

# Two Chisago County lakes delisted



**North Center and South Center lakes removed from the impaired waters list; Chisago SWCD, NRCS staff keep working with landowners, community partners to advance positive water quality trends emerging throughout the 20-lake chain**



CHISAGO COUNTY — When the Minnesota Pollution Control Agency (MPCA) removed North Center and South Center lakes from the impaired waters list this spring, Chisago Soil & Water Conservation District (SWCD) staff celebrated a continuation — not a conclusion — of targeted watershed work.

North Center and South Center were two of nine lakes in the 20-lake chain added to the impaired waters list in 2008. Removal requires meeting water quality standards for five consecutive years.

In Chisago County, the accomplishment

reflects hundreds of conservation practices implemented over 10-plus years, stretching from lakeshore lawns to farm fields. Landowners' work with the SWCD and its partners has led to improving water quality trends throughout the Chisago Lakes Chain of Lakes.

“All the other lakes where we have water quality trend data are also improving. That’s exciting. It’s not just one or two lakes,” said Jerry Spetzman, Chisago Lakes Lake Improvement District (LID) administrator. “A lot of the projects happening on North and South Center are also happening on the entire chain of lakes.”

**Clockwise from top left:** Nancy Moe-Mergens and Mike Mergens restored their North Center Lake shoreline. **Photo Credit:** Nancy Moe-Mergens  
*The cover crop Byron Dahlheimer planted in his Chisago County field was greening up by mid-April.* **Photo Credit:** Chisago SWCD  
*“It was a fabulous program,” Pat Eichten said of working with the SWCD and NRCS on projects including this grassed waterway.* **Photo Credit:** Chisago SWCD  
*Aaron Hanson of Lindstrom had a rain garden installed.* **Photo Credit:** Aaron Hanson

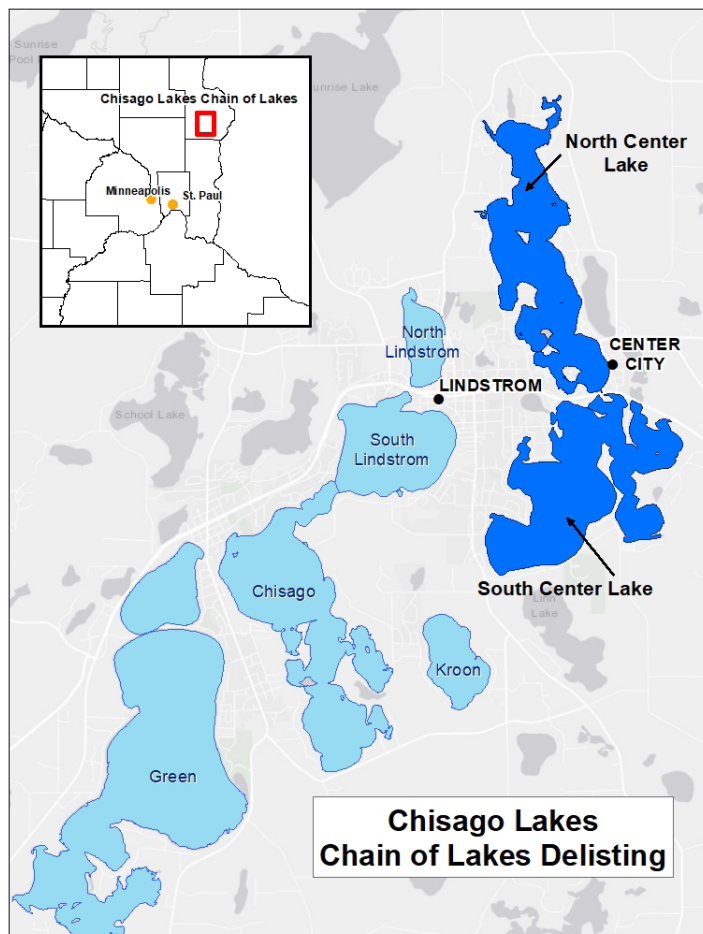
Phosphorus and chlorophyll-a levels are generally decreasing throughout the chain. Phosphorus feeds the algae that can turn lakes green. Chlorophyll-a indicates the presence of algae. Secchi disk readings, a measure of water clarity, are generally improving.

A targeted watershed demonstration grant from the Minnesota Board of Water and Soil Resources (BWSR) in 2015 brought five years of dedicated Clean Water Funds to the Chisago Lakes Chain of Lakes. Work accomplished through that grant reduced phosphorus by an estimated 690 pounds a year. One pound of phosphorus can create 500 pounds of algae.

The SWCD has leveraged more than \$1.7 million in Clean Water Funds, including the targeted watershed demonstration program grant, to gain additional dollars for conservation projects affecting the chain of lakes. It secured a Mississippi River Basin Initiative (MRBI) award — dedicated funding from the USDA's Natural Resources Conservation Service (NRCS) that provided about \$125,000 in assistance. The LID has contributed \$40,000 annually. The St. Croix River Association contributed \$50,000 total. Water quality work gained enthusiastic support from the cities of Lindstrom and Center City.

By the time it wrapped up in 2020, the targeted watershed grant had funded projects involving 43 landowners. Leveraged local, state and federal funds can cover up to 100% of costs. In exchange, landowners agree to a 10-year contract to maintain the practice.

Conservation practices implemented throughout the chain of lakes ultimately



North Center and South Center lakes, seen here in darker blue, were removed from the MPCA's impaired waters list. They're among 20 lakes in a chain of lakes in Chisago County. **Map Credit:** BWSR/MNIT

benefit the St. Croix River downstream.

"It's like a watershed success story. It's great for North and South Center, but it's also great for the entire watershed," Spetzman said.

Chisago SWCD Administrator Craig Mell handles the contracts. SWCD water resources specialist Casey Thiel summarizes data collected through the LID's water quality monitoring program, and works with urban and lakeshore property owners. SWCD resource conservationist Shane Hultman works with agricultural producers.

The SWCD has applied the targeted approach throughout the county.

"We use that model and

it works. We prove every day that it works. From the assessments to applying for the grants to following up with monitoring to doing more assessments — that whole process," Thiel said.

Mell said it can take years to get a commitment from an ag producer. "They need to see it working elsewhere. They need to hear from their farming peers that it works," Mell said.

**AN IMMEDIATE FIX:** Pat Eichten's first experience working with NRCS and the SWCD on a conservation project "eliminated the problem instantly," he said, and worked so well that he pursued two more projects on rented land.

Targeted MRBI funding plus local and state dollars reimbursed 100% of the

combined cost of all three, which totaled about \$40,000.

The first project — a water and sediment control basin (WASCOB) and a grassed waterway— diverted runoff from the steel roofs of a dairy barn and two pole sheds, and eliminated a 7-foot gully that split his Franconia Township field. Subsequent work installed grassed waterways and culverts. All three projects slow runoff and allow sediment and the pollutants it carries to settle out.

"I don't know if we would have pursued it without the funding," Eichten said. "It's a great service if you can get this done without bankrupting the farmers at the same time."

**COVER CROP TRIAL:** Byron Dahlheimer is trying cover crops for the first time.

With a rented no-till drill from Chisago SWCD, last fall he seeded 40 acres of harvested soybean fields into a rye cover crop. The 200-acre corn and soybean farm he runs with his brother and two sons lies across the road from North Center Lake.

"Because of our proximity to the lakes, all the land we farm drains right into the lake system," Dahlheimer said. "So we try to be careful what we do, or try to make it better."

Chisago SWCD funding will reimburse part of his cover crop seed cost. He described how he would determine success: "First if it helps the soil, and then return on investment — if it's going to pay off to do it. That may take a while to find out. That may take several years."

If cover crops work for the operation, he plans to buy a drill.

## LAKESHORE RESTORATION:

Nancy Moe-Mergens and Mike Mergens, who built a house on North Center Lake about 20 years ago, were among the first to sign up for a lakeshore restoration project through the SWCD.

“Both of our lakes are runoff lakes. We don’t have a spring or river that feeds (them). Whatever is on your property — it goes into the lake,” Moe-Mergens said.

Shoreline restorations started to catch on once the 600-some property owners on North Center and South Center lakes started to see the results, said Moe-Mergens, past president of the 120-member Center Lakes Association.

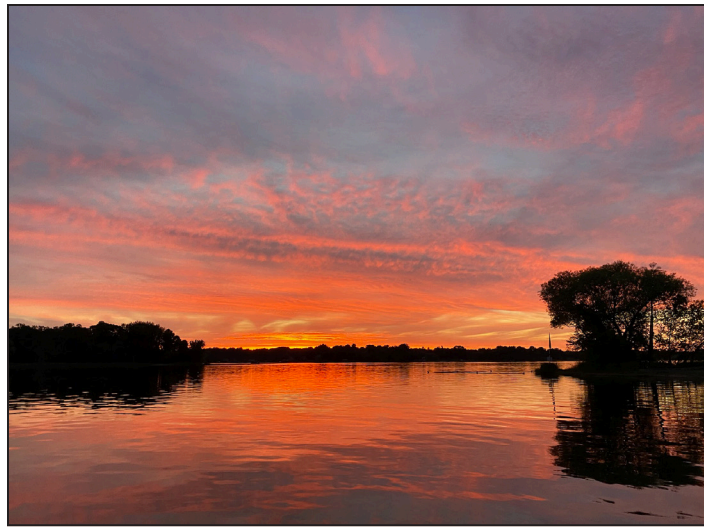
“It justifies all the work that the LID and the Chisago Soil and Water have done,” Moe-Mergens said of the delisting. And it might inspire more shoreline changes.

**RAIN GARDEN:** In one season, Aaron Hanson accomplished what likely would have taken him years to install on his own — a rain garden and pollinator habitat on a 10-by-40-foot strip of his Lindstrom yard.

Runoff from nearly three-quarters of the city block flows to a stormwater drain on that property, which is across an alley from lots on South Lindstrom Lake.

“If I was left to my own devices, I would not have been able to do the rain garden part of it. I would have slowly but surely converted the grass into pollinator habitat,” said Hanson, who became aware of pollinator-friendly habitat benefits through his work with the University of Minnesota’s Institute on the Environment.

The project was reimbursed 100% by Clean Water Funds and LID funds.



*North Center Lake, seen here, and South Center Lake’s delisting from the state’s impaired waters list is the result of 10-plus years of targeted conservation work. That momentum continues with ongoing work — and dedicated funding. Photo Credit: Joleen Rein*

## Chisago SWCD’s Expanding Role

**ST. CROIX RIVER-RELATED:** Since 2015, the SWCD has received \$925,500 in Clean Water Fund grants related to curbing St. Croix River gully erosion via targeted, prioritized erosion control projects along the river and its tributaries.

**ONE WATERSHED, ONE PLAN:** SWCD staff serve as the fiscal agent for the Lower St. Croix River One Watershed, One Plan, which received \$1.62 million in dedicated Clean Water Funds from BWSR. Implementation begins in 2021. Fifteen local government partners developed the plan, prioritizing conservation efforts for the next 10 years.

**MAINTENANCE:** Seasonal employees hired through an SWCD partnership with the LID maintain projects on public property. They weed, remove sediment and monitor publicly owned water quality projects for needed repairs. Those projects include vegetated swales, rain gardens, lakeshore buffers and stormwater pond enhancements. Urban projects are inspected every year; ag projects every two years.

## NRCS Dedicated Funds

**MRBI:** An initiative of the USDA’s Natural Resources Conservation Service, the Mississippi River Basin Initiative centers on practices that improve water quality, restore wetlands, enhance wildlife habitat and sustain ag profitability in the Mississippi River basin. Water quality concerns prompted NRCS to make the Mississippi River a priority.

**SECOND MRBI AWARD:** The Chisago SWCD in 2021 received a \$425,000 MRBI award, which brought dedicated funding to the Goose Creek Watershed. The watershed includes Goose Lake, Rush Lake and Rush Creek. It drains to the St. Croix River, a Mississippi River tributary.



Natural Resources  
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Service website:  
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## Monitoring Details

### MEETING STANDARDS:

Minnesota has a two-part water-quality standard for eutrophication, which describes the effect of nutrients. Phosphorus levels must be at or below a certain level. Additionally, either Secchi disk readings, which measure clarity, or chlorophyll-a readings must meet the standard.

From 2013 through 2019, phosphorus levels and Secchi disk readings in North Center and South Center lakes consistently met water quality standards for aquatic recreation. Chlorophyll-a conditions have improved but did not meet the standard.

### ACCEPTABLE LEVELS:

For 889-acre South Center Lake to meet water-quality standards that support aquatic recreation, the average levels of total phosphorus must be below 40 micrograms per liter and Secchi disk readings must be at least 1.4 meters. For 754-acre North Center Lake, the average total phosphorus levels must be below 60 micrograms per liter, Secchi disk readings at least 1 meter. The standards differ because South Center Lake is classified as a deep lake, North Center Lake a shallow lake.

**MPCA DELISTING:** See Page 5 for [specifics about North Center and South Center lakes](#) in the MPCA’s response to comments on the 2020 draft impaired waters list public notice.