RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

2022 Update

Lake Lucy

Lake Lucy is the headwaters to Riley Creek. Water flows out of Lucy to Lake Ann and then to Riley Creek. On its way south to the Minnesota River, Riley Creek passes through Susan, Rice Marsh, and Riley lakes.

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 Lucy 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 average concentrations since monitoring began. In 2022, the lake met the MPCA standard with average level of 0.042 mg/L.

Chlorophyll-a: No significant trend but last few years have seen declining levels, which is likely linked to a winterkill in 2019/2020. In 2022, the average reading for chlorophyll-a was 13.3 µg/L, well within the MPCA standard of 20 µg/L.

Water clarity: No significant trend in average clarity readings since monitoring began. The lake consistently meets the standard. The average reading in 2022 was 2.3 meters, well within the MPCA standard of 1.0 meters.

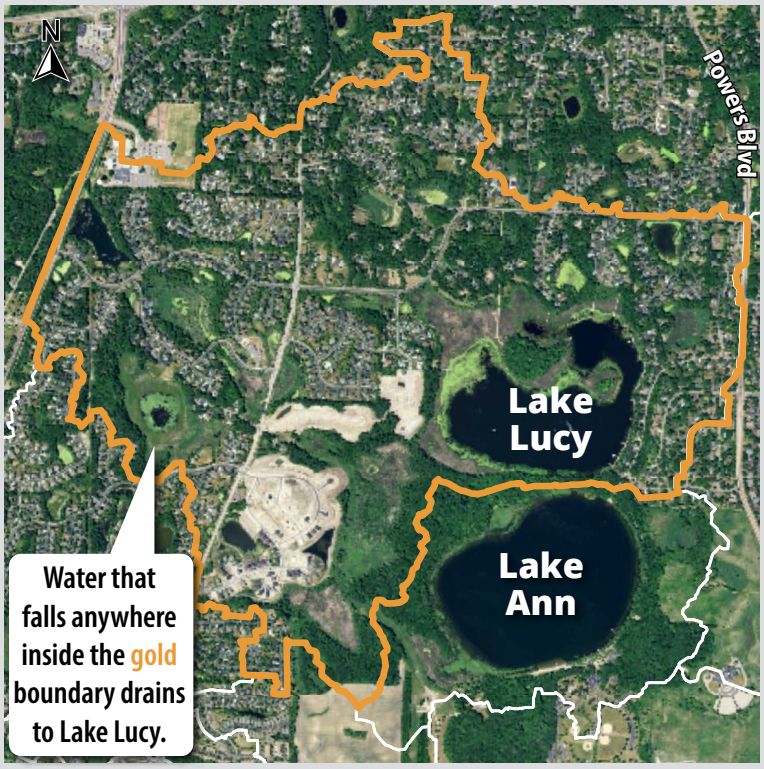
Fish: Electrofishing was used to monitor adult Common Carp an invasive species that harms water quality by stirring up lake bottom sediments and removing aquatic vegetation. In 2022, no adults were captured.

Plants: A 2022 plant survey indicated that Coontail and White Waterlily were the dominant native plants. The number of native species has declined, possibly due to low water levels.

Lake & watershed characteristics

Lake size	88 acres
Average lake depth	6.5 feet
Maximum lake depth	20 feet
MPCA lake classification	Shallow lake
Watershed size	988 acres
Impervious surface	14% of watershed
Impairment listing	Mercury
Common fish	Bluegill, Northern Pike, Yellow Bullhead, Black Crappie, Pumpkinseed Sunfish
Invasive species	Curly-leaf Pondweed, Eurasian Watermilfoil, Common Carp

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 Lucy Water Quality by the Numbers

Over the last few years, **Lake Lucy** has met the clean water standards set by the MPCA. The graphs below show water quality trends over time with the red line showing the MPCA standard for **shallow lakes**.

Averages

★ = Standard met

Water Quality Parameter	Historical Average	2022 Average	MPCA Standard: Shallow Lakes
Total Phosphorus (mg/L)	0.059 ★	0.042 ★	< 0.060
Chlorophyll-a (µg/L)	28.0	13.3 ★	< 20
Water Clarity (meter)	1.4 ★	2.3 ★	> 1.0

Native Aquatic Plant Diversity

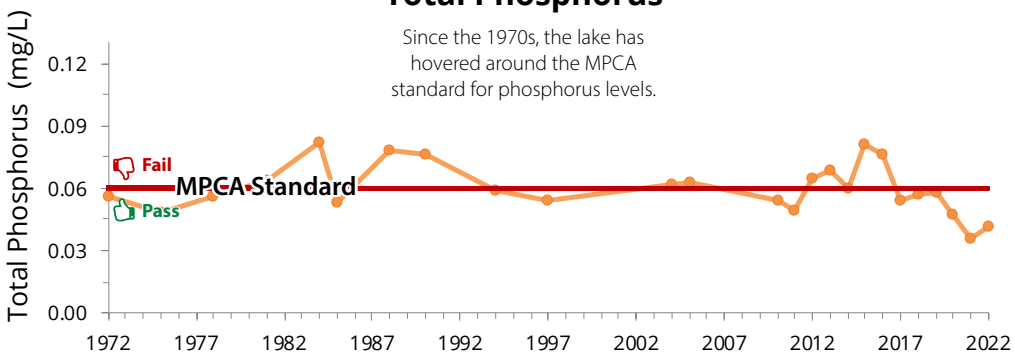
How does **Lake Lucy** compare to **other lakes** in the District?

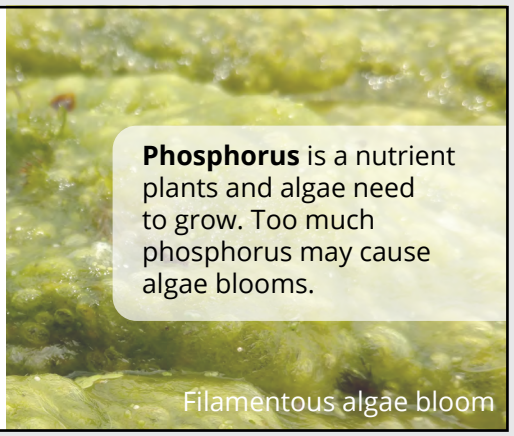
Trends Over Time: 1972-present

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

Total Phosphorus

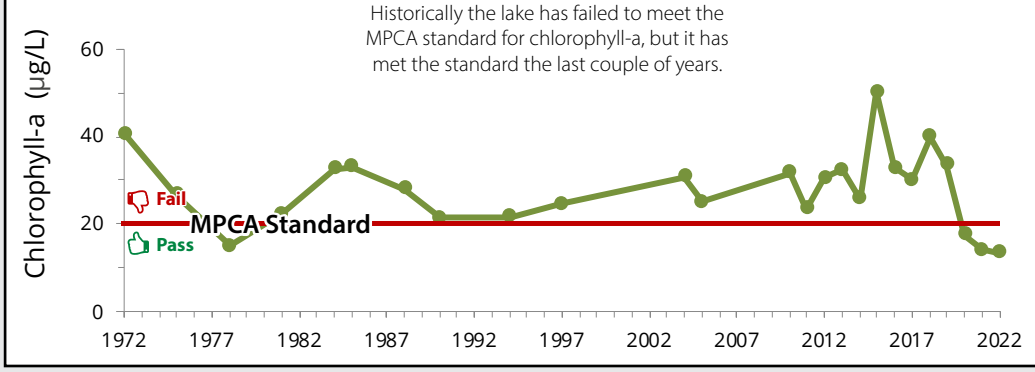
Since the 1970s, the lake has hovered around the MPCA standard for phosphorus levels.

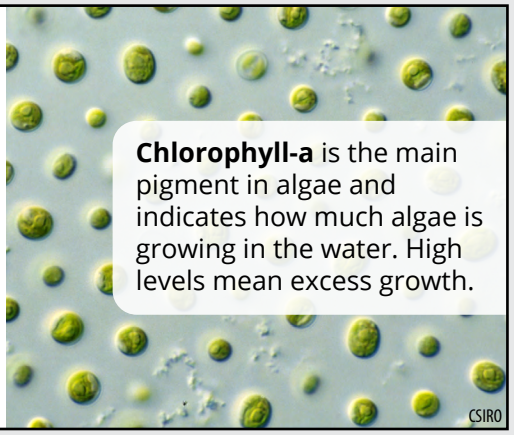




Chlorophyll-a

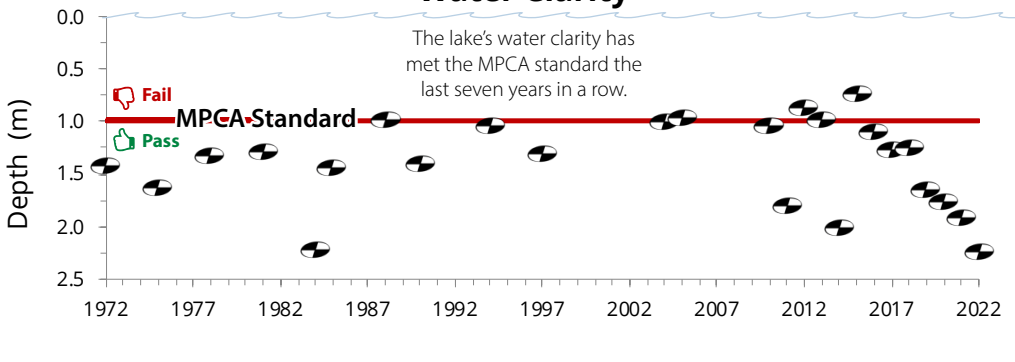
Historically the lake has failed to meet the MPCA standard for chlorophyll-a, but it has met the standard the last couple of years.

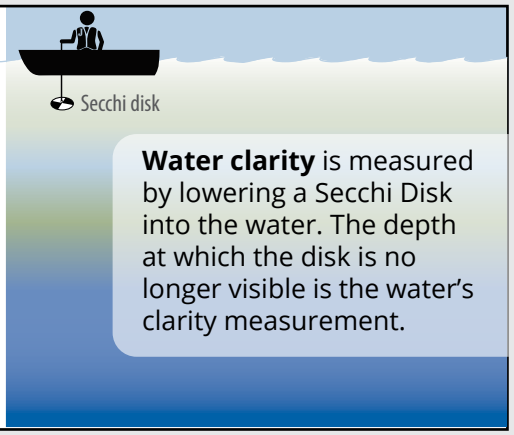




Water Clarity

The lake's water clarity has met the MPCA standard the last seven years in a row.





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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