

Thompson Lake

Citizen Assisted Monitoring Program (CAMP)
2018 Volunteer Lake Monitoring Report



Thompson Lake is a 7 acre lake located in the City of West St. Paul, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily commercial, institutional, low density residential and park land use (Dakota County's Thompson Park). Thompson Lake was placed on Minnesota's 303(d) List of Impaired Waters in 2014 for aquatic recreation due to excess nutrients (phosphorus).

Lake Details

Size: 7 acres

Median Depth: 5 feet

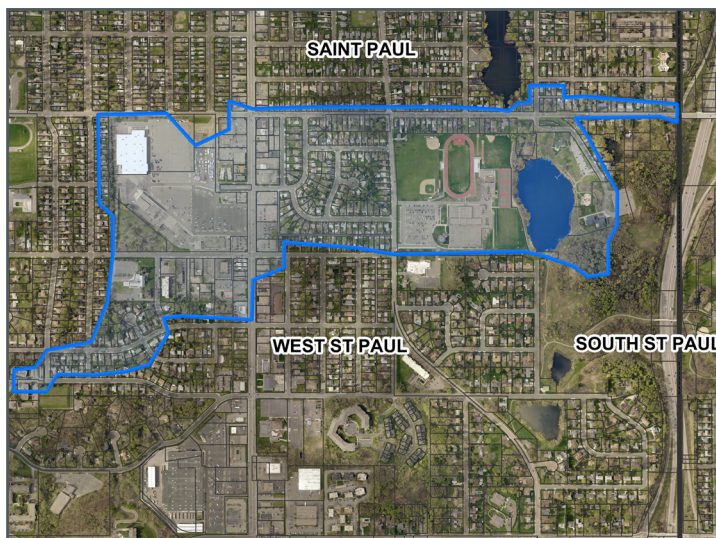
Max Depth: 8 feet

Watershed Size: 180 acres

Major Watershed: Mississippi River

MPCA lake classification: Shallow

Trophic Status: Hypereutrophic



Water Quality Monitoring

Thompson Lake was monitored by Dakota County in 2011 and as part of the Watershed Restoration and Protection Strategy (WRAPS) performed by the Minnesota Pollution Control Agency (MPCA) in 2012. The averages for total phosphorus concentrations monitored during that period did not meet state water quality standards. Chlorophyll-a concentrations did not meet standards in 2011 and barely met standards in 2012, whereas the average Secchi depth met the water quality standard in both years.

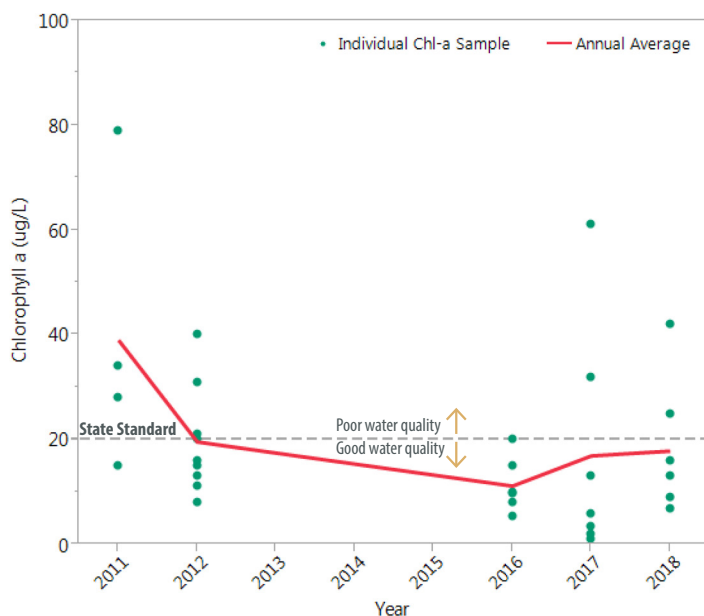
Currently, Thompson Lake is monitored on an annual basis as part of the LMRWMO's participation in the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. Since 2016, water quality monitoring for eutrophication parameters (chlorophyll-a, total phosphorus, and Secchi disk transparency) has taken place on a biweekly schedule beginning in mid- June and continuing through early-September.

Monitoring Summary

In 2018, Thompson Lake met the water quality standards for shallow lakes for both Secchi depth and chlorophyll-a, but continues to exceed (not meet) the standard for total phosphorus. These findings are consistent with monitoring data collected since 2016.

	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	20	1	79	19.22
Total Phosphorus (ug/L)	60	35	159	73.16
Secchi Depth (m)	1	0.7	2.1	1.36

Water Quality Charts



Chlorophyll-a

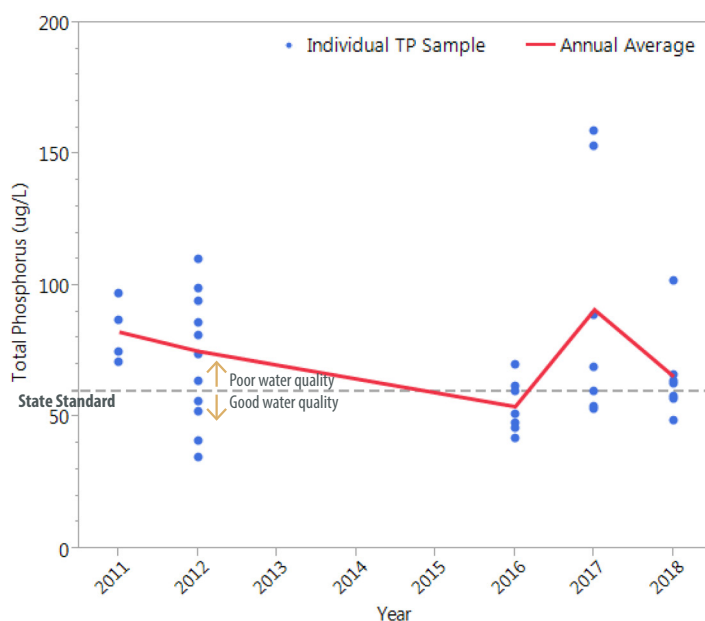
Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorophyll-a levels indicate good water quality.

Watershed Projects

The Thompson Lake watershed has high amounts of impervious surface which accumulate pollutants that are carried by stormwater into Thompson Lake.

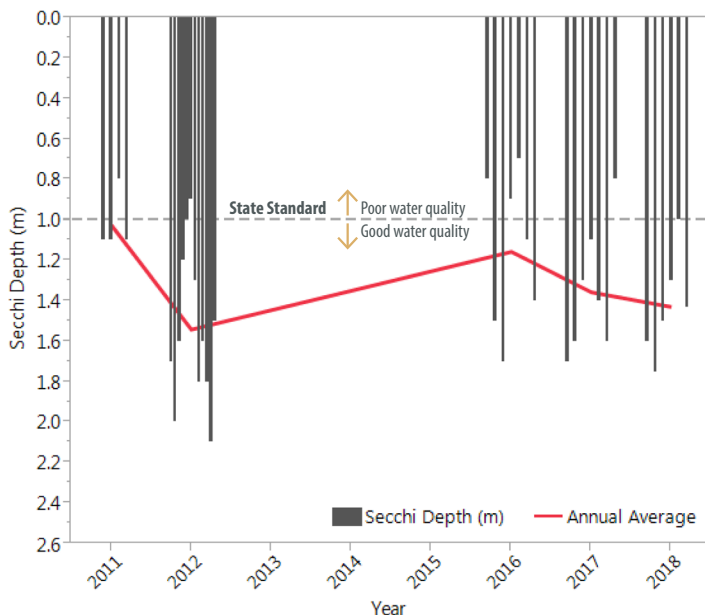
In order to improve water quality, the LMRWMO partnered with Dakota County and the City of West St. Paul to remove contaminated sediment and install stormwater best management practices to capture and remove sediment and phosphorus before entering the lake.

The restoration project will be complete in the spring of 2019.



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.

Water Monitoring Volunteer: Thank you to Anne Pfankuch for monitoring Thompson Lake in 2018!

Additional Information:

LMRWMO Website: <http://www.dakotaswcd.org/watersheds/lowermisswmo/>

DNR Lake Finder: <https://www.dnr.state.mn.us/lakefind/index.html>

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