RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

2022 Update

Lake Susan

Located in Chanhassen, Lake Susan is a part of the Riley Creek Chain of Lakes. It is the third lake that Riley Creek flows through as it makes its way to the Minnesota River.

During June through September of each year, District staff visit the lake every two weeks to collect water samples and take readings. Samples are sent to a laboratory to be tested for nutrients and other compounds. Staff also measure water clarity by lowering a Secchi disk into the water and measuring how deep it goes before it is no longer visible. The data indicates the lake's health based on standards set by the Minnesota Pollution Control Agency (MPCA).

Lake Susan is classified as a "Shallow Lake" by the MPCA. To be considered healthy, the lake must have very low average phosphorus and chlorophyll-a levels and average water clarity of 1.0 meter (3.3 feet) or greater. See summary below. Additional details are located on the next page.

Total Phosphorus: No significant trend. In 2022, the lake did not meet the MPCA standard with an average total phosphorus level of 0.074 mg/L.

Chlorophyll-a: No significant trend. In 2022, the average reading for chlorophyll-a was 62.2 µg/L.

Water clarity: No significant trend. Over the previous few years, the lake had consistently met the standard for water clarity. The average reading in 2022 was 0.9 meters, which was below the standard.

Plants: In the spring of 2022, herbicide treatments were carried out to reduce Curly-leaf Pondweed on Lake Susan (8.25 acres). Native plant frequency of occurrence and number of species remained low due to poor water quality. The number of projects planned for the lake along with projects already in the ground should improve the lake water quality in the future.

Lake & watershed characteristics

Lake size	88 acres
Average lake depth	10 feet
Maximum lake depth	17 feet
MPCA lake classification	Shallow lake
Watershed size	1,231 acres
Impervious surface	27% of watershed
Impairment listing	Mercury & nutrients
Common fish	Bluegill, Black Crappie, Northern Pike, Black Bullhead, Yellow Bullhead
Invasive species	Curly-leaf Pondweed, Eurasian Watermil-foil, Common Carp, Brittle Naiad

Watershed Boundary

Top 3 *things you can do at HOME to protect the LAKE*

Protect storm drains.

Prevent grass clippings, lawn fertilizer and debris from entering storm drains so they don't end up in the lake.

Pick up dog waste.

Did you know that pet waste pollutes water? It's full of nutrients and bacteria. Bag it and toss it in a trash can.

Reduce stormwater runoff.

Reduce the flow of stormwater off your property by installing a rain garden, native planting, or rain barrel.

Lake Susan Water Quality by the Numbers

The graphs below show water quality trends over time with the red line showing the MPCA standard for **shallow lakes**. In 2022, **Lake Susan** failed to meet three clean water standards set by the MPCA.

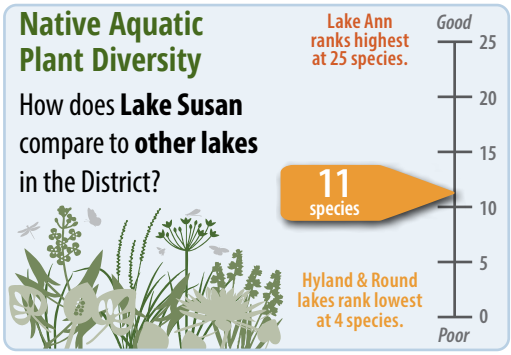
Averages

★ = Standard met

Water Quality Parameter	Historical Average	2022 Average	MPCA Standard: Shallow Lakes
Total Phosphorus (mg/L)	0.081	0.074	< 0.060
Chlorophyll-a (µg/L)	50.2	62.2	< 20
Water Clarity (meter)	1.1 ★	0.9	> 1.0

Native Aquatic Plant Diversity

How does **Lake Susan** compare to **other lakes** in the District?

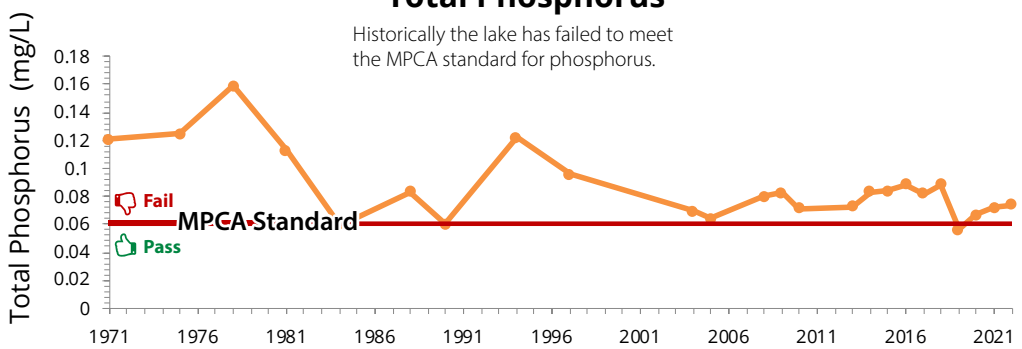


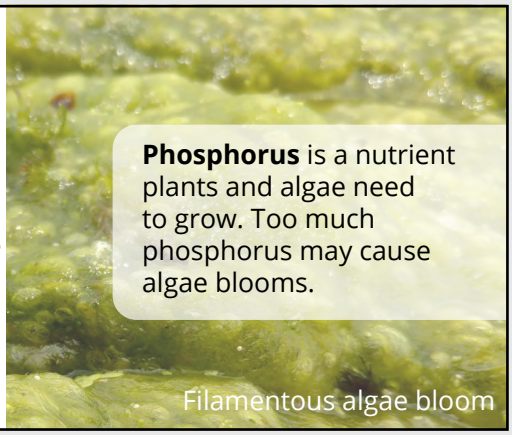
Trends Over Time: 1972-present

Read the *Water Resources Report* at rpbcwd.org/annualreport

Total Phosphorus

Historically the lake has failed to meet the MPCA standard for phosphorus.

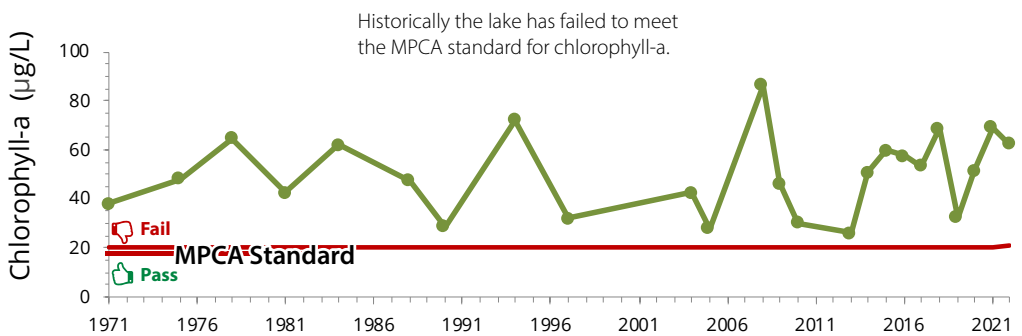


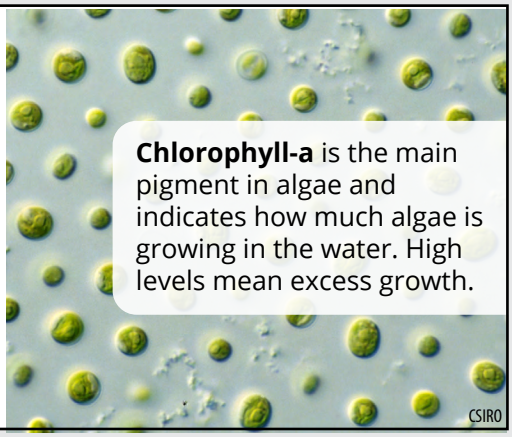


Phosphorus is a nutrient plants and algae need to grow. Too much phosphorus may cause algae blooms.

Chlorophyll-a

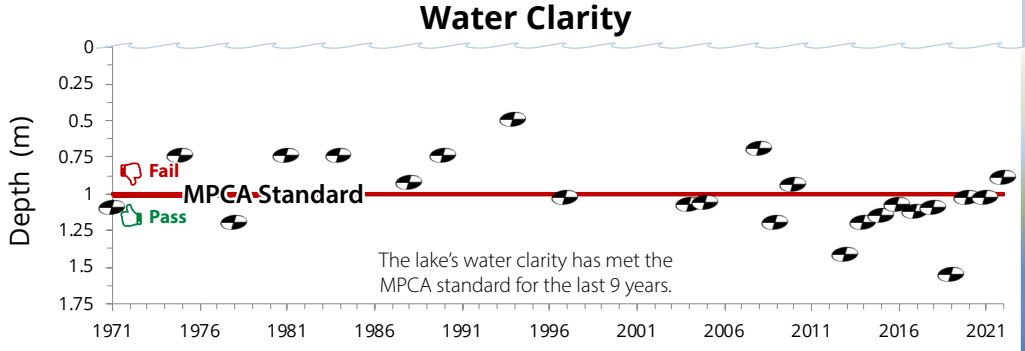
Historically the lake has failed to meet the MPCA standard for chlorophyll-a.

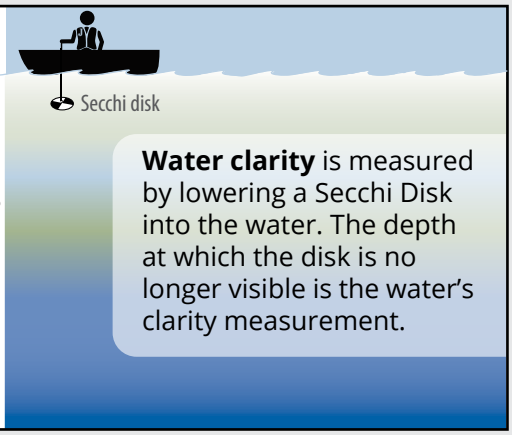




Chlorophyll-a is the main pigment in algae and indicates how much algae is growing in the water. High levels mean excess growth.

Water Clarity





Water clarity is measured by lowering a Secchi Disk into the water. The depth at which the disk is no longer visible is the water's clarity measurement.

Grants for Shoreline Restoration

The watershed district offers up to **75% cost share** assistance for restoring your shoreline! Learn more:

rpbcwd.org/grants

RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

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