



Minnesota Pollution Control Agency

520 Lafayette Road
St. Paul, MN 55155-4194

Fairy Lake, Otter Tail County

National Lake Assessment Project (NLAP)

Sample Date: August 6, 2007

Minnesota Lake ID: 56-0356

Area: 134 acres

Watershed Area: 8,770 acres

Ecoregion: North Central Hardwoods Forests (NCHF)

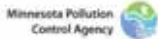
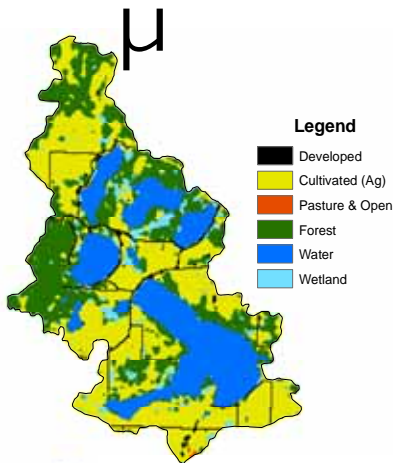
NLAP ID: 1326

Maximum Depth: 10 ft

Mean Depth: 7 ft



Fairy Lake Land Use



0 0.5 1 2 Miles

Minnesota 2000 Level 1 Landsat Landcover
Classification.img

University of Minnesota Remote & Geospatial Analysis Lab

Land Use	Fairy Lake Land Use %	NCHF Typical Land Use %
Developed	3	2-9
Cultivated (Ag)	40	22-50
Pasture & Open	<1	11-25
Forest	28	6-25
Water & Wetland	29	14-30
Feedlots (#)	3	

Fairy 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.

Parameter	Fairy	NCHF	
Number of reference lakes	1	43	
Total Phosphorus (µg/L)	24	23 - 50	
Chlorophyll-a (µg/L)	2	5 - 22	
Secchi Disk (feet)	7.9	4.9 - 10.5	
(meters)	2.4	(1.5 - 3.2)	
Total Kjeldahl Nitrogen (mg/L)	0.9	< 0.60 - 1.2	
Alkalinity (mg/L)		75 - 150	
Color (Pt-Co U)	16	10 - 20	
pH (SU)	9.3	8.6 - 8.8	
Chloride (mg/L)	1.9	4 - 10	
Total Suspended Solids (mg/L)		2 - 6	
Total Suspended Inorganic Solids (mg/L)		1 - 2	
Conductivity (umhos/cm)	192	300 - 400	
TN:TP ratio	36:1	25:1 - 35:1	
Microcystin(µg/L)	Near Shore	Index Site	<10 Low Risk 10-20 Moderate Risk 20- 200 High Risk
WHO risk Category*	0.3	0.3	

* 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)

