

## Lotus Lake

Located in eastern Chanhassen, Lotus Lake is one of three headwaters of Purgatory Creek. Water flows out of Lotus into the south fork of Purgatory Creek, which eventually meets up with the two other forks of the creek.

From June to September every 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).

Lotus Lake 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:** Since the alum treatment in 2018, the lake has consistently met the MPCA standard (<0.04 mg/L). In 2023, the average level was **0.031 mg/L**.



**Chlorophyll-a:** The lake has never met the MPCA standard (<14 µg/L). In 2023, the average chlorophyll-a reading was **24.6 µg/L**.



**Water clarity:** Since 2013, the lake has consistently met the MPCA standard (>1.4 meters) for water clarity except for one year. The average reading in 2023 was **2.0 meters**.



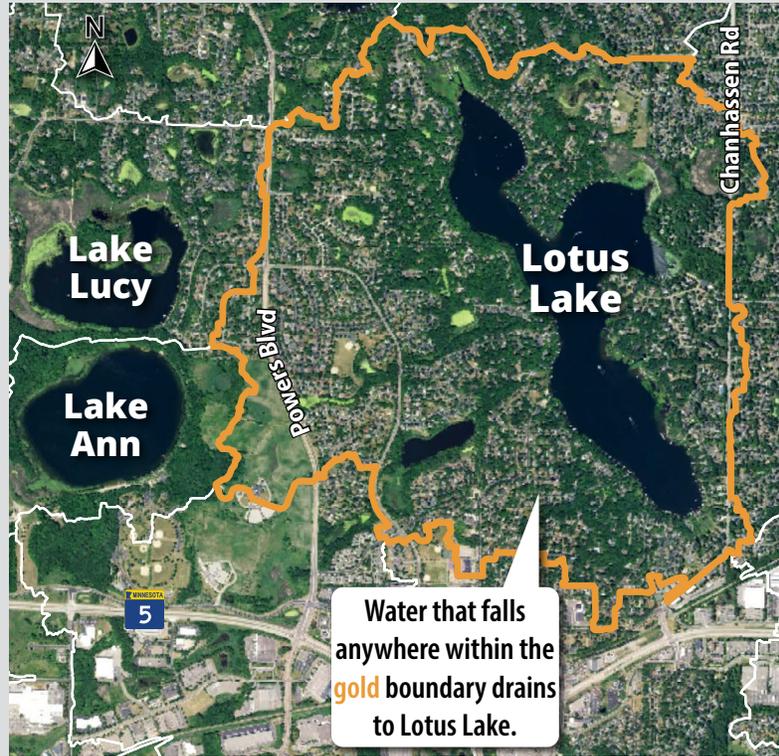
**Plants:** Eurasian Watermilfoil and Curly-leaf Pondweed were targeted with a single Diquat herbicide treatment (22.92 acres) in the spring of 2023.

### Lake & watershed characteristics

Lake size	248 acres
Average lake depth	10.1 feet
Maximum lake depth	31 feet
MPCA lake classification	Deep lake
Watershed size	1,408 acres
Impervious surface	16% of watershed
Impaired Waters listing	Mercury, nutrients, fish
Common fish	Bluegill, Yellow Bullhead, Walleye, Black Crappie
Invasive species	Eurasian Watermilfoil, Common Carp, Curly-leaf Pondweed, Brittle Naiad

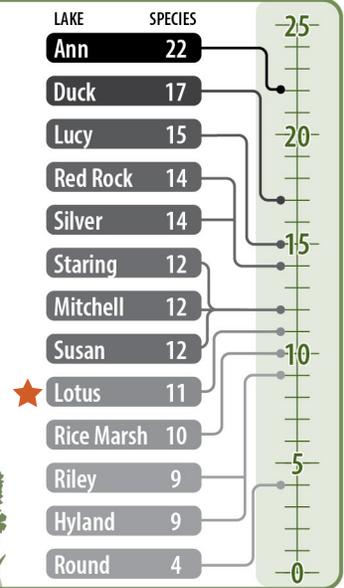


### Watershed Boundary



### Native Aquatic Plant Diversity

How does **Lotus Lake** compare to **other lakes** in the District in **number of native plant species?**



# Lotus Lake Water Quality by the Numbers

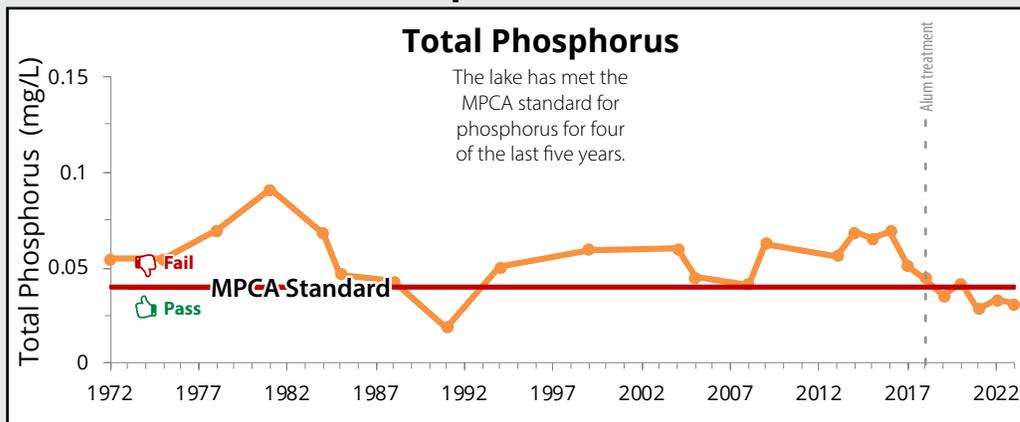
For the last few years, Lotus Lake has consistently met the clean water standards set by the MPCA, except for Chlorophyll-a. The graphs below show water quality trends over time with the red line representing the MPCA standard for deep lakes.

**Water Quality Report Card**

rpbcd.org/grades

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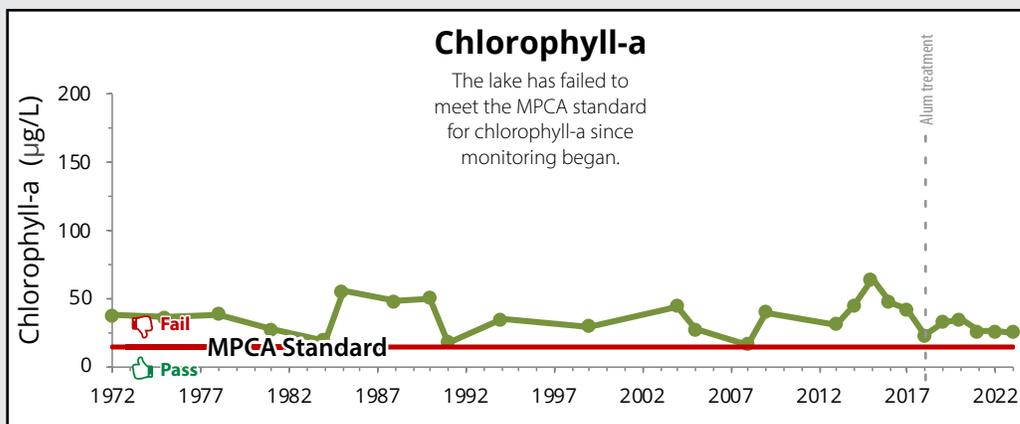
## Trends Over Time: 1972-present



Lotus Lake received an alum treatment in 2018. Alum limits the availability of phosphorus in lakes to control algae growth & improve water clarity.

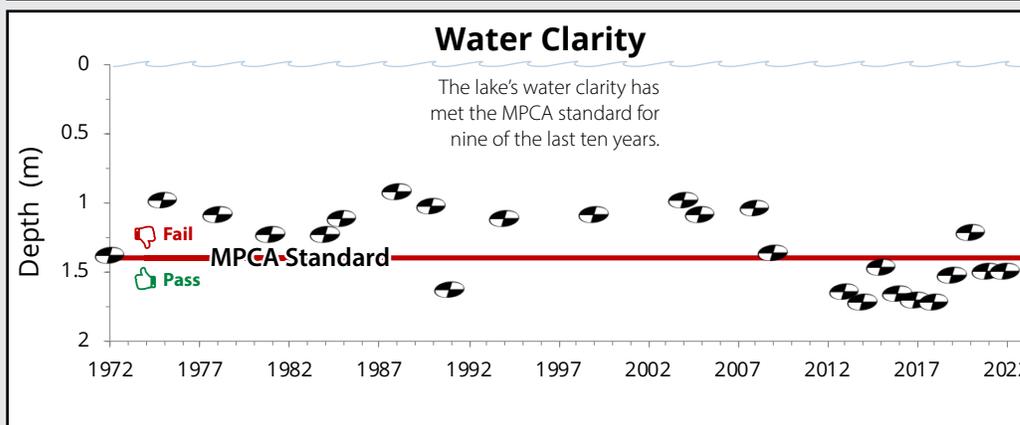
**Phosphorus** is a nutrient plants and algae need to grow. Too much phosphorus may cause algae blooms.

Filamentous algae bloom



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

CSIRO



Secchi disk

**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.

## Chloride: A Growing Concern

Chloride permanently pollutes our lakes, ponds, and streams!



### What can I use instead of winter de-icers?

All affordable & effective residential de-icing products contain chloride, even those labeled as "eco-friendly" or "pet safe."

Focus instead on reducing build up of ice on your property:

- Shovel early & often
- Prevent ice formation, avoid driving or walking on snow
- Pile snow where it won't melt & refreeze on walkways

ONE TEASPOON of SALT POLLUTES 5 GALLONS of WATER FOREVER

Learn more [rpbcd.org/salt](http://rpbcd.org/salt)