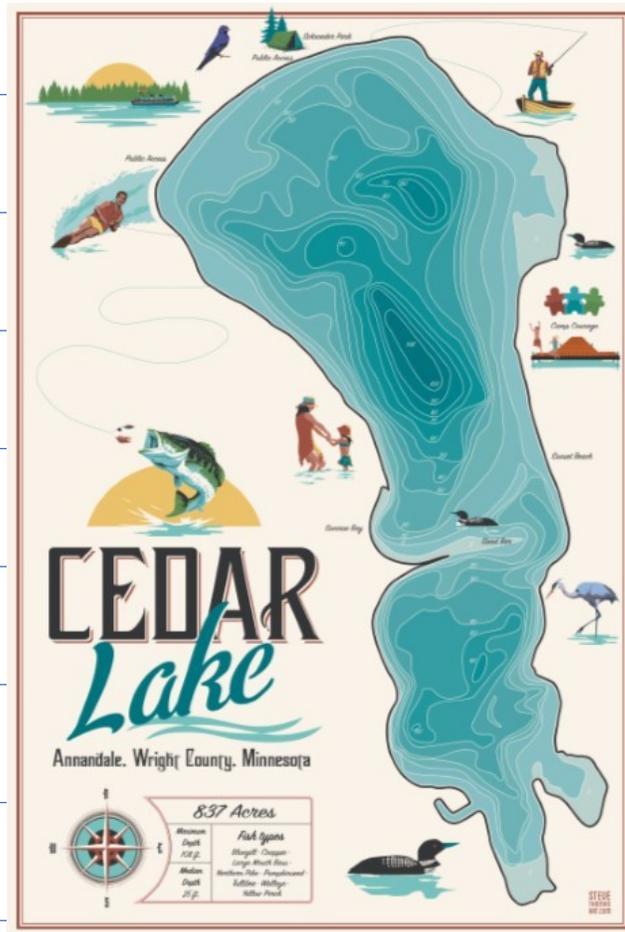


CEDAR LAKE CONSERVATION CLUB (CLCC) WRIGHT COUNTY, MN

WATER QUALITY COMMITTEE 2023 Year in Review



Cedar Lake (Wright County MN) Water 2023 Water Quality Review

Wright County in 2023 experienced an average temperature increase of 3.5 degrees F. The winter was milder. Our heating degree days decreased 13%, but our cooling degree days increased 14.7%. Warmer winters, warmer summers. From April, we were below average precipitation through the remainder of 2023. We experienced 23 air quality alerts in 2023; a normal year is less than three alerts.

Cedar Lake had exceptionally clear water in 2023 but did experience, as did many high-quality lakes, filamentous algae. Algae was in part due to unusual precipitation events. Monitoring of Cedar's water quality has been performed for decades by the Clearwater River Watershed District (CRWD). Samples are regularly taken from our lake during the summer months and analysis is done by a laboratory.

Cedar's 2023 secchi depth (clarity) experienced a setback in summer, but rebounded by September, to high clarity. Clearly, our Clearwater River Watershed District project implemented in 2006 along with enhancements and ongoing maintenance, is delivering results, even with wide variations in climate factors.

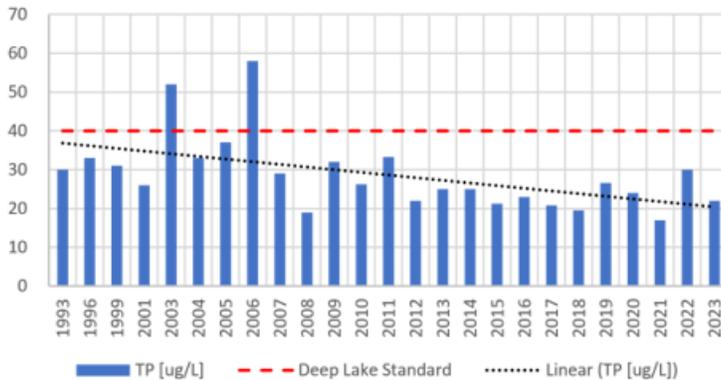
Review of 2023 Water Quality Metrics

- The gold standard for monitoring lake water quality is the phosphorus level. A good lake is considered to have a level less than 40ug/l. The average **2023 phosphorus level in Cedar was 22 ug/l**. This is a nearly 25% decrease from 2022. There was no heavy rain even as in 2023, so numbers are in line with project goals.
- The average secchi depth (**clarity**) **reading was 14 feet**. The dry end of summer and the presence of zebra mussels more than likely contributed to this exceptional clarity
- The **chlorophyll average was 4ug/l** which is representative of limited algae blooms. This is still way below the level of 14, considered a good lake.



Water Quality Historical Metrics

Cedar - Historical TP [ug/L]

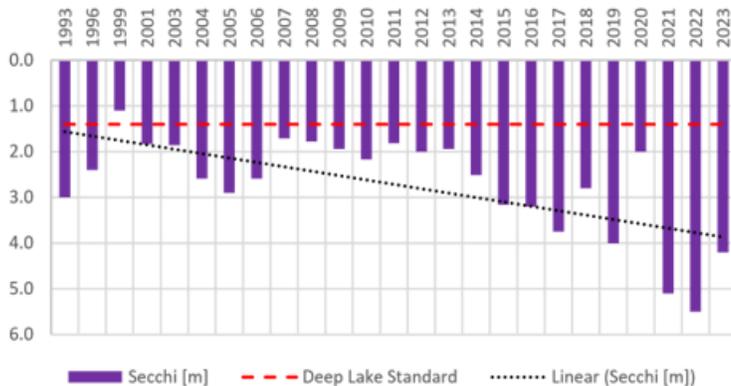


Phosphorus Level

Good Lake Less than 40

The lower the phosphorus level, the cleaner our lake is. The primary phosphorus source for our lake is the south inlet. Clearwater River Watershed projects (fish barrier, buffer management, and retention ponds) reduce the amount of phosphorus into our lake.

Cedar - Historical Secchi [m]

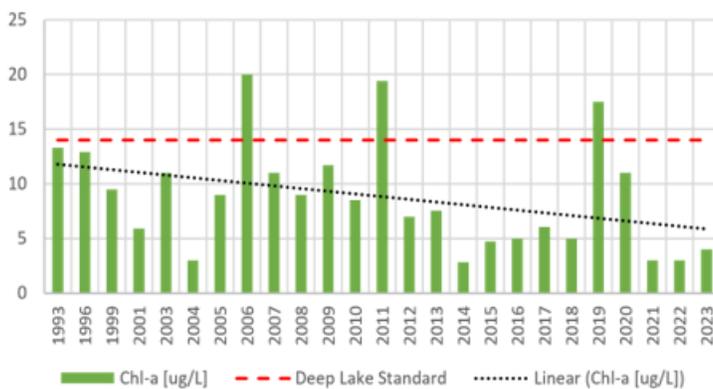


Secchi (Clarity) Depth

Good lake greater than 1.5 meters

A measurement that we all can identify with is the clarity of the water. A secchi disk is a disk with alternating black and white areas that is lowered into the water until it can no longer be seen from the surface.

Cedar - Historical Chl-a [ug/L]



Chlorophyll-a

Good Lake Less than 14

Chlorophyll-a usually goes hand in hand with the phosphorus level—the lower the better. In general, the chlorophyll-a level rises with the presence of algae blooms.

We should take delight that all our stewardship has manifested in a positive trend for improvement in water quality. Each of our individual actions is important, from financial support for projects to mindful enjoyment of beautiful Cedar Lake.



Second Cedar Lake Watercraft Cleaning Station (CD3)

A CD3 station is a solar powered, free to use, self-service, watercraft cleaning station that includes a wet/dry vacuum, blower system, tethered hand tools, and lights. The stations are designed to assist boaters in – as well as educate them about the importance of – reducing the spread of aquatic invasive species (AIS).

The first CD3 station in Wright County was a portable unit placed at Schroeder Park on Cedar Lake in May 2020 in a cooperative effort with Wright County’s Schroeder Park and CLCC. Cedar Lake’s second CD3 station was installed at the County Road 6 DNR landing in the spring of 2023



In all cases, Wright County is the ultimate owner of the stations – with WSWCD and the Parks Department each respectively responsible for unit maintenance.

The new Cedar Lake CD3 was purchased by the CLCC and donated to Wright County. The Schroeder Park CD3 was a cost-share between the CLCC and the Parks Department. CLCC is providing \$1,500 of annual estimated maintenance funding for the Schroeder Park equipment through 2024.

Cedar 2023 CD3 Metrics		
Location	Number of Users	Number of Tool Uses
Cty. Rd. 6	407	773
Schroeder	290	577
TOTAL	697	1,350

For the total of five units (including Cedar) in Wright County for 2023 the metrics are

Users: 1,758
Total Uses: 3,327

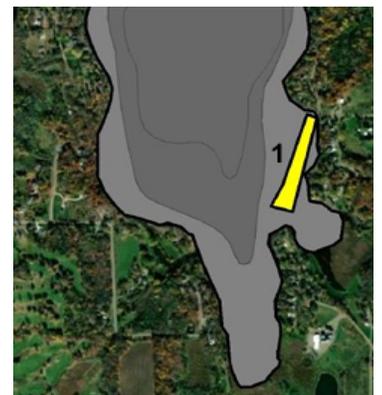


2023 Aquatic Invasive Species Limited Control Required on Cedar Lake

AIS	2023 Financials	
Curly Leaf	Treatment Cost	\$815
Pondweed (CLP)	Pre-treatment survey	1,050
5/31/2023	TOTAL	\$1,865
Expenses reimbursed by DNR grant		
Eurasian Water Milfoil (EWM)	Pre-treatment survey	\$ 1,050
No treatment needed		
Starry Stonewort Search/Zebra Doc	Diver Assisted search	\$ 800
None detected	Zebra documentation	

Recap of AIS 2023 Activities

- The Starry Stonewort search/dive on August 31 **detected no Starry Stonewort**. This is great news, as Clearwater Lake had a detected infestation in late 2023 of a bit over 3 acres.
- CLP of 4.1 acres was treated on May 17. See map to the right
- Eurasian Water Milfoil for a fourth consecutive year had no treatment. The delineation was covered by a WSWCD grant.
- In September a multi-day search was conducted for Spiny Water Flea, none was detected.
- Native vegetation was robust in 2023, with abundant northern water milfoil and buttercup.



2023 Curly Leaf Pondweed



Active Watercraft Inspections on Cedar

As serious lake people know, there is not a magic bullet to prevent aquatic invasive species from entering our lake. Education is the key! **Cedar has consistently purchased extra monitoring hours to supplement the base (standard) county program.** This past summer, we purchased \$29,000 of extra access monitoring. This was like 2022 when we purchased \$27,500. Below is a summary of the 2023 Cedar access monitoring statistics:

- 1,978 inspections.
- 1,538 hours of inspections for a total cost (includes inspections provided by Wright County) of \$35,622.
- The inspections per hour were 1.28, which is the best since inspections started.
- Fishing boats were the most common watercraft inspected.
- 199 entrance inspection violations were detected, which is a 17% increase from 2022. Possible explanations include training/recording variations and more lakes with robust vegetation due to low 2023 water levels in the later summer to having inspections occur at busier times.
- New reporting of “Risky” Inspections
 - 19% (375 inspections) classified as risky-Risky is equipment coming from a lake that has aquatic invasive species not present in Cedar
 - 7% (138 inspections) from SSW lakes

Access Monitoring Funding	Dollars	Hours
Cedar Lake Conservation Club	\$ 29,000	1,237
Wright County Soil and Water Conservation District	\$ 6,622	301
TOTAL	\$ 35,622	1,538

Access Monitoring Hours and Inspections	Hours	Inspections	Inspections/Hour
County Road 6	840	1,024	1.20
Schroeder Park	698	954	1.40
TOTAL	1,538	1,978	1.28

Entering Violations	Drain Plug	Any Species	Zebra Mussel
County Road 6	54 (5.29%)	54 (5.29%)	9 (0.88%)
Schroeder Park	145 (15.19%)	17 (1.81%)	0.00
TOTAL	199 (10%)	1,978	9 (0.4%)

Zebra Mussels on Cedar

Zebra mussels were discovered at multiple locations on the lake in 2018. Given the lake wide infestation, with current chemical treatment strategies, we are not a candidate for treatment.

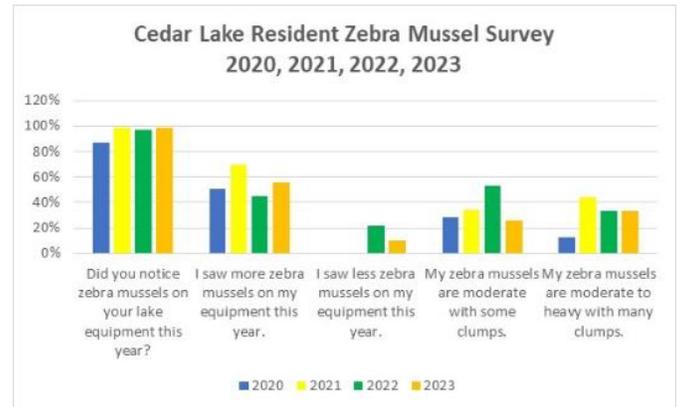
WHAT TO EXPECT

The zebra mussel infestation on Cedar will continue to grow. How fast? Only time will tell.

In the fall of 2023, 99% of the residents completing a survey reported the evidence of zebra mussels on docks and lifts when removed for the season. However, 10% of the residents reported fewer zebra mussels on their equipment, down from 22% last year

Zebra mussels disrupt the ecological food chain and the long-term impact on lakes is difficult to predict. Given Cedar’s lower phosphorus level (food for zebra mussels) the infestation will more than likely take three to five years to fully understand. Thereafter, the infestation may move into an ebb and flow pattern.

We can expect the phosphorus level in our lake to decrease, and water clarity will more than likely increase, because of the zebra mussel disruption of the lake’s food chain. The increasing water clarity can promote vegetation, particularly that of invasive vegetation. Invasive aquatic vegetation seems to take particularly quick advantage of increased water clarity, so our management practices of curly leaf pondweed and eurasian water milfoil must remain vigilant.



STEWARDSHIP PRACTICES AND HOPE

Now that we face this infestation, here are some important stewardship practices we all must do and remain eyes-forward for new science.

- Zebra mussels are attracted to darker, quiet areas; docks, lifts, and sea-legs tend to be favorite spots. **If you sell your equipment, seriously consider doing so only after it has over-wintered. The one sure method for killing zebra mussels is freezing.** If you need to sell equipment in the summer months, it must (by Minnesota law) be out of the water for 21 days before installation in a new lake. Plan to do a high-pressure hot water decontamination at the free service at 1300 Business Blvd, Annandale, MN (April to October).
- If your watercraft is “resident” to Cedar Lake (e.g., in the lake all summer) there is a good chance it will have zebra mussels. Given this knowledge, and the difficulty and time for complete decontamination, **consider not visiting other lakes with your watercraft.**



- New zebra mussel management strategies are emerging from the Minnesota Aquatic Invasive Research Center (www.maisrc.umn.edu). New

studies of “spot” treatment for heavily infested zebra mussel areas are being researched.

Starry Stonewort *High Alert on Cedar*

None yet discovered, but please join the watch



Starry stonewort is a particularly troublesome and aggressive aquatic invasive species. It can quickly form very dense mats, choking out native vegetation, impacting aquatic habitat, and severely limiting recreation. There are four lakes close to Cedar with the infestation: Lake Sylvia, Pleasant, Clearwater, and Lake Koronis. Pleasant, Lake Sylvia, and Clearwater caught their infestations early and have been able to control the growth.

What can we do?

- If you must take your watercraft to a lake with starry stonewort, it is imperative to do a decontamination before going to another lake. **THOROUGHLY** inspect bunk trailers and fishing equipment as it **can be spread by fragments**.
- Learn how to identify starry stonewort. It can look like other native vegetation; the white star bulbil is unique to starry stonewort and a helpful identifier. Here’s a great video: <https://youtu.be/te9iF5OTdtg> .
- **Watch the lake carefully for changes in vegetation.** Report any suspicious vegetation to Dave Glass (glassdavid@gmail.com).

Wright County AIS Prevention Aid

The Minnesota Legislature allocates \$10 million per year directly to Minnesota counties to help fight the spread of aquatic invasive species. Wright County received about \$240,000 in 2023. Wright Soil & Water Conservation District (WSWCD) is charged with leading this local effort. Areas of focus for the AIS Prevention Aid in Wright County included:

- AIS treatment assistance to lake associations.
- Manned inspections at lake accesses.
- Decontamination program.
- Rapid response support for new AIS infestations.

Core Team

- Chair: Dave Glass
- AIS Financials: Glenn Baird
- Long Term Strategy: Greg Duppler
- Youth Engagement: Christa Lane-Larsen
- Member Engagement: Sue Nash
- Advisor: Karl Leslie
- Advisor: Beth Trout
- Advisor: Kathy Jonsrud

Rapid Response Team

- CLCC President: Greg Duppler
- CLCC President Elect: Sue Wolf
- CLCC Representative: Renee Bianchi
- CLCC Representative: Karl Leslie
- Past Chair: Kathy Jonsrud
- CLCC WQC Chair: Dave Glass
- Clearwater River Watershed District:
Dawn Cole

Other Committee Members

- CLCC Board of Directors
- Bill Arendt
- Bill Westhoff
- Dwight and Lori Geisler
- Scott and Chris Nelson
- Gary and Kathy Miron
- Bobby Ebert

Water Quality Committee Responsibilities and Members

The Water Quality Committee (WQC) is a highly active CLCC committee. The committee is responsible for:

- managing aquatic invasive species treatment.
- monitoring water quality.
- engaging with government entities to preserve and improve water quality.
- providing water quality education.

The CLCC WQC is a formal committee of committed volunteers who have regular meetings and manage numerous complex issues including DNR permits, vendor relationships, and grant applications.

To the right is the 2023-2024 WQC, please take a moment to give them your thanks the next time you see them!

