were relatively low.
- ♣ **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- ♣ **TOTAL PHOSPHORUS:** Phosphorus levels were low at all stations. Historical trend analysis indicates a relatively stable epilimnetic (upper water layer) phosphorus level since monitoring began.
- ♣ **TRANSPARENCY:** Transparency improved as the summer progressed and was greater than the NH lake median. Historical trend analysis indicates transparency tends to fluctuate from year to year.
- ♣ **TURBIDITY:** Hypolimnetic (lower water layer) turbidity was slightly elevated in August likely due to bottom sediments.
- ♣ **PH:** Deep spot pH levels decrease with depth to a lower than desirable range.
- ♣ **RECOMMENDED ACTIONS:** Watch for sediment contamination in the Hypolimnion sample. Keep up the great work!



Station Name	Table 1. 2012 Average Water Quality Data for LOWER BEECH POND									
	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	VS		
Deep Epilimnion	3.3	3.74	5	33.6		4	4.50	4.90	0.59	6.59
Deep Metalimnion				33.3		7			0.87	6.71
Deep Hypolimnion				36.0		11			1.43	5.78
First Beach				33.7	4				0.51	6.46
Inlet			5	34.9	21	9			1.03	6.47
Outlet				33.8	10	3			0.48	6.73
Second Beach					2					

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

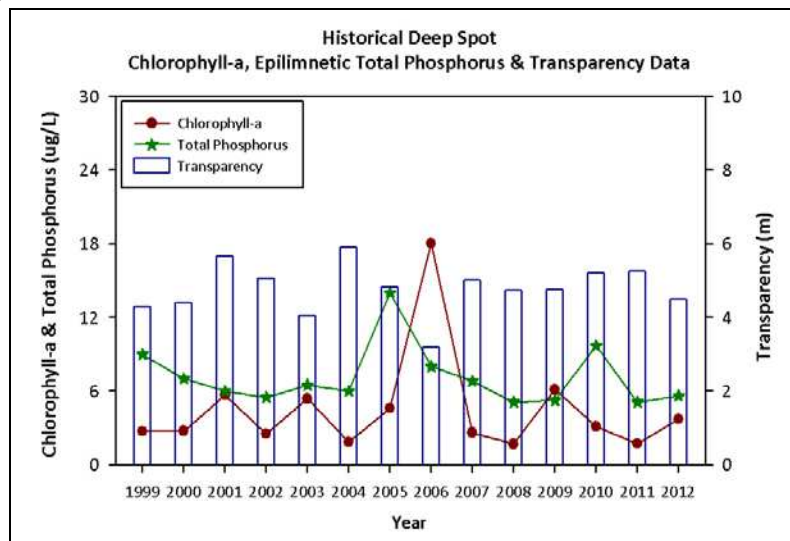
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

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



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

Sara Steiner
 PO Box 95
 Concord, NH 03302-0095
 (603) 271-2658
 sara.steiner@des.nh.gov

