

## Mitchell Lake

*Located in Eden Prairie, Mitchell Lake is a part of the Purgatory Creek chain of lakes. During high water events it outflows through an overflow pipe to Red Rock Lake.*

During June through September of each year, City of Eden Prairie 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).

Mitchell Lake 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:** Concentrations have decreased since 1972. In 2022, the lake met the MPCA standard with an average total phosphorus level of 0.057 mg/L.



**Chlorophyll-a:** No significant trend. In 2022, the average reading for chlorophyll-a was 22.3 µg/L, an improvement from 2021 (33.8 µg/L).

**Water clarity:** No significant trend. The lake consistently meets the standard for water clarity. The average reading in 2022 was 1.8 meters.



**Plants:** In early spring 2022, an herbicide treatment was performed on 12.85 acres of the lake to suppress Curly-leaf Pondweed. Coontail was the dominant plant in Mitchell Lake and was found growing at 54% of sites surveyed. The number of species observed at each site ranged from one to six species with the most occurring in the northeast arm of the lake.

### Lake & watershed characteristics

|                          |   |
|--------------------------|---|
| Lake size                | 124 acres   |
| Average lake depth       | 5.3 feet  |
| Maximum lake depth       | 19 feet   |
| MPCA lake classification | Shallow lake  |
| Watershed size           | 937 acres   |
| Impervious surface       | 30% of watershed  |
| Impairment listing       | Mercury   |
| Common fish              | Bluegill, Black Bullhead, Black Crappie, Northern Pike, Pumpkinseed |
| Invasive species         | Curly-leaf Pondweed, Eurasian Watermilfoil, Purple Loosestrife      |



### 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.



# Mitchell Lake 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.

For the last few years, the City of Eden Prairie has collected water quality data for Mitchell Lake.



## Averages

★ = Standard met

| Water Quality Parameter | Historical Average | 2022 Average | MPCA Standard: Shallow Lakes |
|-------------------------|--------------------|--------------|------------------------------|
| Total Phosphorus (mg/L) | 0.073              | 0.057 ★      | < 0.060                      |
| Chlorophyll-a (µg/L)    | 33.6               | 22.3         | < 20                         |
| Water Clarity (meter)   | 1.2 ★              | 1.8 ★        | > 1.0                        |

## Native Aquatic Plant Diversity

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



Lake Ann ranks highest at 25 species.

10 species

Hyland & Round lakes rank lowest at 4 species.

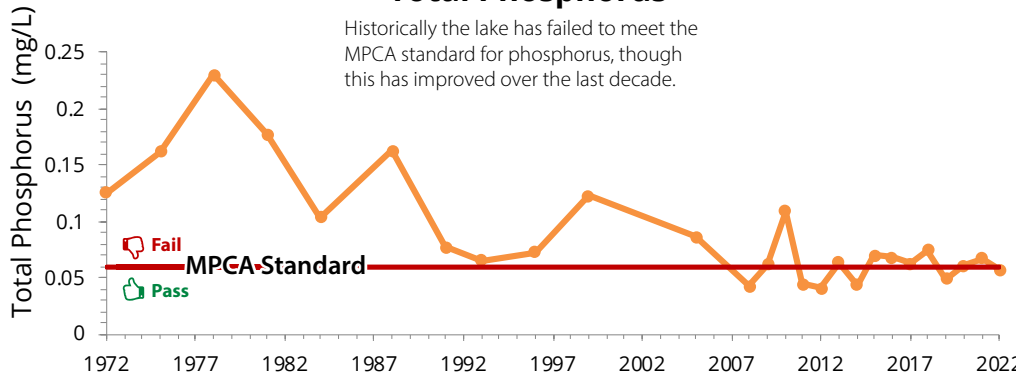


## Trends Over Time: 1972-present

Read the **Water Resources Report** at [rpbcd.org/annualreport](http://rpbcd.org/annualreport)

### Total Phosphorus

Historically the lake has failed to meet the MPCA standard for phosphorus, though this has improved over the last decade.

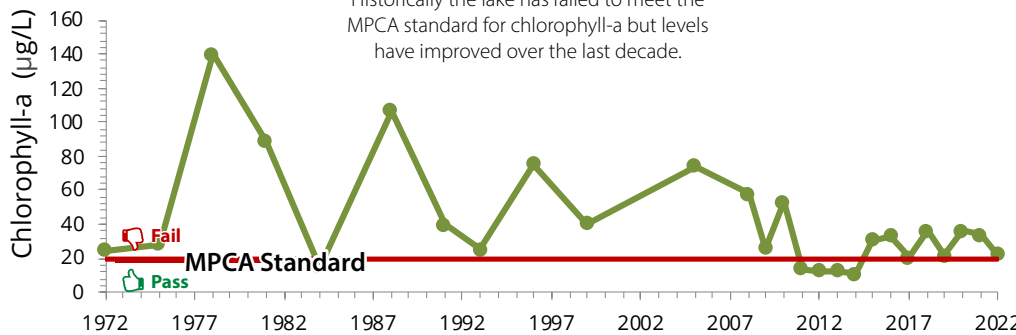


**Phosphorus** is a nutrient plants and algae need to grow. Too much phosphorus may cause algae blooms.

Filamentous algae bloom

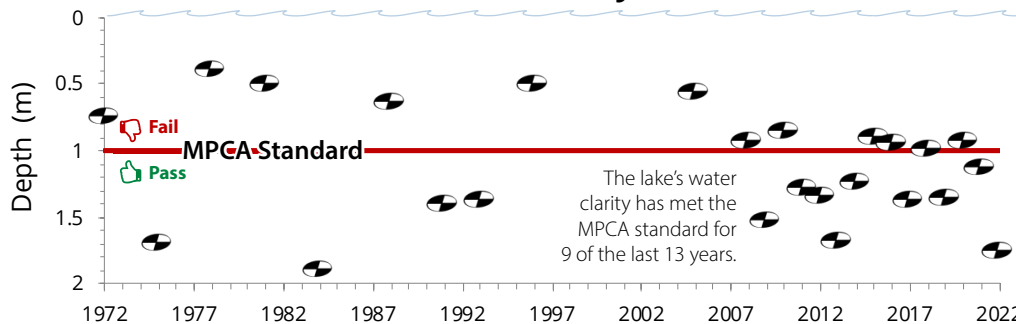
### Chlorophyll-a

Historically the lake has failed to meet the MPCA standard for chlorophyll-a but levels have improved over the last decade.



**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



The lake's water clarity has met the MPCA standard for 9 of the last 13 years.



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.



### Grants for Shoreline Restoration

The watershed district offers up to **75% cost share** assistance for restoring your shoreline! Learn more: [rpbcd.org/grants](http://rpbcd.org/grants)



### Contact us

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