

WATER QUALITY SUMMARY

ANDROSCOGGIN LAKE, LEEDS

MIDAS: 3836, Sample Station # 1

The Maine Department of Environmental Protection (ME-DEP) and the Volunteer Lake Monitoring Program (VLMP) have collaborated in the collection of lake data to evaluate water quality, track algal blooms, and determine water quality trends. This dataset does not include bacteria, mercury, or nutrients other than phosphorus.

Water quality monitoring data for Androscoggin Lake have been collected since 1971. During this period, 27 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT) by DEP staff and dedicated volunteers. In summary, the water quality of Androscoggin Lake is considered below average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algal blooms on Androscoggin Lake is moderate to high.

Water Quality Measures: Androscoggin Lake is an uncolored lake (average color 22 SPU) with an average SDT of 4.2 m (13.8 ft). The range of water column TP for Androscoggin Lake is 9-22 parts per billion (ppb) with an average of 16 ppb. Chla ranges from 1.2 - 68 ppb with an average of 5.8 ppb. Recent dissolved oxygen (DO) profiles show a slight amount of DO depletion in deep areas of the lake. The potential for phosphorus to leave the bottom sediments and become available to algae in the water column (internal loading) is moderate, based on deep water phosphorus sampling done since 1994.

Androscoggin Lake suffered its first significant algal bloom in 1999. Although the abnormally warm and dry conditions in 1999 may have contributed to this, the lake water quality is considered at high risk for further decline. The DEP and the Androscoggin Lake Improvement Corp. (ALIC), the Town of Leeds and the Androscoggin Soil and Water Conservation District among others, cooperated in a lake diagnostic study in 2000 - 2002. This included a watershed survey to find runoff sources of phosphorus, an evaluation of the contribution of phosphorus from backing up of the Androscoggin River during high water events, extensive lake and stream monitoring, and a watershed phosphorus loading analysis. Additional studies evaluated the hydrology for the Dead River and effects of different dam management options to reduce river-to-lake phosphorus loading. Findings included recommendations for raising dam height through re-installation of flashboards. Options for the long term maintenance and management of the dam are being evaluated by the stakeholders.

See the Maine DEP *Explanation of Lake Water Quality Monitoring Report* for measured variable explanations. Additional lake information can be obtained by contacting Maine DEP at 207-287-3901 or VLMP at 207-783-7733, and at these Websites: <http://www.lakesofmaine.org> and <http://www.maine.gov/dep/water/lakes/index.html> and <http://www.mainevolunteerlakemonitors.org>.

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