Sunfish Lake

2022 Water Monitoring Report

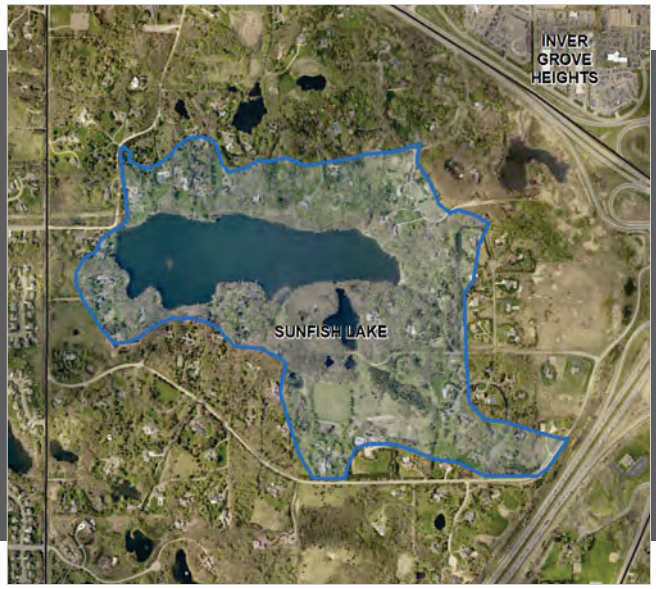
LMRWMO
LOWER MISSISSIPPI RIVER
WATERSHED MANAGEMENT ORGANIZATION

Watershed

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 2022 Lake Grade: **A** (2021)



Monitoring

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

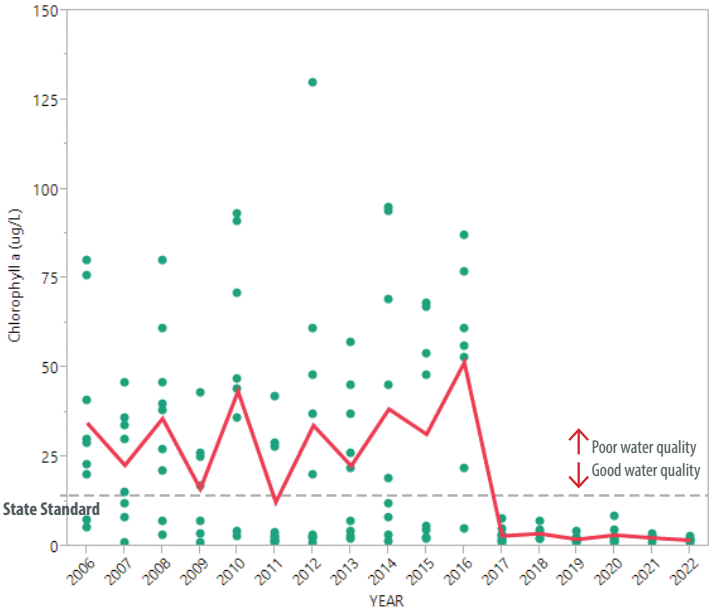
Water Quality

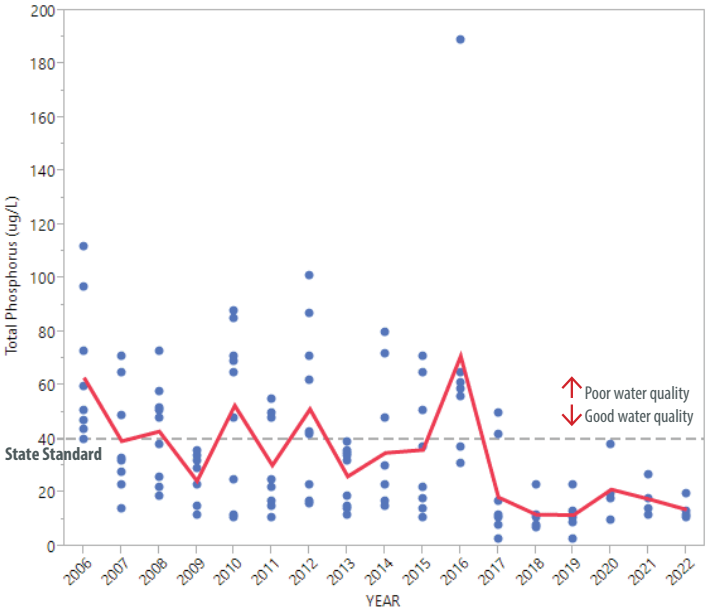
Following the 2017 alum treatment, there were improvements for all three eutrophication parameters when compared to data collected pre-treatment. Lake water quality continues to improve when considering the total phosphorus and chlorophyll-a levels in comparison to historical levels. The secchi readings show improvement from past years, with the minimum value and the average increasing from 2021. The below table shows the 2022 data.

Water Quality Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	1.1	2.9	1.80
Total Phosphorus (ug/L)	40	11	20	13.80
Secchi Depth (m)	2.6	3.2	5.1	4.12

Water Quality Data 2006-2022

*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).

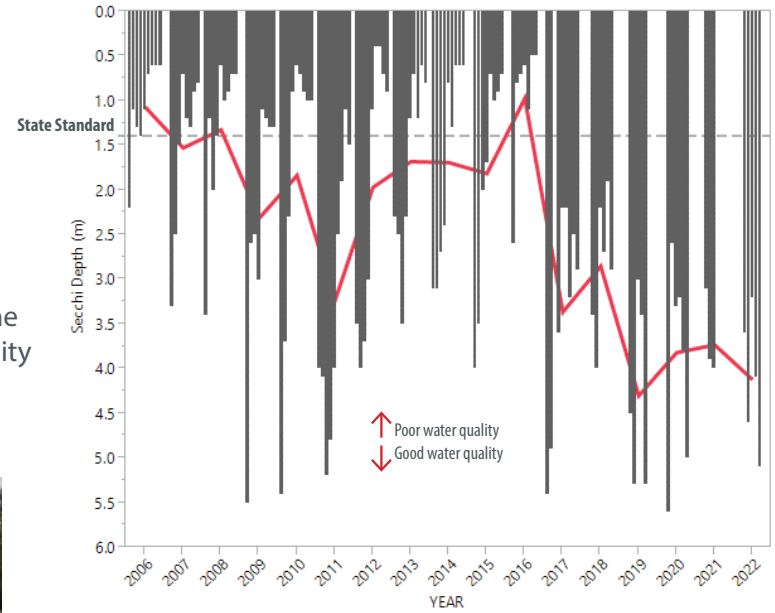
Phosphorus*

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

A 2012 study 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. A significant improvement in water quality has been shown from this treatment, with the lake removed from the impaired waters list in 2022.



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 improve water quality, **anyone can be part of the solution!** Installing a raingarden **increases water infiltration,** decreases lawn maintenance, and reduces pollution runoff that can negatively impact local water quality. The LMRWMO offers grants to residents to install raingardens or native shoreline plantings as part of the Dakota County Soil and Water Conservation District's **Landscaping for Clean Water** program.

Additional Information:

MN Impaired Waters Map: https://www.pca.state.mn.us/water/impaired-waters-viewer-iwav
DNR Lake Finder: https://www.dnr.state.mn.us/lakefind/index.html
LMRWMO Contact: Joe Barten - joe.barten@co.dakota.mn.us 651-480-7784
LMRWMO Website: www.lmrwmo.org

DAKOTA COUNTY SOIL & WATER CONSERVATION DISTRICT