

# CIRCLE LAKE ADVOCATE



## A NOTE FROM THE CLID BOARD:

At the 08/11/25 CLID annual meeting, those CLID parcel holders present and voting approved an increase in the Lake Improvement District tax levy. As your neighbors, we understand that tax increases are a sensitive and impactful subject. We appreciate the candid, respectful debate at the meeting. Your Board remains committed to transparency and stakeholder engagement at every stage of our evolving, transformational lake management plan.

## >>> CIRCLE LAKE AERATION PILOT PROJECT - WINTER OPERATION



Signage at the public landing.

THIN ICE signs, for around winter aeration sites, made by volunteers in Carl Bahnsen's workshop.



**Continuing Objective:** To develop, test, and implement a designed aeration system to raise dissolved oxygen (DO) levels sufficient to maintain a healthy game fish environment year-round.

The surface aerator from the Benjamin Bay pilot (minus the bottom bubblers) was reinstalled through the ice by CLID board members and volunteers in December 2025. This creates a limited area of increased dissolved oxygen DO that helps fish species maintain health over the winter season.

Tools for installing the THIN ICE signs; purchased (left) and made by Carl (right).

Cut aerator hole with lines to anchors dropped through surrounding holes. With the floating aerator churning water, ice will dissolve and the anchor lines will drop and tighten.



Ice hole established for the winter aerator in Benjamin Bay, with volunteers measuring out anchor lines.



## >>> WHY DO LAKES HAVE SHORT LIFESPANS? (IN GEOLOGIC TIME)

Small lakes (>1,000 acres; Circle Lake is 838 acres) have short lifespans – typically hundreds to several thousands of years – due to natural processes. Anthropogenic<sup>1</sup> influences, however, can degrade lake quality in just decades. Some watershed and geological processes that change the ecological conditions and life stage of a lake include:

- **Sedimentation** - Rivers and streams constantly supply sediment (soil, sand, organic matter) to lakes. Over time this accumulates and infills lakes, causing an evolution from standing water to marsh/wetland conditions, and eventually dry land.
- **Biological Activity** - Changes in lake conditions affect the health of aquatic plants and animals. When lake conditions are not balanced, the death of biological communities contributes to increased accumulation of organic material. This can imbalance water chemistry and sediment distribution, which can accelerate the other processes that “kill” a lake.
- **Drainage Changes** - Inland rivers and streams are constantly reconfigured due to erosion and deposition. Total flow into and drainage out of lakes influences how lake surface area and depth change over time.
- **Natural Hazards** - Whole drainage systems can be diverted and/or abandoned by: Unusual seasonal events; flooding; landslides; sediment deposition, slumping, and scouring; tree falls; and other surprise influences...like beaver activity.
- **Glacial Influence** - Glacial scouring created many of the lake basins and drainage patterns we see today. While the interior of the U.S. Continent may seem inactive, there is modern uplift in the northern Midwest due to isostatic rebound following the Last Glacial Period (or Wisconsin Glaciation) 115,000-11,700 years ago<sup>2</sup>. This ongoing process will continue to modify regional drainage patterns into the future.
- **Anthropogenic Changes** - Too many to list, but some that can rapidly degrade the health of small to medium lakes: Nutrient pollution (fertilizers, urban runoff, airborne pollution); introduction of toxins (petroleum products, heavy metals, industrial agents); increased sediment input (tilled fields, construction sites, directed stormwaters, mining by-products, bypass over urban surfaces); water temperature (discharge from factories and wastewater processing); air temperature (urban heat islands); landscape modification (dock dredging, engineered shorelines; loss of native habitats to lawns and hardscapes, changes in slope gradient and stability, ornamental/invasive plants).

<sup>1</sup>If people cause something to happen in nature, the cause is said to be **anthropogenic**. “Anthro” comes from the Greek word for human or person.

<sup>2</sup>The weight of massive glaciers (up to 13,000 feet thick) depressed the Earth’s crust by up to 1,000 feet. The slow rising of land as the glacier melts and weight is removed is called **isostatic rebound**.

A 1-mile x 1-mile x 13,000-foot high column of glacial ice weighs about **10 billion tons**.

“Landscapes are the result of the contest between uplift and erosion.” ~Grove Karl Gilbert (1890)

The Lake is a microcosm.” ~Evelyn Hutchinson, the *father of modern limnology* (study of lakes)

“The condition of water reflects the condition of the land.” ~Ruth Patrick, on the principle that water quality is an indicator of ecosystem health

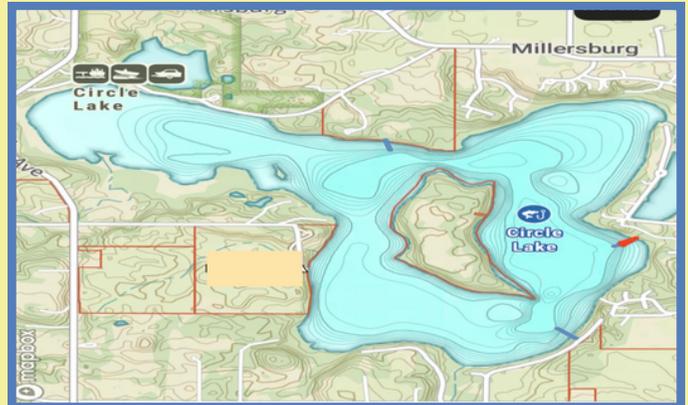


*THANK YOU to Noah & Grace Johnson for being CLID Special Community Ambassadors at the December 2025 meeting and social.*

## >>> CIRCLE LAKE AERATION PILOT PROJECT - SUMMER 2026

**Continuing Objective:** To develop, test, and implement a designed aeration system to raise dissolved oxygen (DO) levels sufficient to maintain a healthy game fish environment year-round.

In spring 2026 three surface aerators, each surrounded by three bottom small bubble aerators, will be placed strategically around the lake (map to right; red tick is the 2025 location, blue ticks indicate two additional locations). Each array will have data collection sensors.

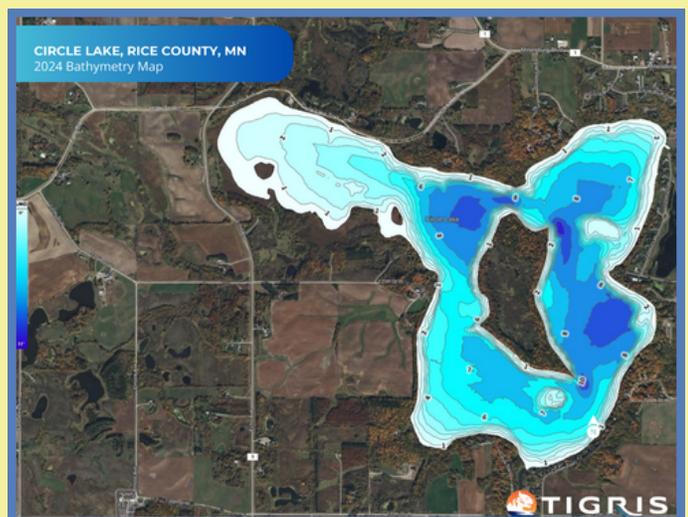


These locations take advantage of the drainage flow from the inlet at the southwest corner to the outlet at the northeast corner. Oxygen plume patterns will provide information on the placement of any future units.

## >>> NEW DATA - CIRCLE LAKE BATHYMETRY

Decisions on acquiring new, relevant data have to be based on what furthers the current lake management plan. It is an exercise in research, cost effectiveness, and opportunity. In the CLID Board's discussions with service providers, there are many pitches to spend money for various styles and amounts of data acquisition.

To the right is a map of the recently acquired bathymetric data for Circle Lake. While this is a shallow lake with no significant holes, this layer of information will have great value in overlaying on other datasets such as temperature, DO, bottom sediment composition, flow patterns, and different plant clusters. Of course, the fishing and boating populations will benefit from this view also.



»» YOUR BOARD



Dean Sunderlin, Chair  
 Bill Houston, Vice Chair\*  
 Cheryl Bahnsen, Treasurer  
 Denise Klokow, Secretary  
 Carl Bahnsen  
 Jeff Jirik  
 Stefanie Johnson  
 Ryan Nugent^  
 Dawn Cherwinka^

^Welcome to our new board members!

»» TRIVIA

What is the predominant cause of elevated mercury in southern MN lakes?

- A. flooding moving urban pollution
- B. accompanies nutrient pollution
- C. bacterial processes in wetlands
- D. atmospheric deposition

»» TRIVIA ANSWER

Which species of fish is most tolerant of low dissolved oxygen (DO)?

B. Bullhead

Bullhead and carp are quite tolerant of low DO. Northern pike can survive seasonal low oxygen.

At the January Rice County Board Commissioners Meeting, the CLID Board's proposal to increase their board from seven to nine members was approved. The CLID Board expresses their gratitude for the continued support of the Rice County government.



»» THE IMPORTANCE OF ANALOGS

Looking at analog lakes (those comparable in one or more ways) is not just about rankings. Identifying natural and anthropogenic effects, plus restoration efforts, provides important perspectives on the evolution of the Circle Lake Management Plan. Board members have visited many analog lakes, and consulted with the lake associations and residents, sharing information important toward improving the health of southern Minnesota lakes.

**MNDNR Watershed Health Assessment**

Name	Lake ID	Health Score	Health Grade	Water Quality Score	Bio logy Score	Hydro logy Score	Lakeshed Acres	Shore Acres	Miles	Impairments
Cannon	66000800	25	D	4	25	44	1,593	188,461	12	Mercury in fish, Nutrients
Caron	66005000	35	D+	6	21	75	319	7,539	3.3	Nutrients
Cedar	66005200	40	D+	18	24	78	902	4,715	11.3	Mercury in fish, Nutrients
Circle	66002700	30	D	11	13	60	838	21,400	9.5	Mercury in fish, Nutrients
Cody	66006100	20	F+	9	12	43	259	13,634	5.1	Nutrients
Dudley	66001400	55	C+	51	33	84	64	226	1.8	None
Fox	66002900	35	D+	21	22	66	312	8,731	3.1	Mercury in fish, Nutrients
French	66003800	40	D+	10	34	78	876	4,308	4.8	Mercury in fish, Nutrients
Hunt	66004700	40	D+	19	24	81	176	649	2.2	Mercury in fish, Nutrients
Kelly	66001500	65	B	51	84	65	802	802	1.5	None
Lower Sakatah	66004400	25	D	9	15	47	372	138,686	6.1	Mercury in fish, Nutrients
Mazaska	66003900	45	C	18	37	75	688	2,980	4.9	Mercury in fish, Nutrients
Metogga	66006400	50	C	14	82	86	290	290	1.3	None
Mud	66005400	55	C+	36	30	95	163	652	3.3	None
Phelps	66006200	30	D	5	5	84	303	1,445	2.9	Nutrients
Rice	66004800	35	D+	8	20	71	331	12,891	4.4	Nutrients
Roberts	66001800	30	D	3	19	66	632	9,564	5.6	Nutrients
Shields	66005500	35	D+	5	19	83	941	7,207	9	Mercury in fish, Nutrients
Sprague	66004500	55	C+	29	43	88	179	532	2.9	None
Union	66003200	30	D	5	21	61	397	18,980	5.2	Nutrients
Wells	66001000	25	D	11	26	45	678	204,462	12.5	Mercury in fish, Nutrients

Source: MNDNR Watershed Health Assessment Framework: Lakes  
 1/4/2026 <https://whaf-lakes.dnr.state.mn.us/scale/county/id/27131>

