



## Volunteer Lake Assessment Program Individual Lake Reports

### AYERS POND, BARRINGTON, NH

#### MORPHOMETRIC DATA

Watershed Area (Ac.):	1,987	Max. Depth (m):	9.1	Flushing Rate (yr <sup>-1</sup> )	1	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	228	Mean Depth (m):	4.4	P Retention Coef:	0.69	1979	OLIGOTROPIC	
Shore Length (m):	7,400	Volume (m <sup>3</sup> ):	4,030,500	Elevation (ft):	233	1995	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.

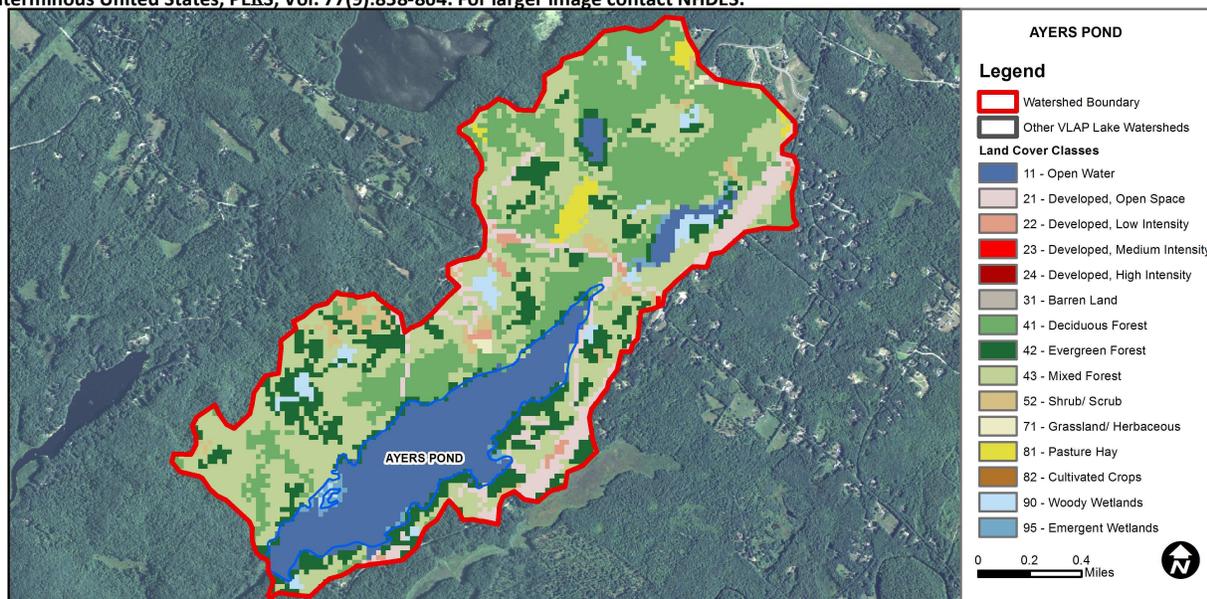
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. 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	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	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.

#### BEACH PRIMARY CONTACT ASSESSMENT STATUS

AYERS POND - CAMP FIRESIDE BEACH	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.
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#### 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	16.6	Barren Land	0.06	Grassland/Herbaceous	0.24
Developed-Open Space	6.28	Deciduous Forest	24.86	Pasture Hay	1.49
Developed-Low Intensity	0.78	Evergreen Forest	12.82	Cultivated Crops	0
Developed-Medium Intensity	0.03	Mixed Forest	31.53	Woody Wetlands	2.19
Developed-High Intensity	0	Shrub-Scrub	2.26	Emergent Wetlands	0.84



# VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

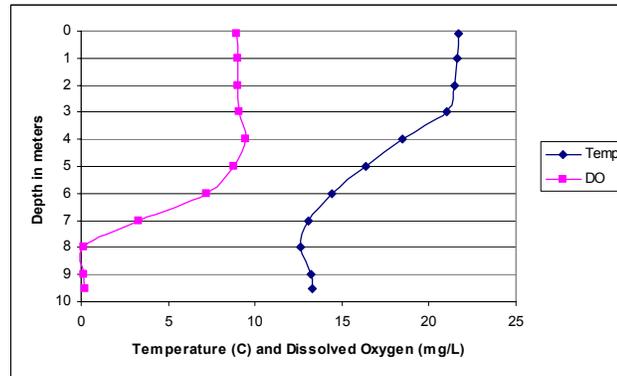
## AYERS POND, BARRINGTON, NH

### 2012 DATA SUMMARY

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

- 🔥 **CHLOROPHYLL-A:** Average chlorophyll levels were low and well below the NH lake median. Historical trend analysis indicates chlorophyll levels typically fluctuate between 2.0 and 5.0 ug/L annually.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride levels were slightly elevated likely due to road salting impacts.
- 🔥 **TOTAL PHOSPHORUS:** Deep spot and Outlet phosphorus levels were low in 2012. Inlet phosphorus levels were elevated likely due to wetland impacts. Historical trend analysis indicates average epilimnetic (upper water layer) phosphorus levels tend to fluctuate from year to year.
- 🔥 **TRANSPARENCY:** Average transparency increased throughout the summer as chlorophyll levels decreased. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- 🔥 **TURBIDITY:** Average deep spot and tributary turbidity was low in 2012.
- 🔥 **pH:** pH levels were lower in the hypolimnion (lower water layer) and Inlet due to increased organic matter and acidic by-products.
- 🔥 **RECOMMENDED ACTIONS:** Continue chloride monitoring at deep spot and Inlet to develop a long term data set. Keep up the great work!

#### Dissolved Oxygen & Temperature Profile



Station Name	Table 1. 2012 Average Water Quality Data for AYERS POND							
	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	Total P ug/l	Trans. m	Turb. ntu	pH
						NVS		
Deep Epilimnion	2.37	2.92	15	74.8	8	5.16	0.49	6.52
Deep Hypolimnion				75.7	9		0.82	6.07
Inlet			16	86.0	27		0.91	6.17
Metalimnion				74.7	8		0.63	6.44
Outlet				74.8	8		0.5	6.39

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

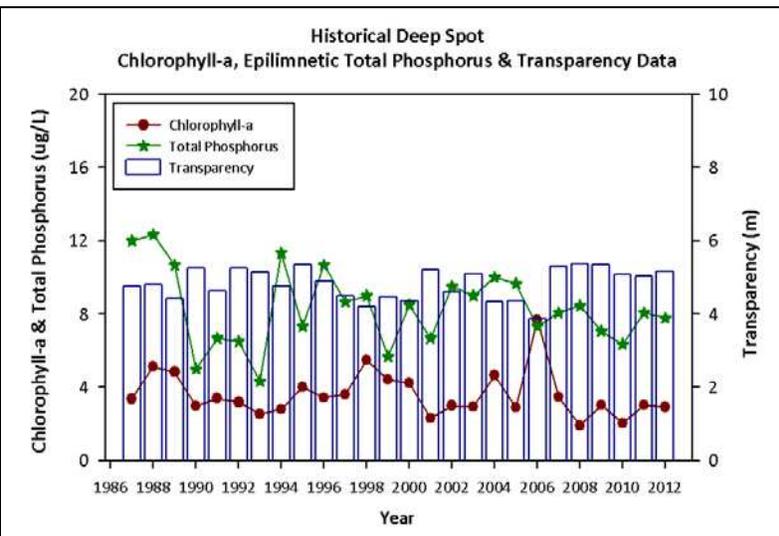
**Alkalinity:** 4.9 mg/L  
**Chlorophyll-a:** 4.58 mg/m<sup>3</sup>  
**Conductivity:** 40.0 uS/cm  
**Chloride:** 4 mg/L  
**Total Phosphorus:** 12 ug/L  
**Transparency:** 3.2 m  
**pH:** 6.6

**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	Variable	Data fluctuating annually.
Transparency	Stable	Data not significantly increasing or decreasing.
Phosphorus (epilimnion)	Variable	Data fluctuating annually.



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