



**Minnesota Pollution Control Agency**

520 Lafayette Road  
St. Paul, MN 55155-4194

# Pine Mountain Lake, Cass County

**National Lake Assessment Project (NLAP)**

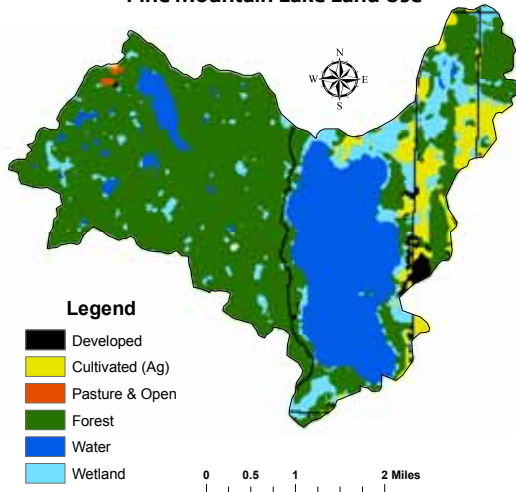
Sample Date: July 11, 2007

**Minnesota Lake ID:** 11-0411  
**Area:** 1,558 acres  
**Watershed Area:** 28,235 acres  
**Ecoregion:** Northern Lakes and Forests (NLF)

**NLAP ID:** 0494  
**Maximum Depth:** 80 ft  
**Mean Depth:** 35 ft



**Pine Mountain Lake Land Use**



Land Use	Pine MT. Lake Land Use %	NLF Typical Land Use %
Developed	2	0 – 7
Cultivated (Ag)	6	<1
Pasture & Open	1	0 – 6
Forest	59	54 – 87
Water & Wetland	32	14 – 31
Feedlots (#)	0	

Minnesota 2000 Level 1 Landsat Landcover Classification.img

University of Minnesota Remote & Geospatial Analysis Lab



**Pine Mountain 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. Data from Minnesota Department of Health (MDH) laboratory.**

Parameter	Pine Mountain Lake (MDH)	NLF
Number of reference lakes	1	32
Total Phosphorus (µg/L)	23	14 – 27
Chlorophyll mean (µg/L)	3.79	4 – 10
Secchi Disk (feet)	5.24	8 -15
(meters)	1.6	2.4 – 4.6
Total Kjeldahl Nitrogen (mg/L)	0.46	0.4 – 0.75
Alkalinity (mg/L)	140	40 – 140
Color (Pt-Co U)	5	10 – 35
pH (SU)	8.1	7.2 – 8.3
Chloride (mg/L)	2	0.6 – 1.2
Total Suspended Solids (mg/L)	2	<1 – 2
Total Suspended Inorganic Solids (mg/L)	<1	<1 - 2
Conductivity (umhos/cm)	272	50 – 250
TN:TP ratio	20:1	25:1 - 35:1
Microcystin(µg/L)	Near Shore	<10 Low Risk
WHO risk Category*	Index Site	10-20 Moderate Risk
	0.2	20- 200 High Risk

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

µg/L = micrograms per liter

mg/L = milligrams per liter

umhos/cm = micromhos per centimeter

Pt-Co-U = Platinum Cobalt Units

SU = Standard Units

**Mixing Status: thermally stratified (dimictic)**

**Temperature and Dissolved Oxygen Profile for Pine Mountain Lake. July 11, 2007.**  
Temp. (C) and DO (mg/L)

