



Volunteer Lake Assessment Program Individual Lake Reports

LONG POND, LEMPSTER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	1,154	Max. Depth (m):	20.3	Flushing Rate (yr ⁻¹)	0.9
Surface Area (Ac.):	120	Mean Depth (m):	6	P Retention Coef:	0.65
Shore Length (m):	4,500	Volume (m ³):	2,955,500	Elevation (ft):	1548

TROPIC CLASSIFICATION

Year	Trophic class
1984	OLIGOTROPIC
2002	OLIGOTROPIC

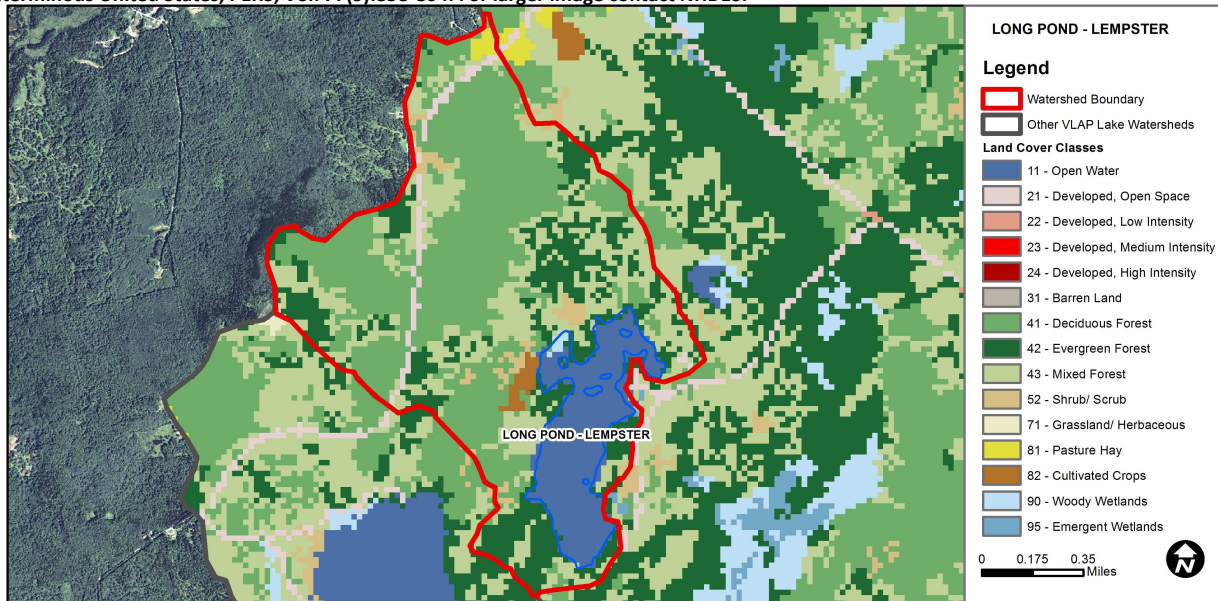
KNOWN EXOTIC SPECIES

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)	Very Good	>5 samples and median is < 1/2 threshold.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	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	Very Good	>5 samples and median is < 1/2 threshold.
Primary Contact Recreation	E. coli	Good	Geometric means < criteria; however at least 1 exceedance of the single sample criteria occurred.
	Chlorophyll-a	Good	At least 10 samples with 1 sample but < 10% of samples exceeding 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	12.9	Barren Land	0	Grassland/Herbaceous	0.1
Developed-Open Space	1.98	Deciduous Forest	39.4	Pasture Hay	0.48
Developed-Low Intensity	0	Evergreen Forest	18.73	Cultivated Crops	0.87
Developed-Medium Intensity	0	Mixed Forest	22.57	Woody Wetlands	0.24
Developed-High Intensity	0	Shrub-Scrub	2.32	Emergent Wetlands	0.02



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

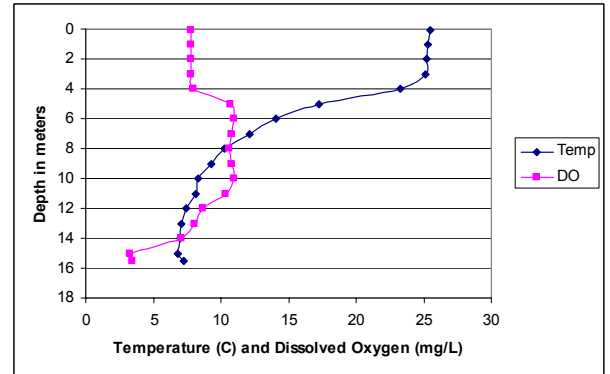
LONG POND, LEMPSTER, NH

2012 DATA SUMMARY

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

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were very low and well below the NH lake median. Historical trend analysis indicates a relatively stable chlorophyll level since 1995.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity levels were very low and well below the NH lake median.
- 🔥 **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- 🔥 **TOTAL PHOSPHORUS:** Phosphorus levels were very low. Historical trend analysis indicates the epilimnetic (upper water layer) phosphorus level has remained relatively stable since monitoring began. In particular, the phosphorus level has been non-detectable since 2006 and reported as half the detection limit of 5 ug/L.
- 🔥 **TRANSPARENCY:** Transparency levels were slightly lower in 2012, however well above the NH lake median. Historical trend analysis indicates the transparency tends to fluctuate from year to year.
- 🔥 **TURBIDITY:** Deep spot and tributary turbidity levels were low.
- 🔥 **PH:** pH levels lower than desirable due to natural causes and potentially critical to aquatic life.
- 🔥 **RECOMMENDED ACTIONS:** Increase monitoring frequency to better assess summer water quality and historical trends.

Dissolved Oxygen & Temperature Profile



Station Name	Table 1. 2012 Average Water Quality Data for LONG POND								
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	#/100ml	ug/l	m		ntu	
						NVS	VS		
Back Cove			17.2		10			0.77	5.76
Deep Epilimnion	1.2	1.04	14.5		3	7.24	9.75	0.46	5.92
Deep Metalimnion			14.9		3			0.45	5.74
Deep Hypolimnion			15.5		6			0.59	5.53
High Ledges Left				10					
High Ledges Right				10					
North Inlet			14.4		8			0.42	5.86
Outlet In Stream			14.7		7			0.91	5.82
Public Beach				10					

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	Stable	Data 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:
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Historical Deep Spot Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data

