

WATER QUALITY SUMMARY

LONG POND, BELGRADE

MIDAS: 5272, Sample Station # 1 (Northern)

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 datasets for Long Pond have been collected since 1970. During this period, 21 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Long Pond is considered above average based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algal blooms on Long Pond is moderate. Non-nuisance Gleotrichia blooms occur fairly regularly.

Water Quality Measures: Long Pond is a non-colored lake (average color 16 SPU) with an average SDT of 6.5 m (21.4 ft). The range of water column TP for Long Pond is 5 - 12 parts per billion (ppb) with an average of 8 ppb. Chla ranges from 2.0 - 9.6 ppb with an average of 4.9 ppb. Recent dissolved oxygen (DO) profiles show high 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. Oxygen levels below 5 parts per million stress certain cold water fish and a persistent loss of oxygen may eliminate or reduce habitat for sensitive cold water species.

The Belgrade Regional Conservation Alliance (BRCA) received federal funding obtained under DEP's Non-Point Source Program to conduct a watershed survey in the Long Pond direct watershed (2001) and expand the Great Pond Watershed Management Plan to include all the lakes in the Belgrade Chain including Long Pond (2002). The Belgrade Lakes Conservation Corps, operating under the 'umbrella' of BRCA, has been operating in the chain of Belgrade Lakes since 1996. The Corps employs high school age young adults to implement erosion controls that do not require heavy equipment (rip-rap, plunge pools, buffer plantings). Cost is shared between homeowners and supporters of the Corps.

The Belgrade Lakes Association, one of the oldest in the state and encompassing both Great and Long Ponds, has been extremely active in lake protection activities.

Sample Station # 2 (Southern)

Water quality monitoring datasets for Long Pond have been collected since 1970. During this period, 17 years of basic chemical information was collected in addition to Secchi Disk Transparencies (SDT). In summary, the water quality of Long Pond is considered above average, based on measures of SDT, total phosphorus (TP), and Chlorophyll-a (Chla). The potential for nuisance algal blooms on Long Pond is moderate. Non-nuisance Gleotrichia blooms occur fairly regularly.

Water Quality Measures: Long Pond is a non-colored lake (average color 16 SPU) with an average SDT of 6.2 m (20.5 ft). The range of water column TP for Long Pond is 6 - 11 parts per billion (ppb) with an average of 9 ppb. Chla ranges from 0.9 - 9.0 ppb with an average of 4.5 ppb. Recent dissolved oxygen (DO) profiles show moderate 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. Oxygen levels below 5 parts per million stress certain cold water fish and a persistent loss of oxygen may eliminate or reduce habitat for sensitive cold water species.

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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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