



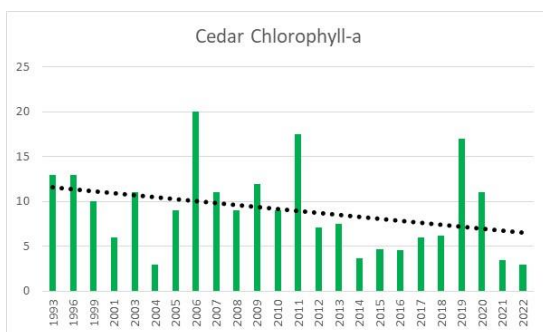
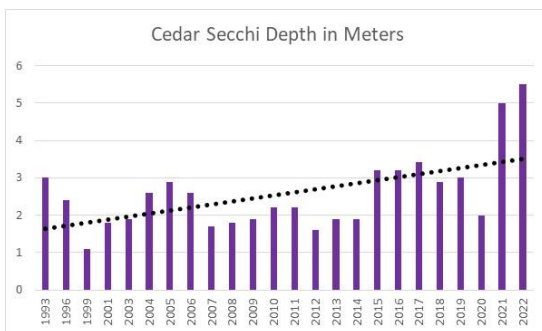
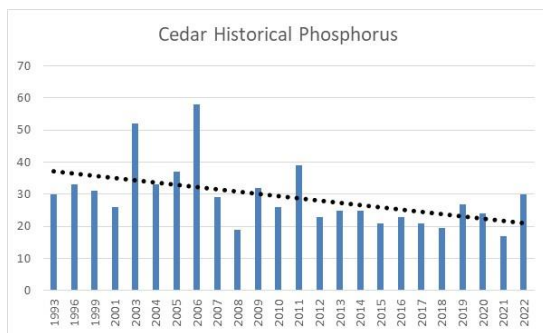
## Cedar Lake, Wright County MN 2022 Water Quality Review

2022 was a year of extremes in Wright County. In early May, almost 4 inches of rain over 2 days was recorded, then a 4 inch 1 day rain event in June, and the rest of the summer was very dry. Cedar Lake had exceptionally clear water in 2022 but did experience—as did many high-quality lakes—filamentous algae due to the unusual precipitation events. Monitoring of Cedar’s water quality has been performed for decades by the Clearwater River Watershed District. Samples are regularly taken from our lake during the summer months and analysis is done by a laboratory.

Cedar’s 2022 average secchi depth (clarity) value was the best since monitoring started in the early 1990’s. Clearly, our Clearwater River Watershed District (CRWD) project implemented in 2006--and with enhancements and ongoing maintenance--is delivering results, even with wide variations in climate factors.

Here is a summary of our 2022 values:

- 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 2022 phosphorus level in Cedar was 30ug/l.** The unusual rain event in May contributed to higher than normal phosphorus readings in May and June, with the rest of the summer readings in line with project expectations.
- The average secchi depth (clarity) reading was **5.5 meters (16.7 feet). The dry end of summer and the presence of zebra mussels more than likely contributed to this exceptional clarity—the best since monitoring started in the early 1990’s.**
- The chlorophyll average was 3ug/l, again, the lowest value since monitoring started, representative of limited algae blooms.



### 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.

### 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.

### 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.***

## Watercraft Cleaning Station (CD3) / Great Uptake

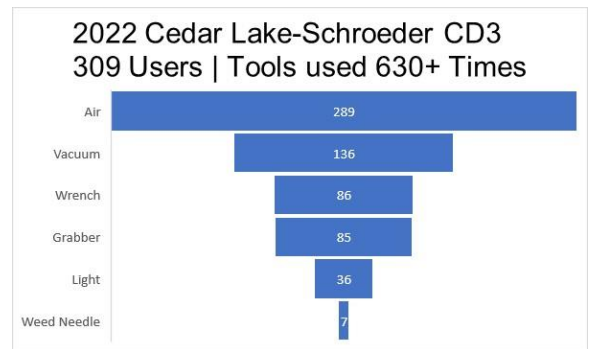
In a cooperative effort with Wright County Parks, a watercraft cleaning station is available at Schroeder Park. Schroeder Park is a premier campground and day-use park on the north shore of Cedar Lake. CLCC and Wright County Parks and Recreation shared the initial purchase cost 50/50—each contributing about \$16,000. CLCC will also be providing 5 years of annual maintenance funding estimated at \$1,500 per year. The station was installed spring of 2020 at Schroeder Park.

The cleaning station is called CD3 (stands for clean, drain, dry, dispose) and is **free to use**. The station is designed to be a self-serve, easy-to-use system that reduces the spread of aquatic invasive species. The lighted station at Schroeder is solar powered and the tools available for watercraft cleaning include: wet/dry vacuum, air blower, brush, grabber, and wrench. The station is “smart” and includes telemetry to provide detailed reporting about the use of the station.

**Usage of the unit continued to be strong in 2022, and from May to October, 309 boaters** used the station. The tools at the station were used over 630 times this year. The most popular tool was the air blower.

This station is a first in Wright County. CLCC continues collaboration with Wright County staff to maximize use and leverage the data.

CLCC worked with Wright Soil and Water Conservation District, the MN DNR, and other government agencies to install another CD3 unit at the CTY RD 6 access (west side). Installation is planned for spring of 2023.

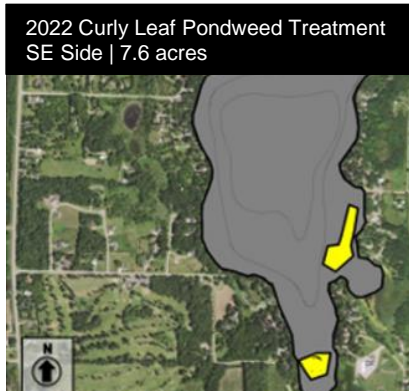


## 2022 Aquatic Invasive Species Control / Limited Treatment Required on Cedar Lake

The Water Quality Committee is delighted to report that limited aquatic invasive species (AIS) control was required on Cedar in 2022.

The only AIS requiring treatment was curly leaf pondweed (CLP), with 7.6 acres treated in May. The treatment expense was paid for by grants from the DNR.

We anticipated there would be limited Eurasian water milfoil (EWM) to treat this year. Our vendors reported that there were no patches of EWM requiring treatment. To provide perspective, in 2014 and 2015, over 35 acres needed treatment, at a cost of over \$20,000 each year. Our aggressive strategy to monitor and control EWM has truly paid off!



Also, genetic analysis was completed of vegetation on the north/north-west side. The analysis confirmed the vegetation was native northern water milfoil (good weed).

The Committee will continue to work with the DNR and a variety of other lake management experts to develop thoughtful, comprehensive, and cost effective AIS management strategy.

AIS	2022 Financials	
<b>Curly Leaf Pondweed (CLP)</b> May 23, 2022 7.6 acres	Treatment cost	\$1,339
	Pre-treatment survey	\$950
	<b>TOTAL</b>	<b>2,289</b>
	<b>Expenses reimbursed by DNR grant</b>	
<b>Eurasian Water Milfoil (EWM)</b>  No treatment needed	Pre-treatment survey	\$950
	DNA Analysis of north Side	\$750
	<b>TOTAL</b>	<b>\$1,700</b>
	<b>Expenses reimbursed by DNR Grant</b>	
<b>Starry Stonewort Search</b>  None detected	Diver assisted search	\$800
	<b>CRWD Cedar AIS Project Expense</b>	<b>\$800</b>

\*DNR Grant | \$6,000 available for 2022-23

## No Starry Stonewort Found on Cedar



Starry stonewort is one of the newest aquatic invaders and is particularly problematic with thick matting and exceptionally invasive characteristics. As part of our on-going Cedar monitoring, a formal search was conducted with Blue Water Science in September of 2022. No starry stonewort was found on Cedar.



### MN Lakes with Starry Stonewort As of December 2022

Beltrami	Beltrami
Bemidji (includes Stump)	Beltrami
Bowen	Cass
Carnelian	Stearns
Cass	Beltrami
Grand	Stearns
Koronis (includes Mud)	Stearns
Leech	Cass
Medicine	Hennepin
Minnewaska	Pope
Mississippi River between Wolf Lake (04-0079) and Andrusia Lake (04-0038)	Beltrami
Moose	Beltrami
Pimusha	Beltrami
Pleasant	Wright
Rice	Stearns
Thunder	Cass
Turtle (Big Turtle)	Beltrami
Turtle River Lake	Beltrami
Upper Red	Beltrami
West Sylvia	Wright
Winnibigoshish	Multiple (Cass and Itasca)
Wolf (Big Wolf)	Beltrami

## Manned AIS 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 \$27,500 of extra access monitoring. This was similar to 2021 when we purchased \$26,200.

Below is a summary of the 2022 Cedar access monitoring statistics:

- 1,784 inspections.
- 1,782 hours of inspections for a total cost (includes inspections provided by Wright County) of \$32,600.
- Inspections per hour were 1.00.
- Fishing boats were the most common watercraft inspected.
- 170 entrance inspection violations were detected, which is a 16% increase from 2021. Possible explanations include training/recording variations and more lakes with robust vegetation due to low 2022 water levels in the later summer.

### 2022 Access Monitoring Review

Access Monitoring Funding	Dollars	Hours*
Cedar Lake Conservation Club	\$26,703	1,166
Wright Soil and Water Conservation District	\$12,979	616
<b>TOTAL</b>	<b>\$39,682</b>	<b>1,781</b>

\*Billed rate of \$22/hour plus prorated admin fee

Access Monitoring Hours & Inspections	Hours	Inspections	Inspections/Hour
Cty Rd 6	1091	1014	0.9
Schroeder	691	729	1.1
<b>TOTAL</b>	<b>1,782</b>	<b>1,784</b>	<b>1.00</b>

Entering Violations	Drain Plug	Any Species	Zebra Mussel
Cty Rd 6	22 (3.7%)	54 (8.8%)	2 (0.3%)
Schroeder	47 (10.4%)	45 (10.2%)	0
<b>TOTAL</b>	<b>69</b> <b>6.6% (of entering inspections)</b>	<b>99</b> <b>9.4% (of entering inspections)</b>	<b>2</b> <b>0.2% (of entering inspections)</b>



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## Zebra Mussels on Cedar

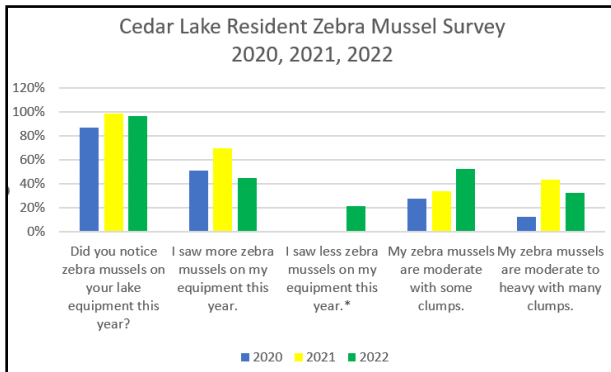
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Zebra mussels were discovered at multiple locations on the lake in 2018. Given the lake wide infestation, with current chemical treatment strategies, we are not a candidate for treatment.

### WHAT TO EXPECT

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

In the fall of 2022, 99% of the residents completing a survey reported the evidence of zebra mussels on docks and lifts when removed for the season. However, 22% of the residents reported fewer zebra mussels on their equipment.



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](http://www.maisrc.umn.edu)). New studies of "spot" treatment for heavily infested zebra mussel areas are being researched.

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## Wright County AIS Prevention Aid

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The Minnesota Legislature allocates \$10 million per year directly to Minnesota counties to help fight the spread of aquatic invasive species. Wright County received \$230,000 in 2022. 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.

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## *Water Quality Committee Responsibilities and Members*

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The Water Quality Committee (WQC) is a very 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 20+ committed volunteers who have regular meetings and manage numerous complex issues—including DNR permits, vendor relationships, and grant applications.

To the right is the 2022-2023 WQC—please take a moment to give them your thanks the next time you see them!

### **Core Team**

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

### **Rapid Response Team**

- CLCC President: David Glass
- CLCC President Elect: Greg Duppler
- CLCC Representative: Renee Bianchi
- CLCC Representative: Karl Leslie
- CLCC WQC Chair: Kathy Jonsrud
- CLCC WQC AIS Operations: TBD
- 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
- Karen Lohn
- Orv Jonsrud
- Sue Wolf
- Gary and Kathy Miron
- Larry Christen
- Bobby Ebert