



Minnesota Pollution Control Agency

520 Lafayette Road
St. Paul, MN 55155-4194

Upper Sakatah Lake, Le Sueur County

National Lake Assessment Project (NLAP)

Sample Date: August 8, 2007

Minnesota Lake ID: 40-0002

Area: 1,223 acres

Watershed Area: 139,274 acres

Ecoregion: North Central Hardwoods Forests (NCHF)

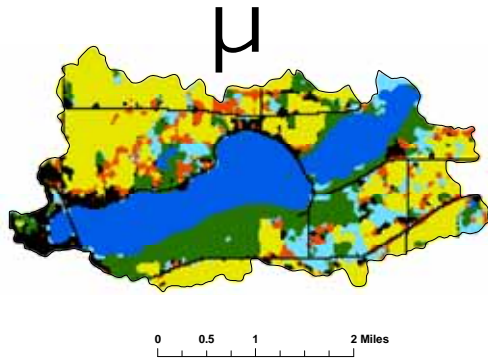
NLAP ID: 1303

Maximum Depth: 12 ft

Mean Depth: 8 ft



Upper Sakatah Lake Land Use



Legend

- Developed
- Forest
- Cultivated (Ag)
- Water
- Pasture & Open
- Wetland



Minnesota 2000 level 1 Landsat Landcover
Classification.img

University of Minnesota Remote & Geospatial Analysis Lab

Land Use	Upper Sakatah Land Use %	NCHF Typical Land Use %
Developed	11	2-9
Cultivated (Ag)	32	22-50
Pasture & Open	7	11-25
Forest	17	6-25
Water & Wetland	33	14-30
Feedlots (#)	4	

Upper Sakatah 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	Upper Sakatah (MDH)	NCHF
Number of reference lakes	1	43
Total Phosphorus ($\mu\text{g/L}$)	826	23 - 50
Chlorophyll mean ($\mu\text{g/L}$)	7	5 - 22
Secchi Disk (feet)	8.2	4.9 - 10.5
(meters)	2.5	(1.5 - 3.2)
Total Kjeldahl Nitrogen (mg/L)	2.5	< 0.60 - 1.2
Alkalinity (mg/L)	190	75 - 150
Color (Pt-Co U)	30	10 - 20
pH (SU)	9.6	8.6 - 8.8
Chloride (mg/L)	23	4 - 10
Total Suspended Solids (mg/L)	3.2	2 - 6
Total Suspended Inorganic Solids (mg/L)	0.4	1 - 2
Conductivity (umhos/cm)	370	300 - 400
TN:TP ratio	3:1	25:1 - 35:1
Microcystin($\mu\text{g/L}$)	Near Shore	<10 Low Risk
WHO risk Category*	Index Site	10-20 Moderate Risk
	44	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

umhos/cm = micromhos per centimeter

Pt-Co-U = Platinum Cobalt Units

SU = Standard Units

Mixing Status: mixed with no temperature layer (polymictic)

