



Minnesota Pollution Control Agency

520 Lafayette Road
St. Paul, MN 55155-4194

Long Lake, Itasca County

National Lake Assessment Project (NLAP)

Sample Date: August 15, 2007

Minnesota Lake ID: 31-0266

Area: 360 acres

Watershed Area: 3,035 acres

Ecoregion: Northern Lakes and Forests (NLF)

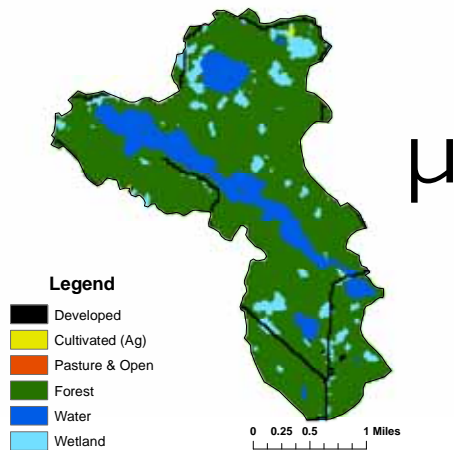
NLAP ID: 0958

Maximum Depth: 34 ft

Mean Depth: 20 ft



Long Lake Land Use



Land Use	Long Lake Land Use %	NLF Typical Land Use %
Developed	3	0 – 7
Cultivated (Ag)	1	<1
Pasture & Open	0	0 – 6
Forest	75	54 – 87
Water & Wetland	21	14 – 31
Feedlots (#)	0	

Minnesota 2000 Level 1 Landsat Landcover Classification.img University of Minnesota Remote & Geospatial Analysis Lab. Minnesota DNR: Minnesota Hydrolic Units-Sheds (polygons) 1998-2004.

Long Lake 2007 as compared to typical range for NLF ecoregion reference lakes. Single NLAP visit based on U.S. Environmental Protection Agency protocol as compared to typical range for summer-means.

Parameter	Long Lake	NLF
Number of reference lakes	1	32
Total Phosphorus ($\mu\text{g/L}$)	18	14 – 27
Chlorophyll mean ($\mu\text{g/L}$)	9	4 – 10
Secchi Disk (feet)	5.6	8 -15
(meters)	1.7	2.4 – 4.6
Total Kjeldahl Nitrogen (mg/L)	0.5	0.4 – 0.75
Alkalinity (mg/L)		40 – 140
Color (Pt-Co U)	14	10 – 35
pH (SU)	8.2	7.2 – 8.3
Chloride (mg/L)	1.6	0.6 – 1.2
Total Suspended Solids (mg/L)		<1 – 2
Total Suspended Inorganic Solids (mg/L)		<1 - 2
Conductivity ($\mu\text{mhos/cm}$)	144	50 – 250
TN:TP ratio	28:1	25:1 - 35:1
Microcystin($\mu\text{g/L}$)	Near Shore	<10 Low Risk
WHO risk Category*	Index Site 0.25	10-20 Moderate Risk 20- 200 High Risk

* Guidelines for safe recreational water environments (World Health Organization, 2003)

$\mu\text{g/L}$ = micrograms per liter
 mg/L = milligrams per liter

$\mu\text{mhos/cm}$ = micromhos per centimeter

Pt-Co-U = Platinum Cobalt Units
 SU = Standard Units

Mixing Status: thermally stratified (dimictic)

**Temperature and DO Profile for
 Long Lake (Itasca Co.) August 15, 2007.
 Temp (C) and DO (mg/L)**

