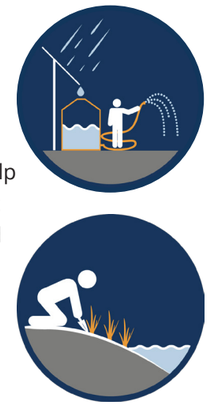
What's happening

Purgatory Creek Watershed Restoration Study

In 2015, the district began work on a restoration and protection study for the Purgatory Creek watershed. This study will provide updated and consistent information about the water quality and biological integrity of the lakes in the Purgatory Creek watershed, including Silver Lake. It will include trend analyses, and comparisons of water quality monitoring with state standards and district goals. It will also contain water quality modeling calibrated for critical conditions. These data will be used to evaluate and recommend the optimum restoration measures based on the potential water quality benefits and estimated life-cycle costs (i.e., a prioritized implementation plan). The study should be completed in 2016, and will be available on the district website when ready.

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

Contact: Michelle Jordan
952-607-6481
mjordan@rpbcwd.org

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
Blue Water Science. 2014. Aquatic plant surveys for Silver Lake, Eden Prairie, MN.

Paleolimnology
Ramstack Hobbs J. M. and M. B. Edlund. 2015. Paleolimnological analysis of Silver Lake, Hennepin County, Minnsota. St. Croix Watershed Research Station

Stormwater ponds
RPBCWD. 2013. Stormwater pond project.

Watershed study
BARR Engineering. COMMING SOON. Purgatory Creek Watershed Restoration Study.

Contact us

and find out how you can get involved

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Silver Lake 2015

Riley Purgatory Bluff Creek Watershed District

Quick facts

Size	84 acres
Volume	201 acre-ft
Average depth	3 ft
Maximum depth	13 ft
Watershed size	361 acres
MPCA lake classification	Shallow

Common fish
Unknown

Invasive Species
Curlyleaf Pondweed, Purple Loosestrife

Trophic status	Impairment
Eutrophic-hypereutrophic (nutrient rich)	Not listed

Silver Lake is located in the City of Shorewood in the northwestern part of the Riley Purgatory Bluff Creek Watershed. The outlets to Silver and Lotus Lakes are the headwaters of Purgatory Creek, and merge to form a single stream.

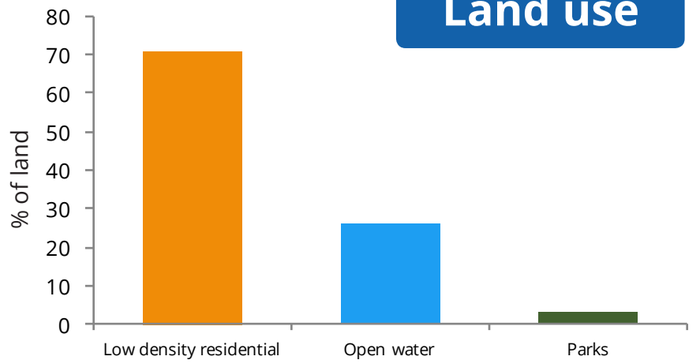
Did you know?

Silver Lake provides habitat for migrating waterfowl, like ducks, geese, herons, & egrets

Silver is at the top of the Purgatory Chain of Lakes, which includes Lotus, Duck Round, Mitchell, Red Rock, Staring, and Idlewild

Up until 1943, the MN Department of Natural Resources stocked Silver with gamefish

Land use



How healthy is Silver Lake?

Silver Lake water quality has been monitored since 1996. Since that time, it has consistently failed to meet the clean water standards set by the Minnesota Pollution Control Agency (MPCA). In recent years, water quality has improved, but still does not meet standards.

During the growing season (May - September), district staff visit Silver Lake every other week to collect water samples and take measurements. The water 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.

Silver is classified as a “Shallow Lake”, which means that it is generally less than 15 feet deep and light can reach the bottom in most of the lake. To be considered healthy by the MPCA, shallow lakes need to be clear enough to see 1 meter down, and have low TP and Chl-a levels. These shallow lake standards are listed in the summary table.

[Above] Staff collect a water sample on Silver.

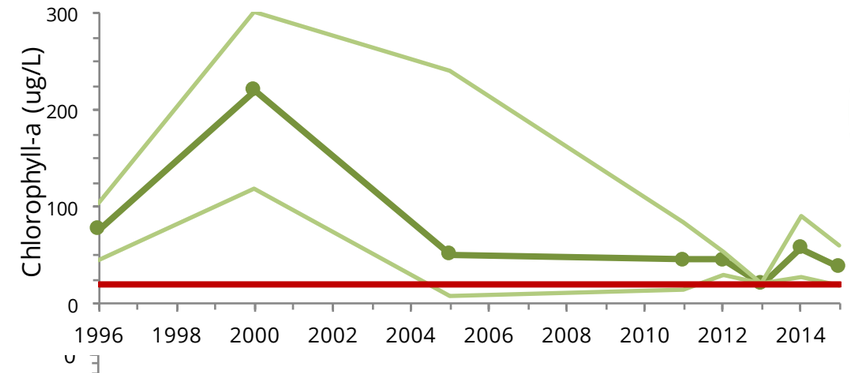
[Right] An otter lounges on a dock. (photo: D. Pedersen)

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.

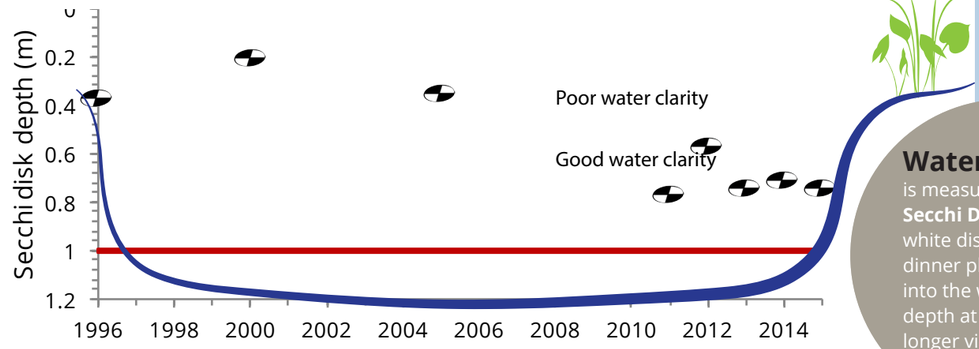
Water quality graphs 1996 - 2015

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 phosphorus (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.

Summary table

	MPCA standard	Since 1996			2015		
		max	min	average	max	min	average
TP	<0.06 mg/l	0.27	0.05	0.14	0.117	0.045	0.088
Chl-a	<20 ug/l	300	8	92	30	20	38.3
Secchi	>1 m	0.9	0.2	0.4	1	0.8	0.6

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 Silver 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.