RILEY PURGATORY BLUFF CREEK WATERSHED DISTRICT

2022 Update

Lake Riley

At 297 acres and average depth of 23 ft, Lake Riley is the largest lake in the Watershed District. It is located on the boundary of Chanhassen and Eden Prairie and is a popular summer recreation spot.

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 Riley is classified as a "Deep 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 1.4 meters (4.6 feet) or greater. See summary below. Additional details are located on the next page.

Total Phosphorus: The lake consistently meets the standard. In 2022, the average total phosphorus level was 0.015 mg/L.

Chlorophyll-a: The lake consistently meets the standard. In 2022, the average chlorophyll-a reading was 4.5 µg/L.

Water clarity: The lake consistently meets the standard for water clarity. Average reading in 2022 was 4.0 meters.

Plants: The lake was treated for Curly-leaf Pondweed (CLP) (16.7 acres) and Eurasian watermilfoil (8.1 acres). A CLP turion (reproductive structure) survey in 2022 showed a slight increase but densities remained low, indicating successful herbicide treatments.

In a June 2022 plant survey, 13 species (11 native) were observed. In August, 12 species (10 native) were observed. Due to management in and around the lake, native plants have steadily increased in frequency of occurrence and have been able to expand into deeper depths because of improved water quality.

Lake & watershed characteristics

Lake size	297 acres
Average lake depth	23 feet
Maximum lake depth	49 feet
MPCA lake classification	Deep lake
Watershed size	1,776 acres
Impervious surface	18% of watershed
Impairment listing	Mercury, nutrients, fish
Common fish	Bluegill, Northern Pike, Yellow Perch, Yellow Bullhead, Black Crappie
Invasive species	Curly-leaf Pondweed, Eurasian Watermilfoil, Zebra Mussels

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 Riley Water Quality by the Numbers

For the last few years, **Lake Riley** has consistently 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 **deep lakes**.

Averages

★ = Standard met

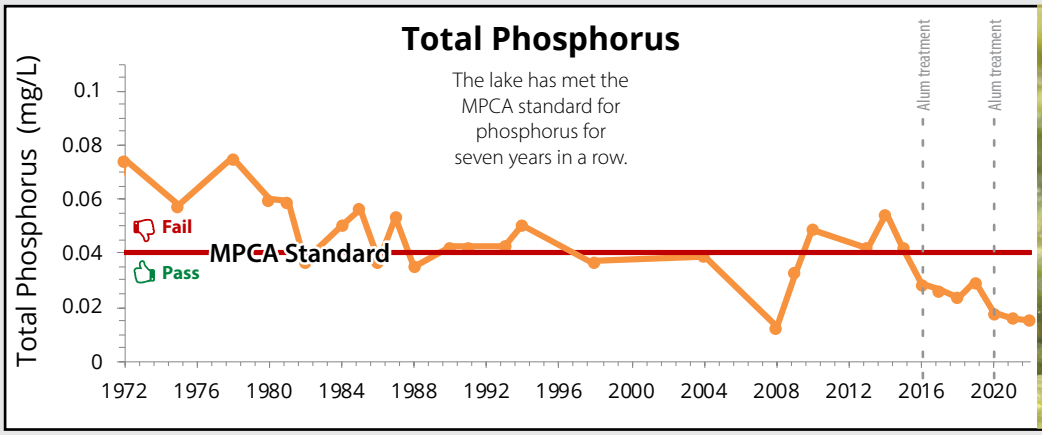
Water Quality Parameter	Historical Average	2022 Average	MPCA Standard: Deep Lakes
Total Phosphorus (mg/L)	0.037 ★	0.015 ★	< 0.040
Chlorophyll-a (µg/L)	21.7	4.5 ★	< 14.0
Water Clarity (meter)	2.1 ★	4.0 ★	≥ 1.4

Native Aquatic Plant Diversity

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

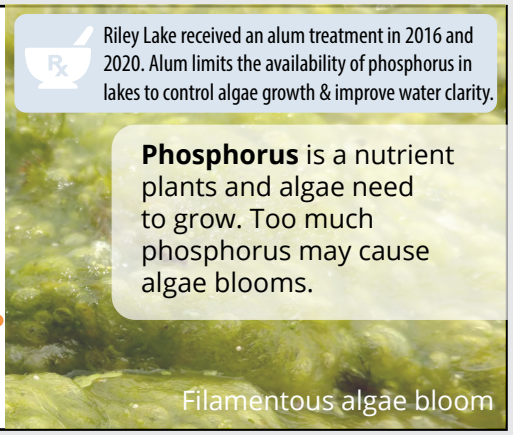
Trends Over Time: 1972-present

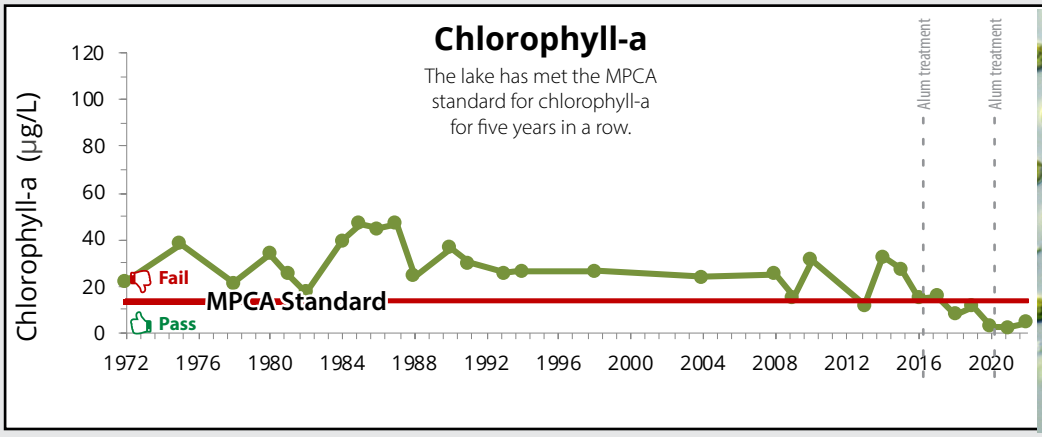
Read the *Water Resources Report* at rpbcwd.org/annualreport



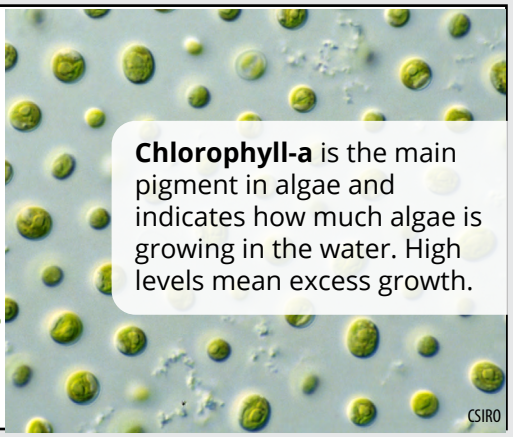
Riley Lake received an alum treatment in 2016 and 2020. Alum limits the availability of phosphorus in lakes to control algae growth & improve water clarity.

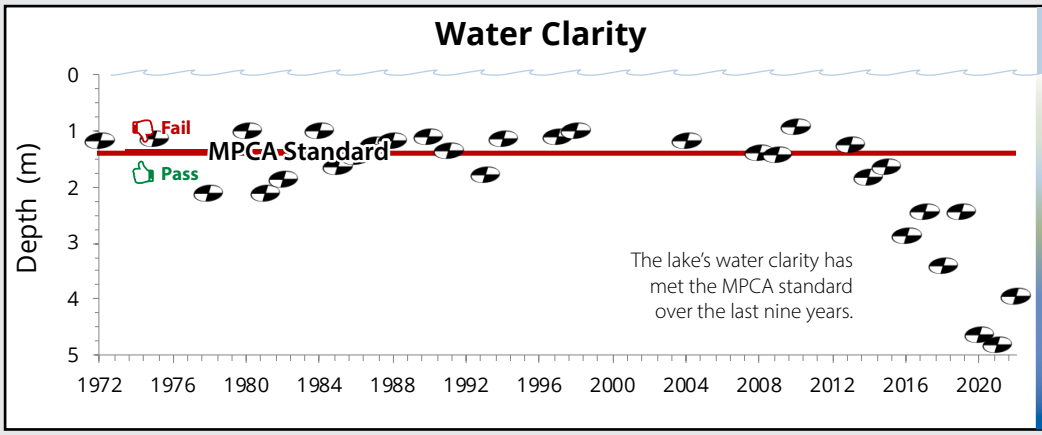
Phosphorus is a nutrient plants and algae need to grow. Too much phosphorus may cause algae blooms.





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 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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