



# Minnesota Pollution Control Agency

520 Lafayette Road  
St. Paul, MN 55155-4194

# Red Rock Lake, Douglas County

National Lake Assessment Project (NLAP)

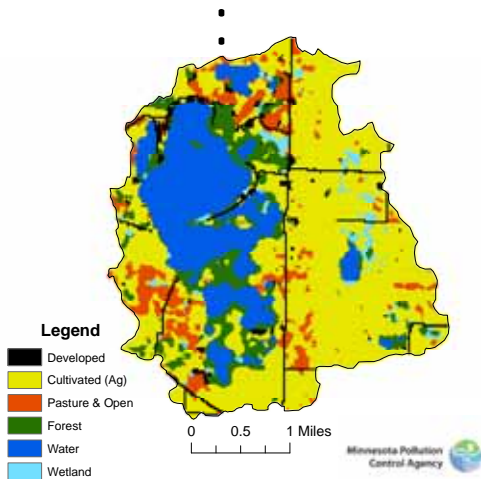
Sample Date: July 25, 2007

**Minnesota Lake ID:** 21-0291  
**Area:** 742 acres  
**Watershed Area:** 5,764 acres  
**Ecoregion:** Northern Glaciated Plains (NGP)

**NLAP ID:** 1454  
**Maximum Depth:** 22 ft  
**Mean Depth:** 12 ft



Redrock Land Use



Land Use	Red Rock Land Use %	NGP Typical Land Use %
Developed	5	0 – 2
Cultivated (Ag)	53	60 – 82
Pasture & Open	8	5 – 15
Forest	10	0 – 1
Water & Wetland	24	8 – 26
Feedlots (#)	5	

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

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

Parameter	Red Rock	NGP
Number of reference lakes	1	13
Total Phosphorus (µg/L)	125	122 – 160
Chlorophyll mean (µg/L)	3	36 – 61
Secchi Disk (feet)	13.1	1.3 - 2.6
(meters)	4	0.4 – 0.8
Total Kjeldahl Nitrogen (mg/L)	2.3	1.8 – 2.3
Alkalinity (mg/L)		160 – 260
Color (Pt-Co U)	15	20 – 30
pH (SU)	8.5	8.3 – 8.6
Chloride (mg/L)	22	11 - 18
Total Suspended Solids (mg/L)		10 – 30
Total Suspended Inorganic Solids (mg/L)		5 – 15
Conductivity (umhos/cm)	703	640 – 900
TN:TP ratio	19:1	13:1 - 17:1
Microcystin(µg/L)	Near Shore	<10 Low Risk
WHO risk Category*	Index Site	10-20 Moderate Risk
	2.4	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: mixed with no temperature layer (polymictic)**

**Temperature and Dissolved Oxygen Profile for Red Rock Lake. July 25, 2007.**  
Temp (C) and DO (mg/L)

