Sunfish Lake

Citizen Assisted Monitoring Program (CAMP)

2020 Water Monitoring Report

LMRWMO
LOWER MISSISSIPPI RIVER
WATERSHED MANAGEMENT ORGANIZATION

Lake Summary

Sunfish Lake is located in the City of Sunfish Lake, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily low density residential. Sunfish Lake was placed on Minnesota's 303(d) List of Impaired Waters in 2010 for aquatic recreation due to excess nutrients (phosphorus).

Lake Details

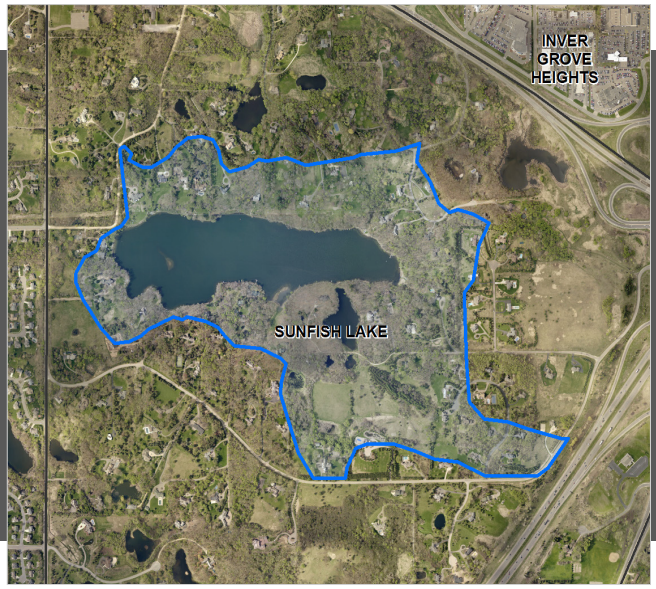
Max Depth: 32 feet

Watershed Size (shown): 235 acres

Major Watershed: Mississippi River

MPCA Lake Classification: Deep

Met Council 2020 Lake Grade: **A**



Water Quality Monitoring Need

Sunfish Lake is monitored on an annual basis as part of the City of Sunfish Lake's participation in the Met. Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The lake has been meeting the deep lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA) since 2017, following an aluminum sulfate treatment by the LMRWMO.

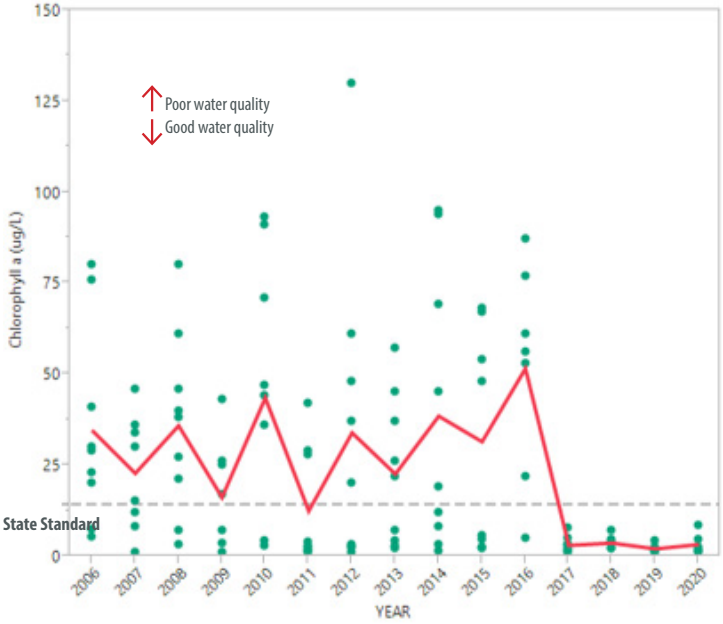
2020 Monitoring Summary

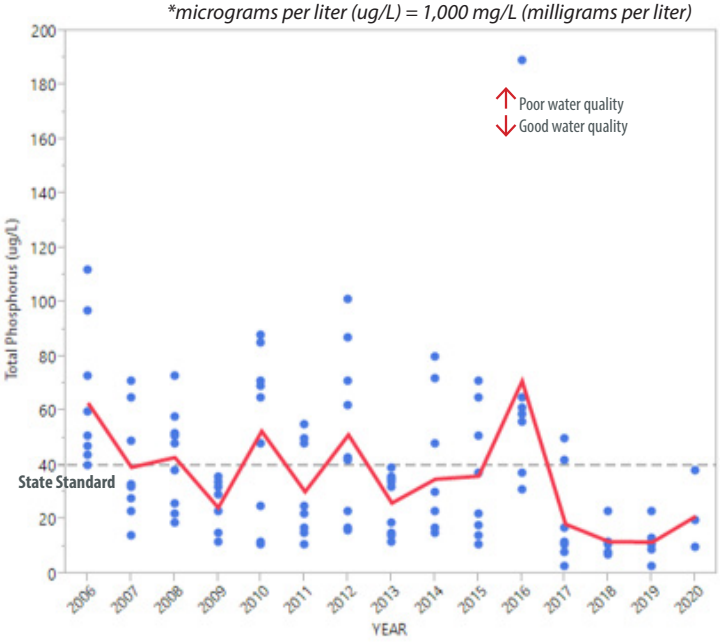
Following the 2017 alum treatment, there were improvements for all three eutrophication parameters when compared to data collected in 2016 (pre-treatment). When comparing 2019 monitoring data with 2020, there is increased variability in both the total phosphorus and secchi readings whereas chlorophyll-a remained low. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	1.1	83	3.25
Total Phosphorus (ug/L)	40	10	38	21.33
Secchi Depth (m)	1.4	2.6	5.6	3.82

Water Quality Data 2006-2020

*micrograms per liter (ug/L) = 1,000 mg/L (milligrams per liter)





Chlorophyll-a*

Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorphophyll-a levels indicate good water quality. State standard is 14 ug/L (dashed line).

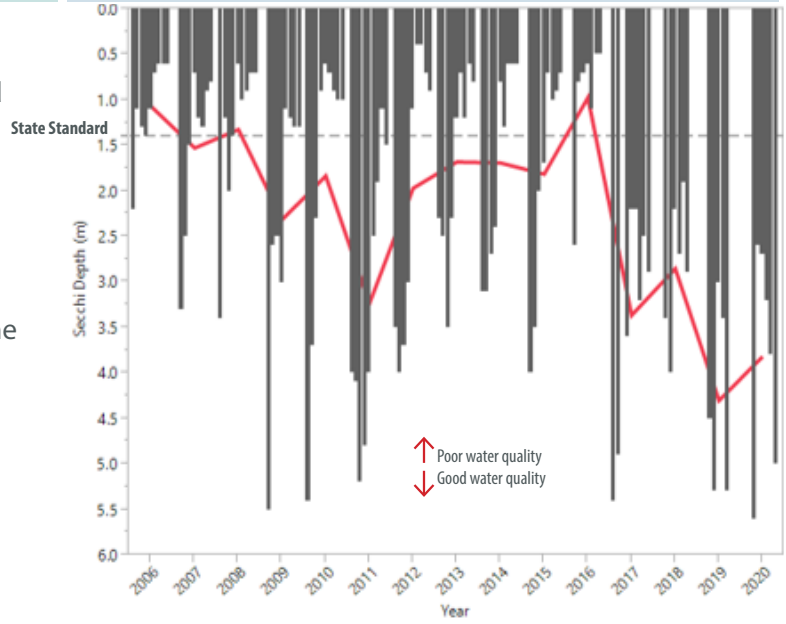
Phosphorus*

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning water green. Low phosphorus levels indicate good water quality. State standard is 40 ug/L (dashed line).

Watershed Projects

Recent studies conducted by the LMRWMO identified internal phosphorus from the lake bottom as the primary source of phosphorus in Sunfish Lake.

In 2017, the LMRWMO implemented an in-lake aluminum sulfate (alum) treatment to improve water quality. Upon application, the alum binds with phosphorus as aluminum phosphate and settles to the lake bottom.



Secchi Depth

A black and white secchi disc is lowered into the water until no longer visible and measures water clarity. High secchi disc depths indicate good water quality. State standard is 1.4 m (dashed line).

How can you get involved?

You don't have to live on a lake to help protect water quality, **anyone can be part of the solution!** Landscaping with native plants or installing a raingarden **increases water infiltration,** decreases lawn maintenance, and reduces pollution runoff that can negatively impact local water quality. The LMRWMO has partnered with the Dakota County Soil and Water Conservation District to offer grants to residents who install a native planting, raingarden, or shoreline planting or stabilization as part of their **Landscaping for Clean Water** program.

Additional Information:

DNR Lake Finder: https://www.dnr.state.mn.us/lakefind/index.html
Landscaping for Clean Water: https://dakotaswcd.org/services/landscaping-for-clean-water/
LMRWMO Website: www.lmrwmo.org
LMRWMO Contact: Joe Barten - joe.barten@co.dakota.mn.us 651-480-7784

DAKOTA COUNTY SOIL & WATER CONSERVATION DISTRICT