



Volunteer Lake Assessment Program Individual Lake Reports

LEDGE POND, SUNAPEE, NH

MORPHOMETRIC DATA

| | | | | | |
|-----------------------|-------|---------------------------|-----------|------------------------------------|------|
| Watershed Area (Ac.): | 835 | Max. Depth (m): | 5.2 | Flushing Rate (yr ⁻¹): | 1.3 |
| Surface Area (Ac.): | 110 | Mean Depth (m): | 2.8 | P Retention Coef: | 0.72 |
| Shore Length (m): | 3,400 | Volume (m ³): | 1,233,000 | Elevation (ft): | 1308 |

TROPIC CLASSIFICATION

| Year | Trophic class |
|------|---------------|
| 1981 | OLIGOTROPIC |
| 2001 | OLIGOTROPIC |

KNOWN EXOTIC SPECIES

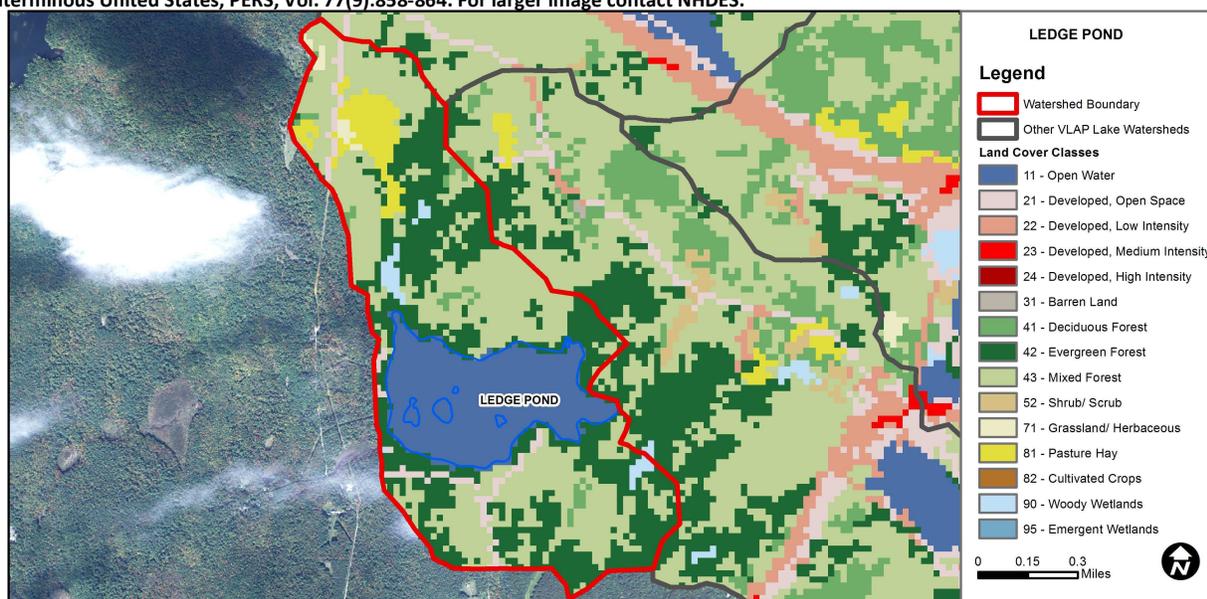
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The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

| Designated Use | Parameter | Category | Comments |
|----------------------------|--------------------|-------------|---|
| Aquatic Life | Phosphorus (Total) | Good | >/=5 samples and median is < threshold but > 1/2 threshold value. |
| | pH | 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 | 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 | 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 | 19.7 | Barren Land | 0 | Grassland/Herbaceous | 0.72 |
| Developed-Open Space | 2.84 | Deciduous Forest | 1.47 | Pasture Hay | 4.34 |
| Developed-Low Intensity | 0 | Evergreen Forest | 31.2 | Cultivated Crops | 0 |
| Developed-Medium Intensity | 0 | Mixed Forest | 36.55 | Woody Wetlands | 1.36 |
| Developed-High Intensity | 0 | Shrub-Scrub | 0 | Emergent Wetlands | 0 |



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

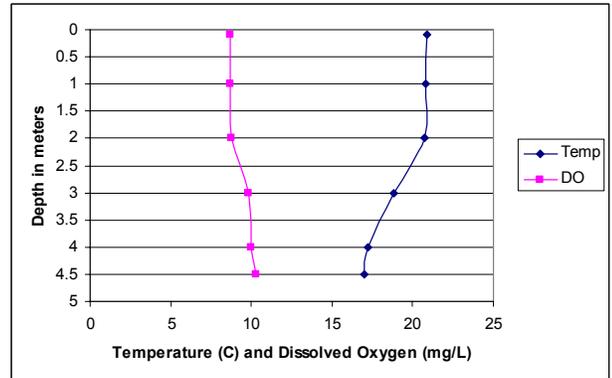
LEDGE POND, SUNAPEE, NH

2012 DATA SUMMARY

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

- 🔥 **CHLOROPHYLL-A:** Chlorophyll levels were low and below the NH lake median. Historical trend analysis indicates a relatively stable chlorophyll level since monitoring began.
- 🔥 **CONDUCTIVITY/CHLORIDE:** Conductivity levels were very low.
- 🔥 **TOTAL PHOSPHORUS:** Deep spot and tributary phosphorus levels were low. Historical trend analysis indicates a relatively stable epilimnetic (upper water layer) phosphorus level since monitoring began.
- 🔥 **TRANSPARENCY:** Transparency was good and the Secchi disk was visible on the pond bottom. Historical trend analysis indicates a relatively stable transparency since monitoring began.
- 🔥 **TURBIDITY:** Turbidity levels were low.
- 🔥 **pH:** pH levels were lower than desirable and potentially critical to aquatic life.
- 🔥 **RECOMMENDED ACTIONS:** If possible, increase monitoring frequency to three times per summer to better assess summer water quality and historical trends. Keep up the great work!

Dissolved Oxygen & Temperature Profile



| Station Name | Table 1. 2012 Average Water Quality Data for LEDGE POND | | | | | | | |
|------------------|---|---------|-------|---------|--------|------|-------|------|
| | Alk. | Chlor-a | Cond. | Total P | Trans. | | Turb. | pH |
| | mg/l | ug/l | uS/cm | ug/l | NVS | VS | ntu | |
| Deep Epilimnion | 2.7 | 2.12 | 16.7 | 7 | 4.44 | 4.65 | 0.61 | 6.38 |
| Deep Hypolimnion | | | 16.6 | 9 | | | 0.87 | 6.40 |
| Inlet | | | 16.8 | 9 | | | 0.94 | 6.30 |
| Outlet | | | 16.6 | 6 | | | 0.62 | 6.42 |

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 | Stable | Data 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

