Circle Lake Improvement District
2022 Annual Report
August 2022-August 2022

Paying Off The Debt Associated With Creating The Lid

The LID owed Bruce Sellers, the attorney representing us during the LID formation, $13,461.75. Bruce was willing to delay payment for his work to keep us from being buried in start-up costs during our first few years. We paid that bill in February of 2022 and are now debt free.

2022 Projects

2022 Invasive Weed Harvest

Shoreline

This year we had 54 property owners sign up for shoreline weed cutting, which included 16 new homeowners.

Total shoreline harvested: 2,789 feet of aquatic vegetation.

This year's cost was $7.00 per foot plus a $35.00 permit fee per homeowner and was paid for by the property owner requesting the service.

Offshore

- DNR approved 42 acres of mechanical harvesting and 18 acres of herbicide treatment. (See attached maps for the areas we harvested or treated)

- The cost of herbicide treatment was $697.00 per acre. We were restricted from using a less expensive herbicide because fisheries stocked walleye fry in the lake. Lake Management applied the herbicide on 5/18/2022 for curly-leaf pondweed, and it received a stellar response from homeowners along Culver Trail.

- J&N Weed Harvesting completed the mechanical harvesting on 6/9/2022.

Grants for AIS (AIS Aquatic Invasive Species)

- The CLID received a cost-share grant of $5,000 for (AIS) from Rice County Environmental Services.
- The DNR also granted us $20,000 to be used over two years to assist with AIS management projects in 2022 and 2023. We spent approximately $12,000 of that in 2022.
- The Circle Lake Association (CLA) donated $12,500, which included $500 from Tri-Lakes Sportsmen Club. $12K was specifically for the herbicide treatment.
- The LID put $10,000 of its own money into this project.

Carl Bahnsen, one of the LID Board members, was the lead on this project, and we would like to recognize him for his excellent work.

Point Intercept Survey

The DNR did a point intercept survey of the lake in late July. They were primarily interested in the location and concentration of native weeds. The final report won't be out until later in the year. (SeeAttachmentCircleLakeDNR2022pointinterceptDNR)

Dean and Bill took the AIS online course offered by the University of Minnesota.

2021 Lake monitoring/data collection/survey plan report.

CLID's GOALS and OBJECTIVES

Improve the water quality to the point that Circle Lake is removed from the MPCA's Impaired waters list.

To achieve this goal, the lake will need to have

- a TP Total Phosphorus load of < 60 micrograms/liter
- a Chlorophyll (a) <20 micrograms/liter
- a year-round Secchi disk reading of > 1 meter

To that end we contracted with Minnesota State Mankato to develop and implement a lake monitoring/data collection/survey plan to update past lake data so we would have a better idea of what out current status is. The study ran from April to October 2021.

Here are some of the conclusions from that study. (The full report is attached)

<u>Conclusions and Management Implications</u>

Based on the observations presented in our report, the following conclusions should be considered in future efforts to manage the water quality of Circle Lake.

- Circle Lake exhibits a significant internal P load that accounted for over 90% of the observed P accumulation in the lake in 2021. Numerous methods may be utilized to manage it, but a chemical treatment coupled with external load management may be most effective. Internal load management strategies are discussed in detail by Anderson et al. (2020).
- Curly-leaf pondweed is both a major nuisance and a likely contributor to the poor water quality observed in late summer. Consistent mechanical harvesting may

help reduce its extent (Dakota County, n.d.), but control measures need to be balanced against potential negative impacts of weed removal (Heiskary and Valley, 2012; Enger and Bartusek, 2015). A trend toward warmer winters may continue to favor the growth of curly-leaf pondweed (Heiskary and Valley, 2012). DNR experts should be consulted regarding long-term strategies for invasive weed control and native plant restoration.

- County Ditch 32 may account for as much as 70% of the external P load to Circle Lake. Watershed-scale approaches to managing this load should be developed in collaboration with other state and local organizations (e.g. Rice County SWCD, Clean River Partners, Minnesota Pollution Control Agency), and environmental engineers with experience in enhancing water storage and reducing nutrient loading in agricultural watersheds. A long-term strategy should be developed as legacy P in soils can pose an issue despite improvements in agricultural practices (Heiskary and Martin, 2015).
- While the water quality of the Wolf Creek inlet is consistently better than County Ditch 32, it likely represents one of the primary unmitigated suspended sediment sources to Circle Lake. Sediment and nutrient management of this inlet should be approached collaboratively with Fox Lake residents. Further nutrient reductions may be achieved through coordinated efforts to manage internal P loads of Fox and Mazaska lakes.
- The Wolf Creek outlet is capable of exporting significant masses of P from Circle Lake at rates that may exceed P inputs from the watershed. Re-engineering the lake outlet dam to provide more flexibility in controlling water levels may provide CLID with additional options in terms of managing both the internal and external nutrient loads in the lake (e.g. Anderson et al., 2020).
- Future monitoring efforts should focus on developing rating curves for the inlets and outlet streams. Installation of an automated monitoring system in the lake itself should also be considered. The most important variables to monitor in future efforts are TP, Chl-a, Secchi depth, DO, and pH. The preliminary P budget estimates included in this report may be improved through review by independent experts and collection of additional monitoring data.

We are fortunate to have Chad Wittkop, a Professor at Minnesota State Mankato and a CLID member working on this. Chad donated his time to put the projects together and see to their execution. Thank you, Chad. Jeff Jirik and Keith Kluzak (Keith is no longer on the Board) are the two CLID Board members working with Chad on these projects. Thank you, Jeff and Keith.

2022 Lake monitoring/data collection/survey

The CLID again contracted with Minnesota State Mankato to develop and implement a monitoring/data collection/survey plan for the lake from June to October 2022. The data collection review will be completed by the end of this year.

Update To Our Lake Management Plan

We contracted with ISG to update our lake management plan and run internal lake loading modeling. ISG will present its report in November 2022.

Buoys Were Placed In The Lake To Identify Hazards

The District has placed five buoys in the lake identifying hazards to navigation. (Rocks close to the surface and very shallow water). We want to thank the Rice County Sherriff's office for handling the permitting, placement in the spring, and removal in the fall of all our buoys. (See attached map for buoy locations.)

Grants We Applied For But Weren't Awarded

Clean Water Act Section 319 Grant funding.

We submitted a proposal and were selected not only for the 1st interview but also for the 2nd interview. This is a great accomplishment. Many thanks to Bill Houston, Dean Sunderlin, and Chad Wittkop for their work and for getting us this far! This grant could have been funding for 16 years over 4 four year cycles. Unfortunately, we were not selected. Out of the 11 entities under consideration, the selection committee chose 4 Soil and Water Districts (SWCDs) and 2 Watershed Districts (WD). We made a good showing and were invited to apply again when and if the program opens up again.

We also submitted an application to the Regional Sustainable Development Partnership. Unfortunately, we were not chosen for this grant either, but we made some great connections at the University of Minnesota, and it got us some more visibility.

Results of the items voted on by the membership at the 2022 Annual Meeting

1. 2023 Budget (Approved)
2. Invasive Weed Control (cost > $5000) (Approved)
3. Core Sampling (cost > $5000) (Approved)
4. Lake Monitoring (cost > $5000) (Approved)
5. Watershed Project (cost > $5000) (Approved)
6. Elected 2 of 3 available seats for District Members to the Board of Directors
    1. Carl Bahnsen
    2. Dean Sunderlin
    3. Open

Approved Budget for 2023

Estimated Income

Source		
Estimated Carry over from 2022		$ 20,000
Membership Special Assessment	$300/parcel assessed	$ 50,000
Grant	DNR (Weeds)	$ 8,000
Grant	Rice County (Weeds)	$ 5,000
Grant	Other	$ 10,000
Sub Total		$ 93,000

Estimated Expenses

Sources		
Administrative Expenses	Printing, Postage, Website,office items	$ 3,000
Contract Services	Consultants	$ 3,000
	Rice County Admin Fee	$ 510
	Liability Insurance	$ 1,600
Sub Total		$ 8,110
Projects	Weed Harvest - Mechanical	$15,000
	Weed Control - Herbicide	$30,000
	Core Sampling	$15,000
	Lake Monitoring	$10,000
	Ad hoc watershed project	$10,000
Sub Total		$80,000
Total Expenses		$88,110
Working Capital/Cash Reserves		$ 4,890

Looking Ahead - Possible projects over the next 5 years

Items on our five-year plan will/might include:

- Invasive Weeds control
- Reducing the nutrient load entering the lake
- Reducing the nutrient load in the lake
- Lowering the sediment load entering the lake
- Controlling the level of the lake
- Carp population control
- Core Sampling
- Native Plant Restoration
- Dredging the lake

A lot of this will depend on where the data points us. The update to our lake management plan will guide us as well. We will also need cooperative landowners, and the process will be greatly accelerated if we can obtain additional funding/grants.

We will continue developing relationships with the various organizations and government agencies that work in this area and provide grants for lake improvement/water quality work.

The six-member CLID Board is a hard-working, dedicated group of individuals who volunteer their time and energy to work on CLID issues. Their talents are wide-ranging. I am incredibly grateful for all they do.

We appreciate your support. Members, please let us know if you have some free time and want to get involved.

Sincerely,
Dean Sunderlin
Circle Lake Improvement District - Chair

The CLID Board of Directors:

Dean Sunderlin Chair	Term Ends in 2025
William Houston Vice Chair	Term Ends in 2024
Denise Klokow Secretary	Term Ends in 2024
Cheryl Bahnsen Treasurer	Term Ends in 2023
Carl Bahnsen	Term Ends in 2025
Jeff Jirik	Term ends in 2024
Open	Term Ends in 2025

Brian Panettiere left the Board after the August 2022 annual meeting.