

What's happening

Protecting Lake Susan

The watershed district, together with the City of Chanhassen, is building a filtration system to treat stormwater flowing into Lake Susan. The structure, called a spent-lime treatment system, will remove phosphorus, a nutrient that can cause cloudy water and algae blooms and is contributing to poor water quality in Lake Susan. Spent-lime is calcium carbonate that is left over after being used in a drinking water treatment plant, and when water flows through it, phosphorus sticks to it. The system is located near the pedestrian trail off of Lake Susan Hills Drive and will remove about 45 pounds of phosphorus from runoff before it enters Lake Susan each year. This is the equivalent of 22,500 pounds of algae.



[Far left] The chamber that will hold the spent-lime material. [Left] A rendering of what the completed system will look like.

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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Lake Susan 2015



Riley Purgatory Bluff Creek Watershed District

Quick facts

Size	88 acres
Volume	885 acre-ft
Average depth	10 ft
Maximum depth	17 ft
Watershed size	1281 acres
Direct land draining	66 acres
MPCA lake classification	Shallow

Common fish

Bluegill, Black Crappie, Northern Pike, Black Bullhead

Invasive Species

Curlyleaf pondweed, Eurasian watermilfoil, Common carp

Trophic status

Eutrophic (rich in nutrients)

Impairment

Mercury and Nutrients

Lake Susan is located in Chanhassen, north of Highway 212 and west of Great Plains Blvd, part of the Riley Creek watershed. Lake Susan is a recreational lake used for both fishing and boating. The topography of the Lake Susan watershed is characterized by rolling hills with depressions filled with ponds and wetlands.



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 Ann, Lotus, Lucy, Mitchell, Susan, Riley and Staring within the Riley Purgatory Bluff Creek Watershed: Final Report 2009 - 2014. University of Minnesota.

Watershed study

Wenck Associates Inc. 2013. Lake Susan Use Attainability Analysis.

Stormwater ponds

RPBCWD. 2013. Stormwater pond project.

Carp management

Bajer P.G., Headrick, M., Miller B. D. and Sorensen P. W. 2014. Development and implementation of a sustainable strategy to control common carp in Riley Creek Chain of Lakes. University of Minnesota.

Contact us

and find out how you can get involved

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FIND US ON



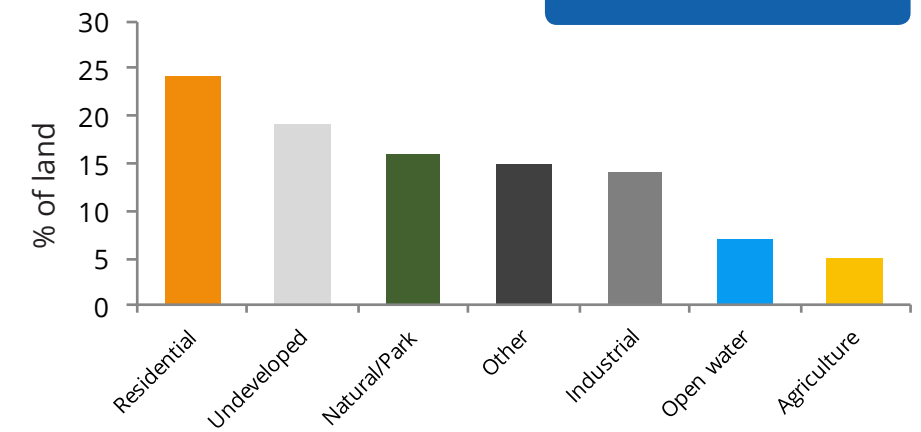
Did you know?

Light can reach the bottom of Lake Susan for over 95% of its surface area

Susan is the 3rd Lake in the Riley Creek chain, so it receives runoff from both the land around it, and from the lakes upstream

Water entering Susan stays in the lake for about 1 year before flowing out through Riley Creek

Land use





How healthy is Lake Susan?

For the past 40 years, Lake Susan water quality has consistently failed to meet the clean water standards set by the Minnesota Pollution Control Agency (MPCA). Water clarity has improved in the last ten years, possibly due in part to the management of carp, but nutrient levels remain high.

During the growing season (May - September), district staff visit Lake Susan 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.

Susan 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.



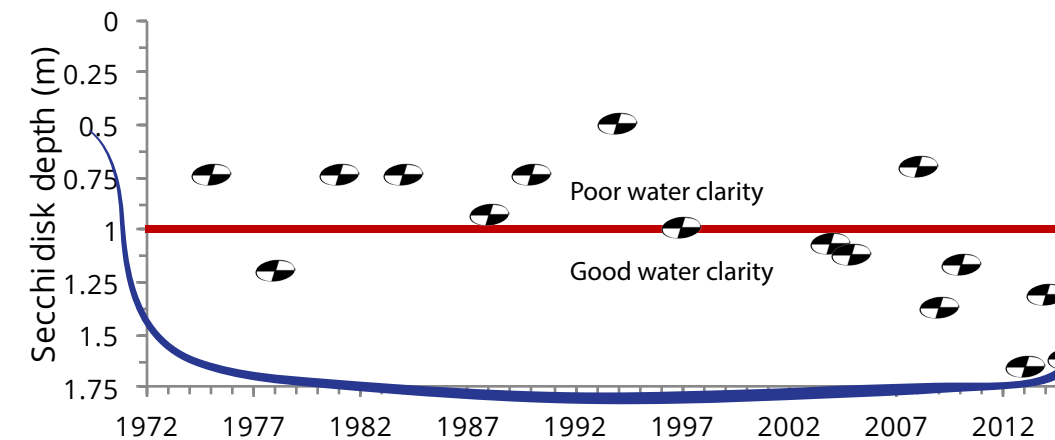
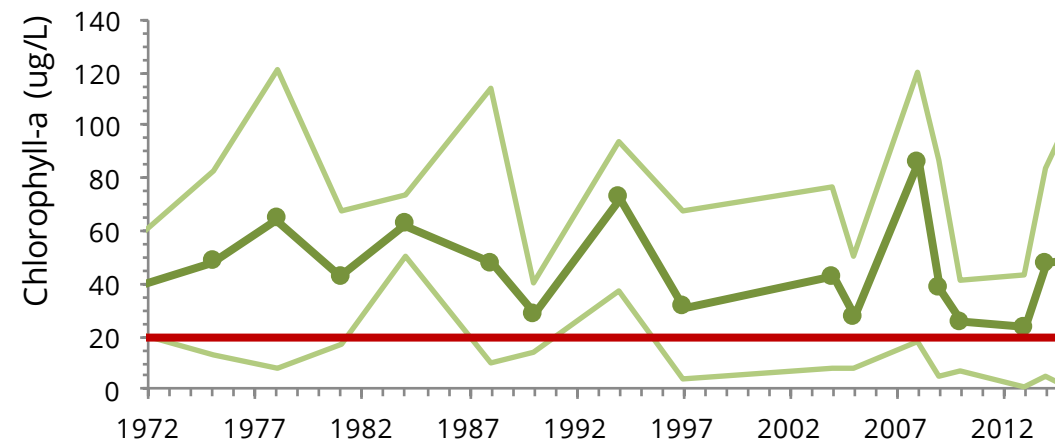
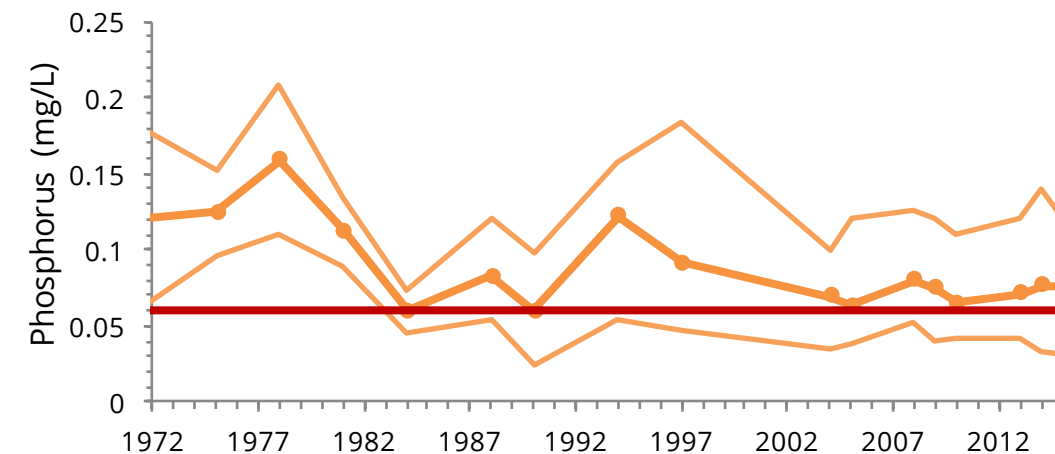
[Above] A district staff member collects samples on Susan.

[Right] Summer algae blooms are common on Lake Susan.

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 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 Lake Susan.

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	<0.06 mg/l	0.208	0.024	0.082	0.12	0.032	0.077
Chl-a	<20 ug/l	121	1.3	41.3	101	1	48.8
Secchi	>1 m	3.6	0.3	1.1	4.3	0.5	1.6