

CATES LAKE: Water Quality Report Card



Quick Facts

Surface Area: 30 acres

Ordinary High Water Level: 930.4'

Average Depth: 3 feet


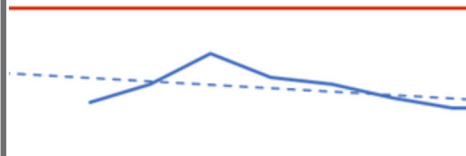


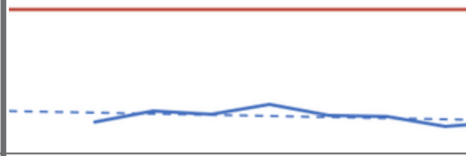


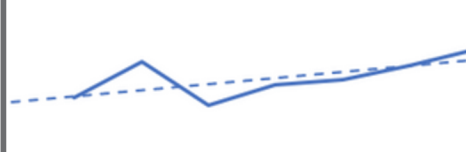

Maximum Depth: 11 feet

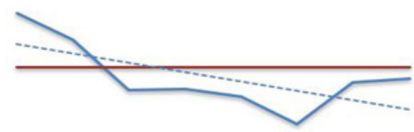
Cates Lake flows to the Credit River watershed, which makes it the only lake within the Prior Lake-Spring Lake Watershed District's political boundary that does not lie within the hydrologic boundaries. All other lakes in the District flow to Prior Lake or the Prior Lake Outlet Channel. Cates Lake is located just south of Highway 13 in the middle of a residential neighborhood, and it is home to a wide range of wildlife including loons and otters!

Water Quality

Of all the lakes in the District, Cates Lake has some of the best water quality with very clear water, little algae, and low phosphorus levels. Although the grade for water clarity is an "A" and is currently considered excellent, the dotted trend line shows decreasing water clarity. The Mann-Kendall statistical test indicates that water clarity in Cates' Lake is significantly changing in a downward trend while chlorophyll-a and phosphorus are improving. Water quality results have historically remained below the state water quality standards for shallow lakes. Diverse and abundant plant life protects water quality and creates great habitat for wildlife. Invasive aquatic plants, such as curly-leaf pondweed and Eurasian water milfoil, are both present in small amounts. Goldfish were discovered in Cates lake in 2020. Impacts of goldfish on the lake are still being monitored.

**statistically significant

Water Quality Indicator	Risk to Water Quality	Grade (2022-2024)	10-Year Water Quality Avg (2015-2024) no data in 2015, 2016	10-Year Trend
 PHOSPHORUS	Phosphorus is needed by plants and animals to survive but can cause algae blooms if there is too much phosphorus available. In some cases, algae can produce a toxin which could cause illness or death in animals if ingested. Some sources of high phosphorus are fertilizer, human and animal waste, and soil erosion.	A		**  Improving
 CHL-A	Chlorophyll-a is a measurement of the amount of algae in a lake. Some algae can produce dangerous toxins, and when it dies and decomposes, it consumes oxygen that would otherwise be used by fish and beneficial organisms. High algal concentrations threaten aquatic life and can impede recreation and enjoyment of the lake.	A		**  Improving
 CLARITY	Water clarity is affected by the abundance of algae or sediment in the water column. It is dependent on many factors including nutrients, temperature, wind, rain, and boat traffic. Low clarity means less sunlight to power photosynthesis in aquatic plants. These plants are beneficial for wildlife and stabilize the lake bed. Low clarity can also negatively impact a lake user's enjoyment and harm aquatic life.	A		**  Declining

Grading Scale					Graph Explanation	
Excellent	Good	Average	Marginal	Poor		
A All or most samples meet the desired threshold.	B Many samples meet or are near the desired threshold.	C Some samples meet or are near desired threshold.	D Many samples do not meet the desired threshold.	F Most samples do not meet the desired threshold.		
					The solid blue line shows the annual change in water quality from 2010-2019. The lower the line, the healthier the lake. The District's goal is for the blue line to be below the red line , which is the water quality standard and the point at which the waterbody is not considered polluted. The blue dotted-line is the trend line. A decreasing trend line shows improvement in the health of the lake over time.	

CATES LAKE: Highlight

Goldfish on Cates Lake

Goldfish have been present in Cates Lake since at least 2017. Unfortunately, it is not uncommon for people to release their unwanted aquarium pets into the wild, as is likely the case for Cates Lake. Goldfish are an invasive species and can decrease water clarity by stirring up sediment when feeding. They can also outcompete native fish and impact vegetation.

Cates Lake continues to have great water quality, as seen on the report card. Water clarity remains great, although it has had a negative trend since 2021. Impacts of the goldfish on Cates Lake are not understood at this time, as the population is not monitored by the District.

What's the deal with Tier 3 lakes?

The lakes within Prior Lake's watershed are categorized into 3 tiers. Cates lake falls within Tier 3, along with Haas Lake, Jeffers Pond, Rice Lake, Crystal Lake, and Swamp Lake. We have insufficient information on Tier 3 lakes to assess if they meet the state's water quality standard and none have public access. However, Tier 3 lakes are valued by the residents who live near them, as they provide beautiful scenery and habitat for wildlife, opportunity for recreation, and even flood reduction. At the District, our goal is to better understand the Tier 3 lakes through monitoring. Many Tier 3 lakes, including Cates Lake, are monitored by volunteers through a program called the Community Assisted Monitoring Program, which is managed by the Metropolitan Council.

