

“ 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. ”

— Jerry Spetzman, Chisago Lakes LID administrator



# Chisago lakes delisted

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



The SWCD has leveraged more than \$1.7 million in Clean Water Funds, including a targeted watershed demonstration program grant, to fund conservation projects affecting the chain of lakes.

**C**HISAGO COUNTY — When the Minnesota Pollution Control Agency removed North Center and South Center lakes from the impaired waters list this spring, Chisago Soil & Water Conservation District 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.



**Top:** Nancy Moe-Mergens and Mike Mergens worked with Chisago SWCD on a lakeshore restoration on North Center Lake. **Photo Credit:** Nancy Moe-Mergens **Above:** “It was a fabulous program,” Pat Eichten said of working with the SWCD and NRCS to install erosion control projects including this grassed waterway. **Photo Credit:** Chisago SWCD

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

## MEETING STANDARDS:

From 2013-19, 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. Under Minnesota’s two-part water-quality standard, phosphorus levels must be at or below a certain level. Either Secchi disk readings, which measure clarity, or chlorophyll-a readings must meet the standard.

“ We’re there to help. What we call a resource concern they call a problem. When they have to work around a gully or have a hillside that washes out, we’re there to help. ”

— Shane Hultman, Chisago SWCD



Thiel

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.”

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 brought five years of dedicated Clean Water Funds to the Chisago Lakes Chain of Lakes starting in 2015. 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



Spetzman

**MPCA DELISTING: The Minnesota Pollution Control Agency’s responses to the 2020 draft impaired waters list public notice comments includes, starting on Page 5, [specifics about North Center and South Center lakes.](#)**

demonstration program grant, to gain additional dollars for conservation projects affecting the chain of lakes. It secured a Mississippi River Basin Initiative award — dedicated funding from the USDA’s Natural Resources Conservation Service 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.

SWCD and NRCS staff have continued the watershed-based approach. It starts by identifying pollution hotspots, and then working with willing landowners to implement conservation practices. From earthen



Mell

structures that curb field erosion to rain gardens that filter runoff, conservation practices implemented throughout the chain of lakes ultimately 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. Throughout the watershed, they’ve become recognized as a resource.

“We’re being seen more — and differently than the people who help farmers. Going back 10 years, that’s what the SWCD was. There wasn’t a direct connection to lake water quality,” Thiel said.

The SWCD has applied the targeted approach throughout the county. Staff is assigned to designated watersheds.

“This is the way that we do business. We use that model and it works. We prove every day that it works. From the assessments to applying for the

## DEDICATED NRCS 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 agricultural profitability in the Mississippi River basin. Water quality concerns, mostly related to nutrient-loading, prompted NRCS to make the Mississippi River a priority. “The big goal is to try to limit the hypoxic zone in the Gulf of Mexico. They’re starting at the top of the watershed and working their way down,” said Shane Hultman, Chisago SWCD resource conservationist.

## SECOND MRBI

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

grants to following up with monitoring to doing more assessments— that whole process. It works,” 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.

Dedicated funding makes it easier to align projects with producers once they’re ready to proceed.

Spetzman summarized the Chisago Lakes Chain of Lakes effort:

“It’s all of us. It’s everyone who lives in the watershed, even people who don’t live on (one of the 20 lakes). ... It’s all of us together.”

## 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, combined with local and state dollars, reimbursed all three 100%.

Together, Eichten and SWCD staff identified resource concerns.

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.



**Top:** The cover crop Byron Dahlheimer planted in his Chisago County field was greening up by mid-April. Last fall he rented a no-till drill from the Chisago SWCD. **Photo Credit:** Chisago SWCD **Above:** The rain garden installed on a strip of Aaron Hanson’s Lindstrom yard allows sediment and the pollutants it carries to settle out before flowing to South Lindstrom Lake. **Photo Credit:** Aaron Hanson

Together, the three projects cost about \$40,000.

“I don’t know if we would have pursued it without the funding. Even with a 50% cost-share you would have tried to maybe plant the field differently, or implement your own grass runways,” Eichten said. “We probably wouldn’t have done it at

all. It’s a great service if you can get this done without bankrupting the farmers at the same time.”

Eichten started farming full time after high school. He took over from his parents in 1993, and in 2003 got out of dairy and took an off-farm job as a rural mail carrier. He raises corn, soybeans

“ I try to push it because I know it’s a great program.”

— Pat Eichten, Chisago County farmer

and some hay on 250 to 300 acres. Eichten said he wanted to keep the land in ag production — or at least in family ownership and untouched by developers — for as long as possible.

Helping farmers continue to farm, and farm successfully, is Hultman’s big-picture goal for the county.

The WASCOBs are the most popular, easiest and fastest-acting of the erosion control options available to farmers through the MRBI.

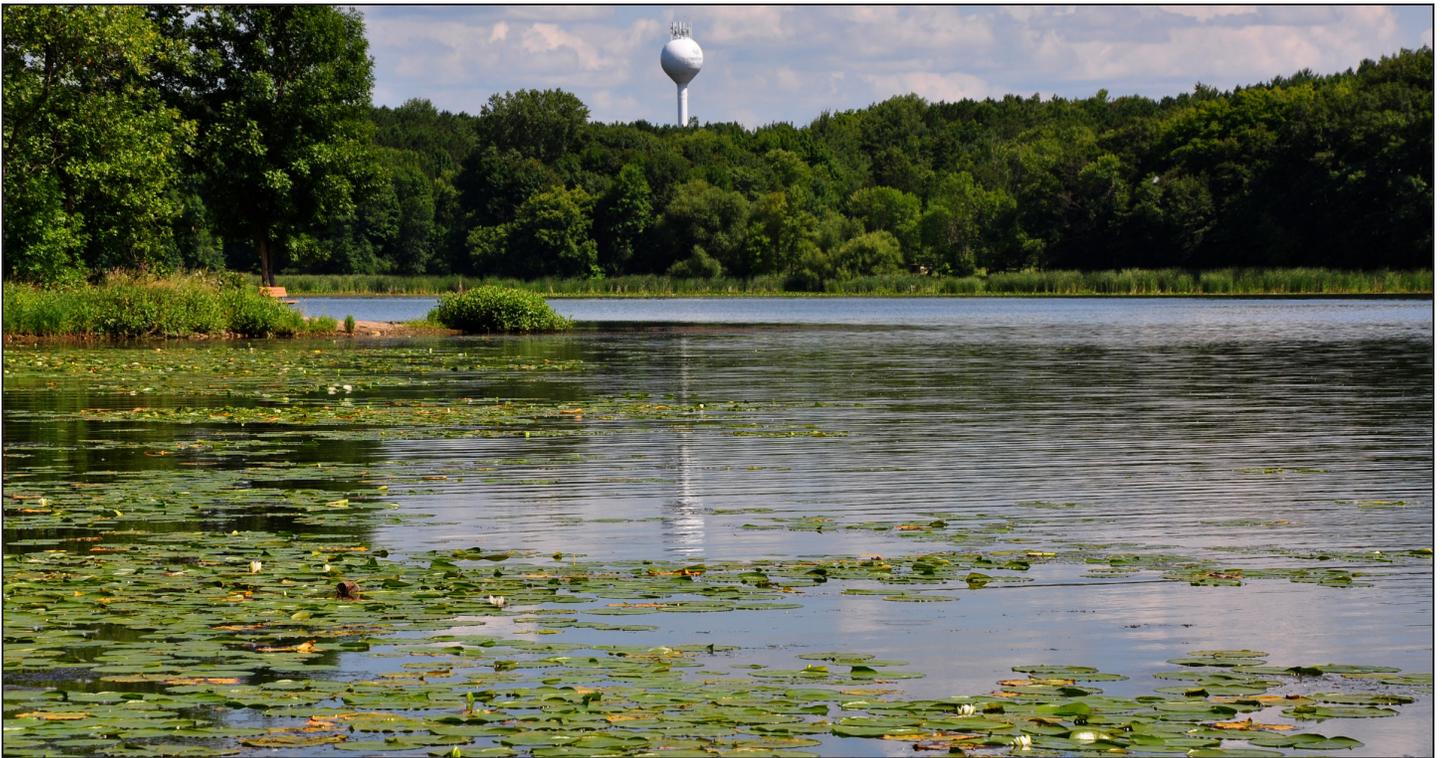
“They work extremely well,” said Hultman, who surveys and designs projects.

Eichten said he doesn’t worry about gully-washers anymore. The WASCOB has filled with water 5 feet deep and drained by the end of the day without damaging the field.

“I always tell them the programs are there; it never hurts to ask,” Eichten said, describing how he told other farmers about the SWCD. “I try to push it because I know it’s a great program.”

With MRBI dedicated funding, the possibility that landowners would receive NRCS Environmental Quality Incentives Program (EQIP) funding for projects within targeted watersheds was nearly certain. A WASCOB project might lead a farmer to consider other practices such as cover crops or no-till.

“We get the field repaired for them first,” Hultman said.



White water lilies bloom in South Center Lake off the shore of Loren’s Park in Center City. The Chisago Lakes Chain of Lakes surrounds three cities. Most of Lindstrom’s 3.5 square miles, for example, lie within the shoreland district. **Photo Credit:** Ann Wessel, BWSR

“You start with the problem, the resource concern, then you move into ... getting them into the soil health movement.”

### 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 a rye cover crop into 40 acres of harvested soybean fields. The 200-acre corn and soybean farm he runs with his brother and two sons lies across the road from North Center Lake. Dahlheimer previously installed two water and sediment control basins with Clean Water Fund and MRBI assistance.

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.

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

— Byron Dahlheimer, Chisago County farmer

That may take a while to find out. That may take several years.”

Dahlheimer said he had been thinking of trying cover crops on his lighter soils — something he’d seen work well in states farther south — when a neighbor mentioned the signup available through the Chisago SWCD.

“I was looking for a way to help the soil a little bit, put some green down,” Dahlheimer said.

If cover crops work for the operation, he plans to buy his own drill. This spring, he’ll plant no-till corn into the 40 acres, which he described as gently rolling.

“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.”

Like Dahlheimer, many landowners start with a WASCOB. Once the initial problem is fixed and they become familiar with staff, they may consider trying something new.

“The greatest asset is when you have somebody that’s really happy about a project and they tell everybody else about it,” Hultman said.

### Lakeshore Restoration

Nancy Moe-Mergens and Mike Mergens were among the first to sign up for a lakeshore restoration

project through the SWCD. They had a problem with non-native grass, and wanted to filter runoff from the North Center Lake property where they built a house 20 years ago.

“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.

“The biggest objection that people have is they want a beach for the kids, which they can have. But they can also have a partial area to catch the runoff and filter the water from the property,” Moe-Mergens said.

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

is launching a stewardship campaign.

Mergens is the current LID chairman.

“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 prompt more lakeshore residents to make shoreline changes that help to improve water quality.

Over the past few years, Mergens said he hadn’t seen the once-common late-summer algae blooms.

“The resale value on a clear lake and protected shoreline is much higher than a lake that has a lot of algae in it. It’s a win-win. If you take good care of the lake, it will take good care of you,” Moe-Mergens said.

The lakes also take care of the chain of lakes’ communities, which lie within an hour of the Twin Cities tourists and cabin owners.

“It brings revenue to the area, which helps our local businesses,” Mergens said. “It’s important to have good water quality to keep those people coming into the area.”

## Rain Garden

Aaron Hanson spent part of his childhood on North Center Lake. He returned to the area three years ago. In one season, he established 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



*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 will 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 will begin in 2021. Fifteen local government partners

developed the plan, which prioritized 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.

flows to a stormwater drain there. An alley separates the site from lakeshore lots on South Lindstrom Lake.

An energy program specialist with the University of Minnesota’s Institute for the Environment, Hanson knew the benefits of

pollinator-friendly habitat. He wanted to plant native species. Until he walked the property with Thiel, he hadn’t considered a rain garden.

“If I was left to my own devices, I would not have been able to do the rain

“The resale value on a clear lake and protected shoreline is much higher than a lake that has a lot of algae in it. It’s a win-win. If you take good care of the lake, it will take good care of you.”

— Nancy Moe-Mergens, Center Lakes Association

garden part of it. I would have slowly but surely converted the grass into pollinator habitat,” Hanson said. The project was reimbursed 100% by Clean Water Funds and LID funds. “The Clean Water Funds allowed me to do all of the things all at once. Of course, it’s something I would have wanted to do, but that’s an investment in my property that would not have taken priority.”

A contractor installed the 8-by-30-foot rain garden two years ago. It fills when it rains, and then slowly drains. The flower species chosen provide spring-through-fall nectar sources.

“I think a lot of these environmentally friendly technologies can also be beautiful,” Hanson said, adding that inspiring others to consider planting pollinator habitat was one motivation to maintain the strip.

“(The SWCD) made it really easy and fun to contribute to a healthier lake,” Hanson said.



The Minnesota Board of Water and Soil Resources’ mission is to improve and protect the state’s water and soil resources by working in partnership with local organizations and private landowners.  
Website: [www.bwsr.state.mn.us](http://www.bwsr.state.mn.us)