



Volunteer Lake Assessment Program Individual Lake Reports

TOM POND, WARNER, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	601	Max. Depth (m):	4.4	Flushing Rate (yr ⁻¹)	3.5
Surface Area (Ac.):	32	Mean Depth (m):	2.5	P Retention Coef:	0.57
Shore Length (m):	1,600	Volume (m ³):	314,000	Elevation (ft):	383

TROPHIC CLASSIFICATION

Year	Trophic class
1998	MESOTROPIC
2006	MESOTROPIC

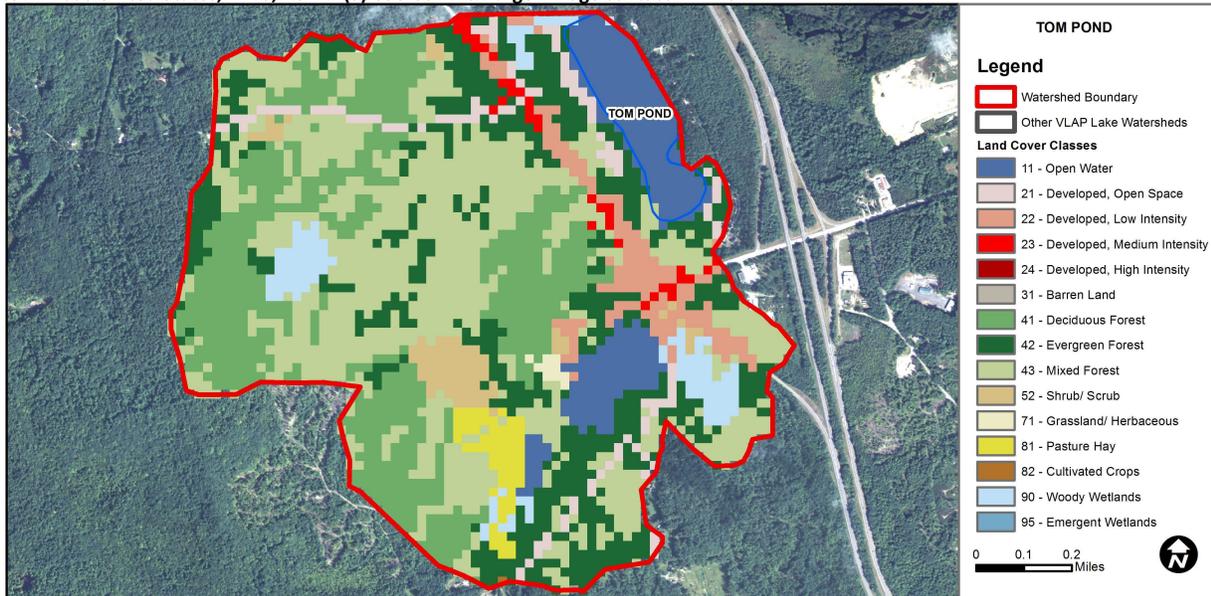
KNOWN EXOTIC SPECIES

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)	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)	Cautionary	< 10 samples and 1 exceedance of criteria. More data needed.
	Chlorophyll-a	Slightly Bad	>5 samples and median is > threshold.
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	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).

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	8.48	Barren Land	0	Grassland/Herbaceous	0.32
Developed-Open Space	3.66	Deciduous Forest	21.77	Pasture Hay	1.97
Developed-Low Intensity	4.56	Evergreen Forest	19.51	Cultivated Crops	0.03
Developed-Medium Intensity	1.2	Mixed Forest	32.06	Woody Wetlands	3.82
Developed-High Intensity	0	Shrub-Scrub	2.62	Emergent Wetlands	0



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TOM POND, WARNER, NH

2012 DATA SUMMARY

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

- ♣ **CHLOROPHYLL-A:** Chlorophyll levels increased slightly in August and were greater than the NH lake median, but average levels were the lowest measured since 2008. Historical trend analysis indicates chlorophyll levels fluctuate from year to year.
- ♣ **CONDUCTIVITY/CHLORIDE:** Conductivity and chloride were elevated and likely due to road salting practices on I-89.
- ♣ **E. COLI:** E. coli levels were well below state standards for public beaches and surface waters.
- ♣ **TOTAL PHOSPHORUS:** Epilimnetic (upper water layer) phosphorus levels were relatively low throughout the summer and have decreased steadily from a spike in 2006. Historical trend analysis indicates epilimnetic phosphorus fluctuates from year to year. Hypolimnetic phosphorus levels were relatively stable throughout the summer, and Outlet phosphorus levels were slightly elevated in June and August.
- ♣ **TRANSPARENCY:** Transparency decreased slightly in August due to the increased algal growth. Average transparency improved slightly from 2011. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- ♣ **TURBIDITY:** Deep spot turbidity was relatively low throughout the summer, but increased in August due to an increase in algal growth. Outlet turbidity was slightly elevated in August.
- ♣ **pH:** pH tends to fluctuate below desirable levels.
- ♣ **RECOMMENDED ACTIONS:** Phosphorus and chlorophyll levels have improved since 2006 however are still higher than desirable. The immediate shoreline is steeply sloped and efforts should be made to minimize stormwater runoff and erosion from properties. Educate watershed residents on ways to reduce stormwater runoff utilizing DES' "NH Homeowner's Guide to Stormwater Management". Inspect dirt roads for areas and runoff and erosion and implement best management practices to reduce sediment and phosphorus load to the pond.

Station Name	Table 1. 2012 Average Water Quality Data for TOM 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		
Deep Epilimnion	8.90	6.40	18	108.2		9	2.83	1.01	6.73
Deep Hypolimnion				100.9		12		1.43	6.56
Hamilton					10				
Outlet				108.4	35	14		1.83	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

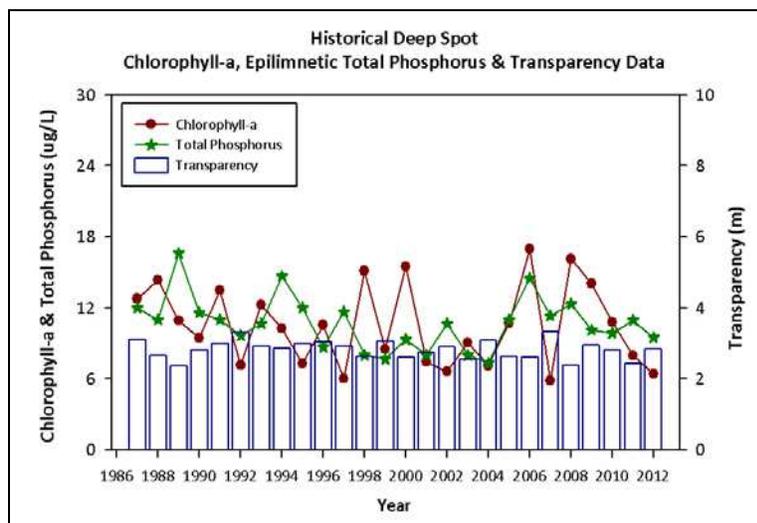
E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

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