



# Minnesota Pollution Control Agency

520 Lafayette Road  
St. Paul, MN 55155-4194

# Pebble Lake, Otter Tail County

National Lake Assessment Project (NLAP)

Sample Date: July 25, 2007

**Minnesota Lake ID:** 56-0829

**Area:** 170 acres

**Watershed Area:** 1,068 acres

**Ecoregion:** North Central Hardwoods Forests (NCHF)

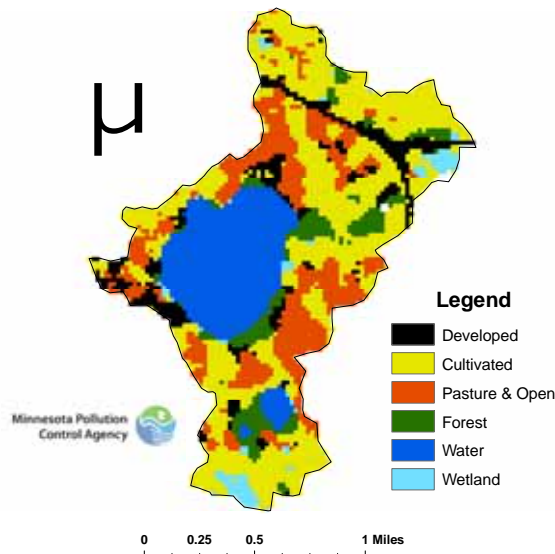
**NLAP ID:** 0174

**Maximum Depth:** 62 ft

**Mean Depth:** 35 ft



Pebble Lake Land Use



Land Use	Pebble Lake Land Use %	NCHF Typical Land Use %
<b>Developed</b>	<b>9</b>	<b>2-9</b>
<b>Cultivated (Ag)</b>	<b>41</b>	<b>22-50</b>
<b>Pasture &amp; Open</b>	<b>20</b>	<b>11-25</b>
<b>Forest</b>	<b>7</b>	<b>6-25</b>
<b>Water &amp; Wetland</b>	<b>22</b>	<b>14-30</b>
<b>Feedlots (#)</b>	<b>0</b>	

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

**Pebble Lake 2007 as compared to typical range for NCHF 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	Pebble Lake (MDH)		NCHF
Number of reference lakes	1		43
Total Phosphorus (µg/L)	20		23 - 50
Chlorophyll-a (µg/L)	6		5 - 22
Secchi Disk (feet)	5.2		4.9 - 10.5
(meters)	1.6		(1.5 - 3.2)
Total Kjeldahl Nitrogen (mg/L)	0.97		< 0.60 - 1.2
Alkalinity (mg/L)	280		75 - 150
Color (Pt-Co U)	10		10 - 20
pH (SU)	9.2		8.6 - 8.8
Chloride (mg/L)	8		4 - 10
Total Suspended Solids (mg/L)	3		2 - 6
Total Suspended Inorganic Solids (mg/L)	0.4		1 - 2
Conductivity (umhos/cm)	653		300 - 400
TN:TP ratio	49:1		25:1 - 35:1
Microcystin(µg/L)	Near Shore	Index Site	<10 Low Risk
WHO risk Category*	1.1	0.8	10-20 Moderate Risk
			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 Pebble Lake. July 25, 2007.  
Temp. (C) and DO (mg/L)**

