

Lake Augusta

Citizen Assisted Monitoring Program (CAMP)
2019 Volunteer Lake Monitoring Report



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) and the lake continues to not meet the deep lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA).

Lake Details

Median Depth: 18 feet

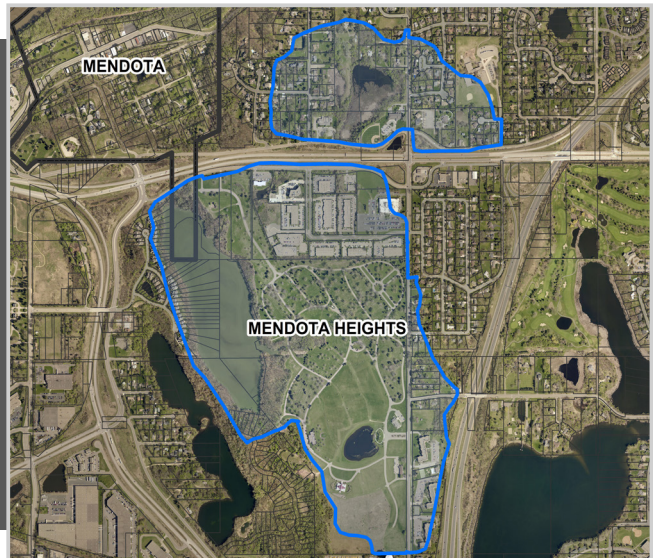
Max Depth: 33 feet

Watershed Size: 420 acres

Major Watershed: Minnesota River

MPCA lake classification: Deep

Metropolitan Council Lake Grade:



Water Quality Monitoring

Lake Augusta is monitored by on an annual basis as part of the LMRWMO's participation in the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program.

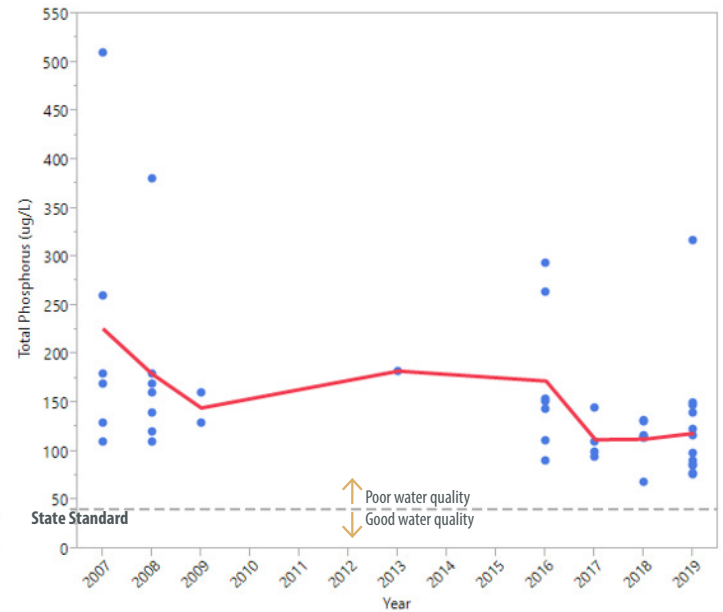
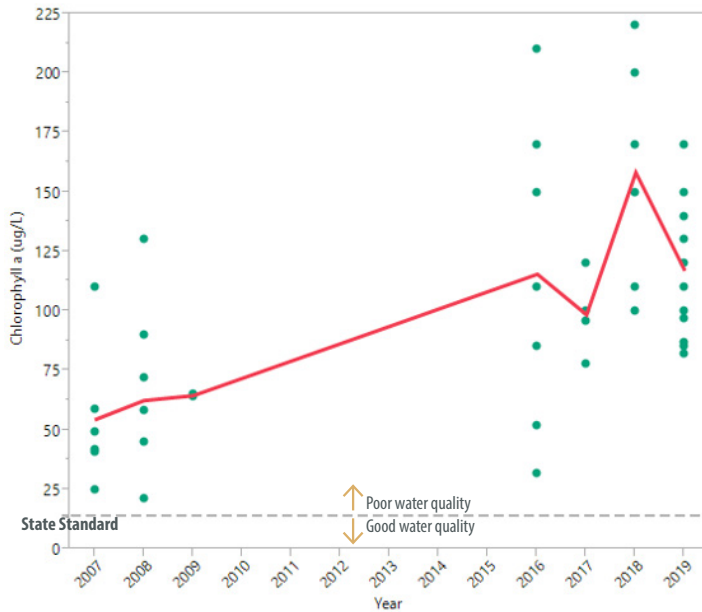
In 2012, the MPCA led an intensive water monitoring effort as part of the Watershed Restoration and Protection Strategy (WRAPS) of Lake Augusta to gain a better understanding of the lake's water quality. Results from this assessment included information about pollution sources within the watershed and advisement on pollution reductions needed in order to improve Lake Augusta's water quality so that state standards are met and the lake can be removed from the Impaired Waters List.

Monitoring Summary

Following the alum treatment in 2017, there were improvements for all three eutrophication parameters when comparing to to data collected in 2016 (pre-treatment). Monitoring data from 2019 showed a slight improvement in water quality in comparison to data collected in 2018. Both the chlorophyll-a and phosphorus average for the year decreased and the minimum secchi depth increased by 0.1 m.

	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	21	220	117
Total Phosphorus (ug/L)	40	69	510	119
Secchi Depth (m)	1.4	0.1	0.6	0.26

Water Quality Data 2007-2019



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.

Watershed Projects

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

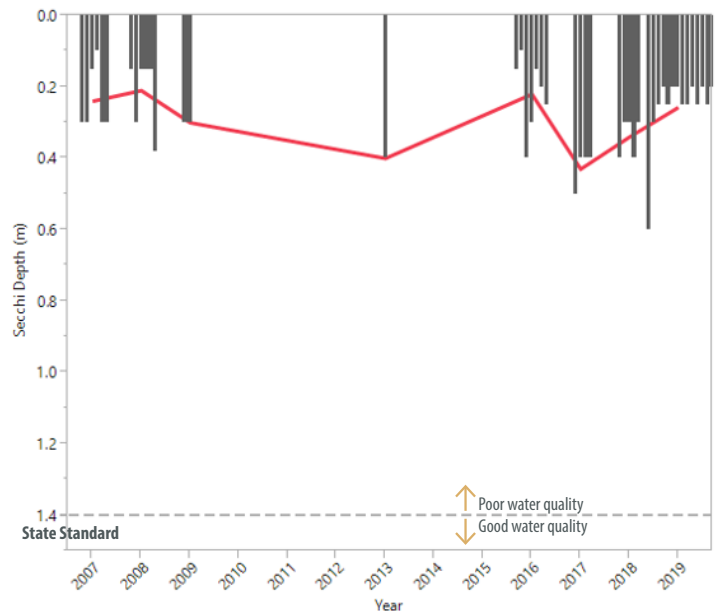
In 2017, the LMRWMO implemented an in-lake alum treatment to improve water quality. Upon application, the alum settles to the lake bottom and binds with phosphorus to form aluminum phosphate.

Treatment effectiveness is being measured by continued lake water quality monitoring by volunteers with the CAMP program.



Phosphorus

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning lake water green and soupy. Low phosphorus levels indicate good water quality.



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.

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 **increases water infiltration** and decreases lawn maintenance. Redirecting downspouts into a raingarden will conserve water on your property and **prevent it from entering nearby stormdrains untreated.** The LMRWMO has partnered with the Dakota County Soil and Water Conservation District to offer grants to residents who install a native garden, raingarden, or shoreline restoration 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: <http://www.dakotaswcd.org/cleanwater.html>
 LMRWMO Website: <http://www.dakotaswcd.org/watersheds/lowermisswmo/>
 LMRWMO Contact: Joe Barten, joe.barten@co.dakota.mn.us, 651-480-7784