

Lake Augusta

Citizen Assisted Monitoring Program (CAMP)
2020 Water Monitoring Report

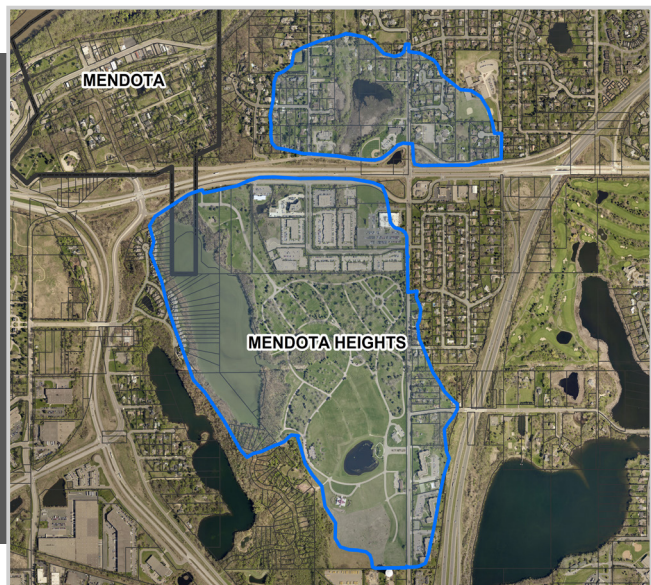


Lake Summary

Lake Augusta is located in the City of Mendota Heights, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily institutional (cemetery), commercial, and residential (low and high density). Lake Augusta 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:** 33 feet
- Watershed Size (shown):** 420 acres
- Major Watershed:** Minnesota River
- MPCA Lake Classification:** Deep
- Met Council 2020 Lake Grade:** **F**



Water Quality Monitoring Need

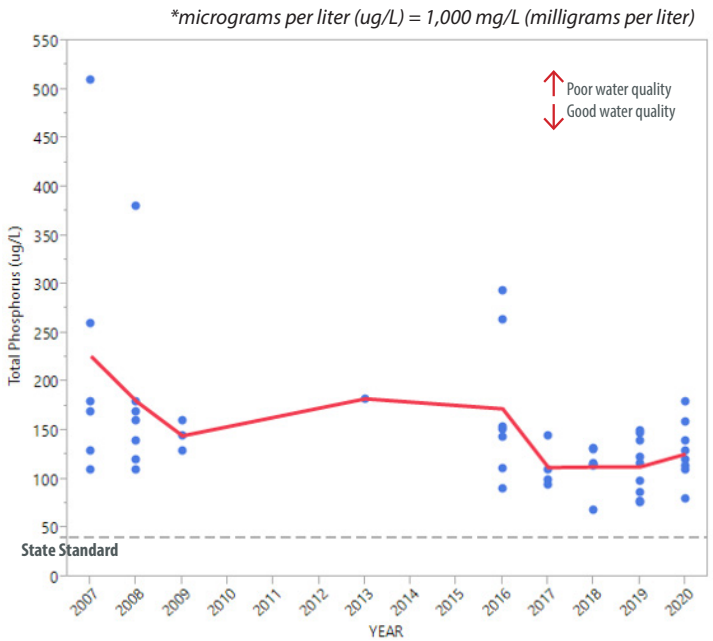
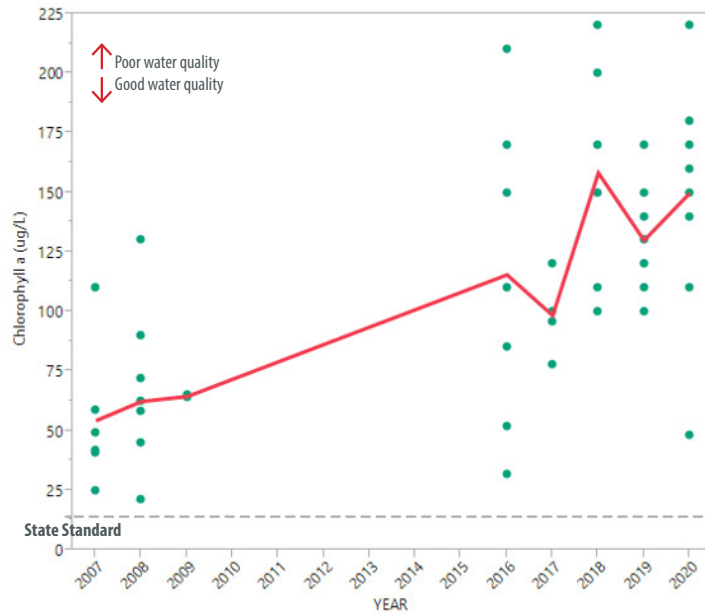
Lake Augusta is monitored on an annual basis as part of the LMRWMO’s participation in the Met. Council’s Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The lake continues to not meet the deep lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA). Further study of the lake is needed to understand the poor water quality causes. The LMRWMO will undertake an intensive study in 2021-2023 to identify long term action items to improve lake water quality.

2020 Monitoring Summary

Following an aluminum sulfate (alum) treatment in 2017, there were improvements for all three eutrophication (aging process by which lakes are fertilized with nutrients) parameters compared to data collected in 2016 (pre-treatment). Monitoring data from 2020 showed little to no change across the three parameters in comparison to data collected in previous years. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	48	220	149.80
Total Phosphorus (ug/L)	40	80	180	126.3
Secchi Depth (m)	1.4	0.2	0.3	0.22

Water Quality Data 2007-2020



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 chlorophyll-a levels indicate good water quality. State standard is 14 ug/L (dashed line).

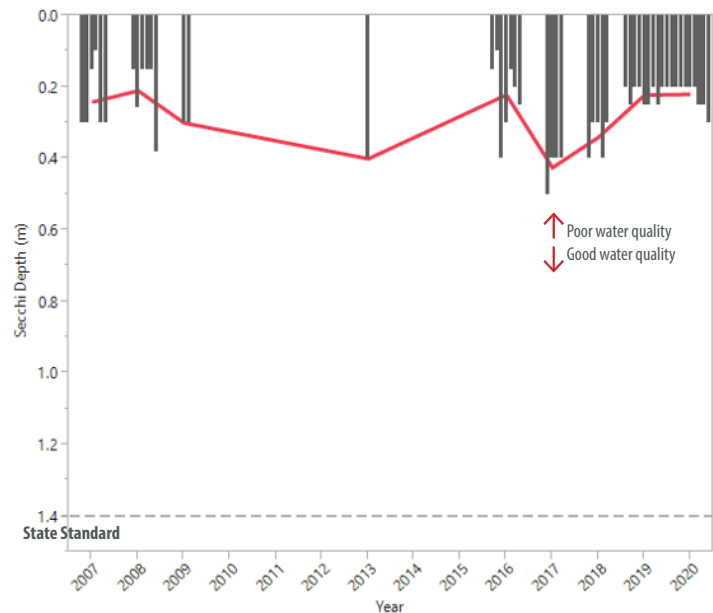
Phosphorus*

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 Lake Augusta.

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. It is believed that long term high water levels impacted the effectiveness of the alum treatment.



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