

What's happening

Inspecting for aquatic invasive species

Aquatic invasive species (AIS), like zebra mussels and brittle niad, are a serious threat to the health of local lakes. One strategy to prevent the spread of these harmful plants and animals is inspecting boats before and after they launch. In 2015, the watershed district supported Carver County in providing inspectors for Lakes Ann, Lotus, and Susan. Over 5000 inspections were conducted. Aquatic plants were found and removed during about 1.5% of the inspections and about 1% of watercraft arriving at the launches still had their boat plugs in. These may seem like small numbers, but even one boat with AIS can cause problems.

You can help us!

- pull the drain plug whenever you leave a lake
- remove any plants or animals from your boat or trailer.



Grants available for clean water projects

Decreasing pollution, beautifying your yard, and creating habitat are all possible through a cost-share grant with the watershed district. The District's cost-share grant program was created to help community members implement clean water projects. These could be projects that conserve water, like rainwater reuse systems, or projects that clean water, like raingardens.



Awards: up to \$3000 (25% homeowner match)

Technical help available

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Lotus Lake 2015

Riley Purgatory Bluff Creek Watershed District



Quick facts

Size	240 acres
Volume	3509 acre-ft
Average depth	16 ft
Maximum depth	26 ft
Watershed size	1339 acres
Direct land draining	316 acres
MPCA lake classification	Deep
Common fish	
Bluegill, Yellow Perch, Walleye	
Invasive Species	
Eurasian Watermilfoil, Common Carp	
Trophic status	Impairment
Eutrophic (rich in nutrients)	Mercury and nutrients

Lotus Lake is located in northeast Chanhassen within Carver County, west of Highway 101 and north of Highway 5. The Lotus Lake watershed includes the majority of Chanhassen and a small portion of Eden Prairie east of Highway 101. The west side of the lake's landscape has steep topography containing many ravines, which can make the lake vulnerable to sedimentation.



Dive deeper Interested in learning more? Find the reports below on our website. Fish, plant, and sediment studies are just some of the research the district and its partners conduct. Can't find what you are looking for? Feel welcome to call or write.

Aquatic plants

JaKa, J. and Newman, R. 2014. Aquatic Plant Community of Lakes Lotus, Lotus, Lucy, Mitchell, Susan, Riley and Staring within the Riley Purgatory Bluff Creek Watershed: Final Report 2009 - 2014. University of Minnesota.

Watershed study

BARR Engineering. 2005. Lotus Lake Lucy Use Attainability Analysis.

Stormwater ponds

RPBCWD. 2013. Stormwater pond project.

Paleolimnology

Ramstack J. M. and Edlund M. B. 2011. Historical water quality and ecological change of three lakes in the Riley Purgatory Bluff Creek Watershed District, MN.

Carp management

Sorensen P, Bajer P and M Headrick. 2015. Development and implementation of a sustainable strategy to control common carp in the Purgatory Creek chain of Lakes. University of Minnesota.

Contact us

and find out how you can get involved

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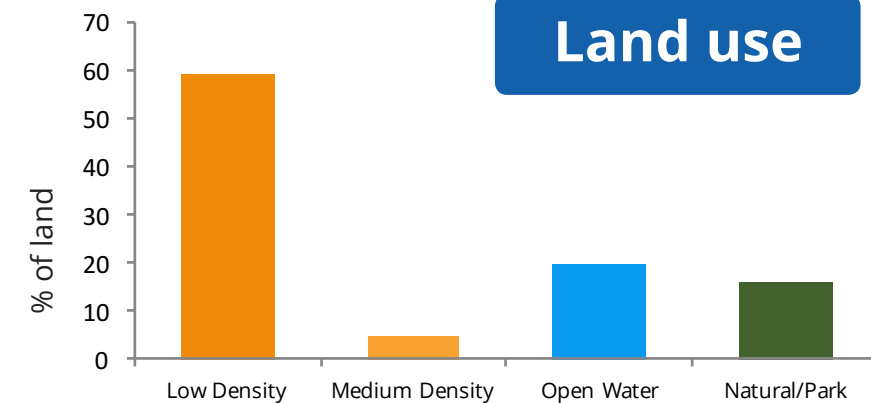
Did you know?

Lotus Lake is one of three headwaters of Purgatory Creek

Water entering Lotus stays for 5 years before seeping into the ground or flowing out Purgatory Creek

You can visit a district shoreline restoration project at Carver Beach

Land use



Much of the Lotus Lake watershed is developed.



How healthy is Lotus Lake?

For the past 40 years, Lotus Lake has consistently failed to meet the clean water standards set by the Minnesota Pollution Control Agency (MPCA). Recent years have shown an improvement in water clarity, but not in the other two indicators. The graphs on the next page show the trends over time. The red line on each graph marks the MPCA standard. The goal for each graph is for the average values (the dots) to be below the red line.

During the growing season (May - September), district staff visit Lotus Lake every other week to collect water samples and take measurements. The samples are sent to a lab where they are tested for several compounds including total phosphorous (TP) and chlorophyll a (Chl-a). Staff also measure how clear the water is using a disk that is lowered into the water until it can no longer be seen. All three of these parameters help indicate whether the water is clean. Find out more about each on the next page.

Lotus is classified as a "Deep Lake", which means that it is over 15 feet deep and light can not reach the bottom in most of the lake. To be considered healthy by the MPCA, deep lakes need to be clear enough to see 1.4 meters down, and have very low TP and Chl-a levels. These deep lake standards are listed in the summary table.



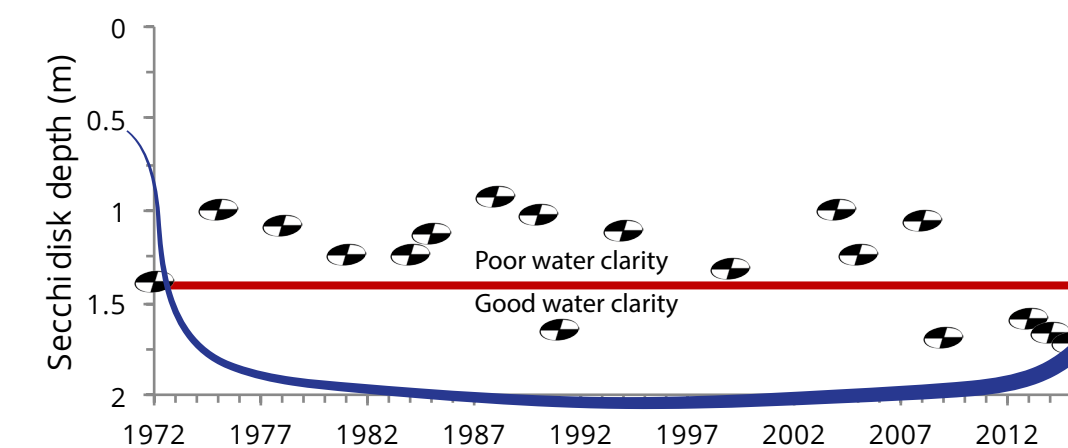
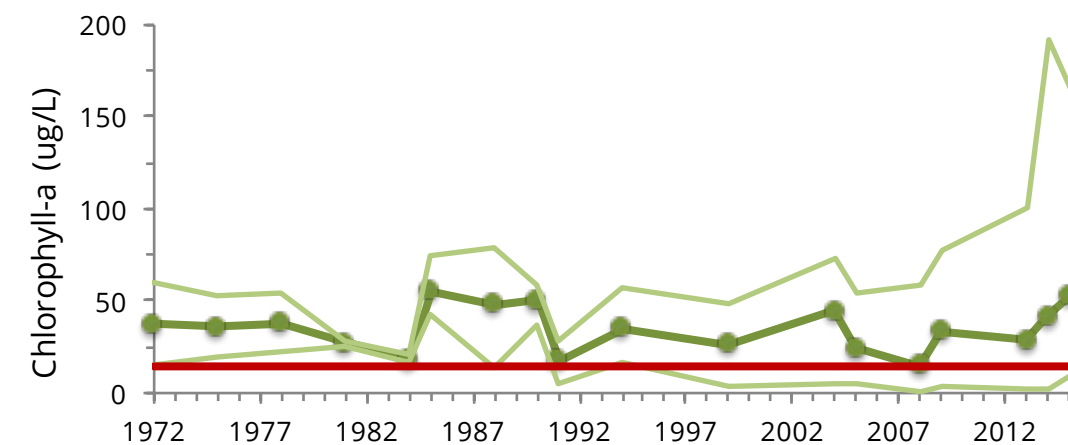
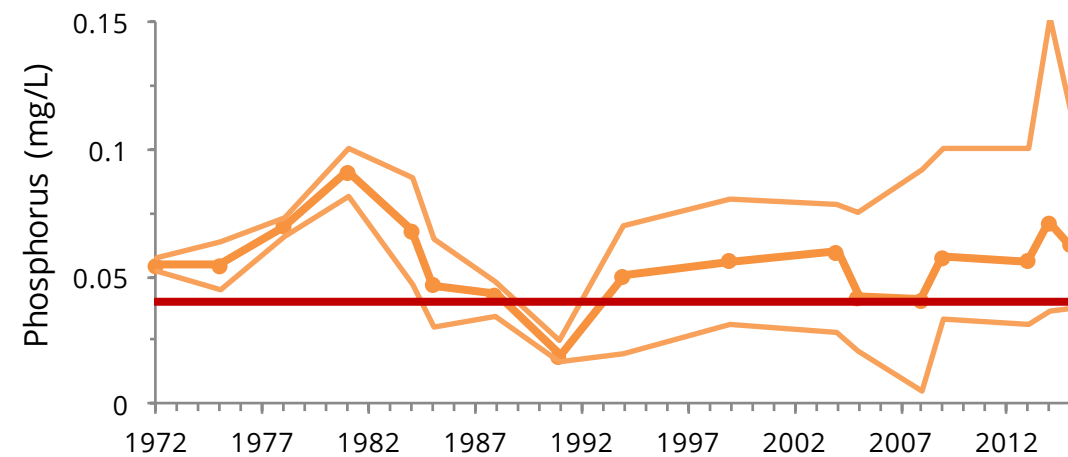
[Above] Staff collect water quality readings.

[Right] Staff download water level readings from a sensor.

[Below] A loon enjoys lotus lake.

Water quality graphs 1972 - 2015

Points are growing season (May-Sep) averages. Thin lines are the minimum and maximum values for each year.



Phosphorus is a nutrient that plants and algae need for growth. It is often measured as total phosphorous (TP). Too much phosphorous can cause algae blooms.

Chlorophyll-a is the main pigment in algae, so measuring chl-a can tell us how much algae there is. Too much chl-a means that there are too many nutrients in the water.

Water clarity is measured using a **Secchi Disk**, a black and white disk the size of a dinner plate. It is lowered into the water, and the depth at which it is no longer visible is recorded.



Rainwater runoff, the water that flows across yards, parking lots, and streets into stormdrains, is one of the main causes of pollution in urban areas. You can take simple actions to help protect Lotus Lake.

Keep the curb clean

Sweep up leaves, grass clippings and fertilizer from driveways and streets.

Water with care

Grass requires 1-inch of water per week: about one hour of sprinkling per week if it has not rained.

Salt smart

The salt we use to melt ice can pollute our lakes and creeks. Use salt sparingly and always shovel first.

Reuse the rain

Collect and reuse rainwater with a rain barrel.

Build a raingarden

Raingardens soak up water and filter out pollution. Visit our website for help.

Summary table

	MPCA standard	Since 1972			2015		
		max	min	average	max	min	average
TP	<0.04 mg/l	0.152	0.005	0.0537	0.114	0.037	0.0622
Chl-a	<14 ug/l	192	0	31.3	165	10	52.4
Secchi	>1.4 m	4.2	0.3	1.3	3.5	0.7	1.7