



Nine delistings tied to work backed by Clean Water Funds



BWSR grants support conservation partners' projects that contribute to water-quality improvements in 7 lakes, a river reach and stream segment

Clean Water Funds from the Minnesota Board of Water and Soil Resources supported conservation work contributing to seven lakes, one river reach and one stream segment's proposed removal from the state's impaired waters list. Those nine water bodies are among 27 slated for delisting this year.

U.S. Environmental Protection Agency approval finalizes that status. Minnesota Pollution Control Agency staff responded

to the 236 comments submitted. The list was due April 1 to the EPA, which has 30 days to respond.

All seven of those lakes being proposed for delisting are in the Twin Cities metro, including three in Hennepin County, two in Anoka County, and one each in Ramsey and Washington counties. The river reach is 48 miles of the North Fork Crow River in Wright County. The stream stretch is a designated trout stream in Winona County.



Minnesota NRCS:
<http://www.mn.nrcs.usda.gov>

Top: Clean Water Funds supported the Anoka Conservation District's iron-enhanced sand filter projects designed to reduce phosphorus-loading to Golden Lake. **Left:** The Minnesota DNR stocks Bald Eagle Lake with muskellunge. Clean Water Funds supported stormwater reuse and iron-enhanced sand filter projects. **Photo Credits:** Rice Creek Watershed District **Middle:** Fish Lake attracts anglers, boaters, water-skiers, paddlers and swimmers. Water-quality improvements here affect Rice Lake and Elm Creek. **Contributed Photo:** Joe Ruegsegger **Right:** A Clean Water Fund grant awarded to the Shingle Creek WMC backed an alum treatment that addressed in-lake phosphorus-loading on Bass Lake. **Photo Credit:** Ben Scharenbroich, City of Plymouth

Alum treatments, iron-enhanced sand filters, rain gardens and a wetland rehabilitation are among the Clean Water Fund-backed projects and practices that contributed to the seven lakes' water-quality improvements. Gully fixes that curbed sediment-loading to the North Fork Crow River were in play in Wright County, while feedlot fixes were linked to improvements in Winona County's Beaver Creek.

BWSR awarded the Clean Water Funds — in the form of competitive grants and, more recently, via [Watershed-Based Implementation Funding](#) — to the soil and water conservation districts, watershed districts and watershed management commissions that worked directly with partners and private landowners.

The following summarizes the Clean Water Fund-backed work.

Anoka County Rice Creek Watershed District: Bald Eagle Lake

Deemed “the most popular muskie lake in the east metro” by the [Minnesota Department of Natural Resources](#), 1,010-acre Bald Eagle Lake offers a heavily used public boat access at Ramsey County's [Bald Eagle-Otter Lakes Regional Park](#). Encircled by the park's natural shoreline plus 400-some lakeshore homes, the lake extends into Washington and Anoka counties. It lies within a heavily developed suburban landscape between Interstate Highway 35 East and Minnesota Highway 61 just north of White Bear Lake. (The lake spans Ramsey, Washington and Anoka counties. Anoka is the county named in the MPCA's list of delisted waters.)

MPCA Details

IMPAIRED WATERS DEFINITION:

The MPCA defines an impaired water as one that fails to meet water-quality standards (which define how much of a pollutant can be present before it's no longer considered drinkable, swimmable, fishable or usable in other defined ways) in one or more of seven areas: nutrients that grow algae, sediment that clouds water, bacteria that can make swimming unsafe, unhealthy insect and fish habitat, mercury levels that limit safe fish consumption, PFOS in fish tissue, sulfate that may affect wild rice production.

IMPAIRED WATERS LIST: Updated every other year, the [Impaired Waters List](#) includes a tab for delistings.

MEETING STANDARDS: Removal from the impaired waters list requires meeting the standard for phosphorus levels, and either Secchi disk readings, which measure clarity, or Chlorophyll-a levels.

'UNKNOWN REASONS'

EXPLANATION: In some cases, the reason for the proposed delisting is tagged “unknown.” Charles said in

some of those cases, the pollutant may have flushed out of the system naturally. Sometimes data cannot sufficiently pinpoint the known restoration activities.

PERSPECTIVE: “When you see that something's impaired and you see it show up red on the map, it can feel really alarming,” said Leya Charles, the MPCA's water assessment and impaired waters list coordinator. “It can feel really overwhelming when you see over 6,000 impairments. This is concerning. But it's important to keep it in context.” She reminds people that assessments — and impairments — are based on the beneficial use. So a lake impaired for aquatic life as the result of fish bioassessments is different from a lake impaired for aquatic recreation as the result of nutrients such as phosphorus.

MINNESOTA WATERS: Minnesota waters include nearly 85,450 square miles of surface area, about 105,000 stream miles, about 12,200 lakes 10 acres or larger, about 4.5 million acres of lakes, about 10.6 million acres of wetlands

The lake was listed as impaired for aquatic recreation in 2002, based on excessive nutrients.

“Prior to any of the restoration work, there could be some pretty severe blue-green algae blooms out there that would maybe scare away some fishermen later in the summer,” said Matt Kocian, lake and stream manager at [Rice Creek Watershed District](#).

Clean Water Fund grants from BWSR supported two RCWD projects that contributed to phosphorus reductions leading to the delisting: a stormwater reuse project in Hugo and an iron-enhanced sand filter in Ramsey County's White Bear Township.

Both phosphorus and algae levels have decreased by about 50% compared with 2014, and water clarity has increased by about 50% during the same timeframe,

according to the RCWD's long-term monitoring data.

“This went from a resource where residents would say, ‘I need to shut my windows late in the summer because the blue-green algae blooms are so bad and they smell,’ to they're using the lake more than ever,” Kocian said. “They're swimming in it again.”

The \$689,000 Oneka Ridge Golf Course stormwater reuse project in Hugo drew from a \$497,100 Clean Water Fund grant BWSR awarded in 2012. Work finished in 2014. Now, stormwater runoff from 915 acres irrigates 116 acres of the golf course — keeping an estimated 75 pounds of phosphorus out of the lake annually. RCWD provided matching funds; the city of Hugo provided in-kind support.

The \$499,900 iron-enhanced sand filter and pond project on Ramsey County Ditch 11 drew from a \$392,000 Clean Water Fund grant awarded in 2019. It pumps ditch runoff to a series of iron-enhanced sand filters on township-owned land adjacent to the ditch. The constructed pond allows sediment and the pollutants it carries to settle out. The project, which finished in 2020, keeps an estimated 43 pounds of phosphorus out of the lake annually.

“The iron-enhanced sand filter would not have been done without those funds,” Kocian said.

The RCWD provided matching funds; the township and lake association were project partners.

“To go from what it was to delisting was a big step and a long time coming,” Kocian said of work with the Bald Eagle Area Association and residents dating to the 1980s.

Now, the RCWD is considering WBIF-backed improvements to a retention pond on the east side of the lake that serves as a phosphorus trap.

“Are we celebrating? Yes. But here's the next project to ensure that we don't slip backwards,” Kocian said.

Anoka Conservation District: Golden Lake

Bisected by an Anoka County ditch and bordered by a Circle Pines city park, 55-acre Golden Lake feeds into Rice Creek south of the Rice Creek Chain of Lakes. Golden Lake is popular among local paddlers and those who visit Golden Lake Park, which has a public launch, beach and fishing pier.

Situated in a fully developed area of the Twin Cities metro, the lake was listed as impaired for aquatic recreation in 2002,

based on excessive nutrients.

The Anoka Conservation District's phosphorus-reduction work with partners to install two iron-enhanced sand filters was supported by two Clean Water Fund grants BWSR awarded to the district.

"Without the Clean Water Fund, neither of these projects would have gone in the ground. Typically, the financial hurdles are often the hardest to get over, and the Clean Water Fund provides a fantastic opportunity to bridge that gap," said Mitch Haustein, Anoka Conservation District stormwater and shoreland specialist.

Working with the city of Blaine, the RCWD and an \$88,950 Clean Water Fund grant awarded in 2014, the district retrofitted a [stormwater treatment pond in Blaine](#) with an iron-enhanced sand filter bench, estimated to achieve 11% of phosphorus-reduction goals needed to meet state water-quality standards.

A \$467,970 Clean Water Fund grant awarded in 2017 supported a pump-controlled iron-enhanced sand filter basin installed near an existing stormwater pond on Circle Pines-owned property adjacent to Golden Lake. The project targeted dissolved phosphorus entering the pond from Anoka County Ditch 53-62, which carries stormwater runoff from about 6,425 acres. The project keeps an estimated 50 pounds of phosphorus from entering the lake annually. Partners included the city of Circle Pines and the RCWD.

The projects topped the list of those identified in the Anoka Conservation District's stormwater retrofit analysis for Golden Lake, which modeled water-quality

“ I speak with people a lot about how much data it does take to get something delisted, and how important it is to be keeping waters off the impaired waters list as well as taking them off. ”

— Leya Charles, MPCA water assessment and impaired waters list coordinator

benefits and considered cost-effectiveness.

Over the past eight years, RCWD monitoring data show phosphorus levels are down 20% to 50% compared with the longtime average. Golden Lake monitoring records date back to 1976.

The Blaine project was completed in 2015 at Centennial Green Park. An iron-enhanced sand filter bench was installed along the perimeter of an existing stormwater pond, which captures runoff from about 200 acres. Water now filters through the pond bench before entering the ditch. The project keeps an estimated 27 pounds phosphorus out of the lake annually. The city of Blaine handles operations and maintenance.

The Circle Pines project was completed in 2019 on city-owned land northwest of the lake. Water is pumped from the existing pond to two iron-enhanced sand filter beds. Water is drained and filtered before it reaches an outlet to the lake. Designed to remove 50 pounds of dissolved phosphorus a year, the project has a 25-year lifespan. The city handles operations and maintenance.

"Because both of these ISFs (iron-enhanced sand filters) are in public park locations, they are highly visible and, I think, bring a public awareness about water-quality issues in the lake. As a result, maybe some of those

lakeshore landowners have become more interested in that, and interested in learning about what they can do on their own property to help the lake. Shoreline restoration and stabilization projects are one of the things that they can do and have done," said Haustein, whose duties include facilitating work among partners, coordinating project design, and overseeing construction and inspections.

Haustein said the delisting reflected hard work by many organizations, including the watershed district, cities, lakeshore residents — and the residents within the watershed contributing to water-quality improvements by controlling runoff on their own properties.

"Delistings don't happen every day. That's very exciting," Haustein said.

Hennepin County Elm Creek Watershed Management Commission: Fish Lake

A 232-acre lake bordered by a regional park, Fish Lake achieved the phosphorus reductions necessary to be considered for delisting in 2017, after the first dose of an alum treatment.

A \$200,000 Clean Water Fund grant BWSR awarded to the Elm Creek Watershed Management Commission in 2017 supported the \$375,470 project. The treatment was delivered in two parts to improve its effectiveness and

to avoid harming fish. The second dose was applied in 2019.

"It's really nice to be able to recommend to people, 'Hey, go to Fish Lake and check it out and go paddleboarding and take advantage of the great water quality and the fish community that it has to offer,'" said Brian Vlach, senior water resources manager at Three Rivers Park District.

The Elm Creek WMC contracts with Three Rivers Park District to monitor water quality. Three Rivers Park District owns Fish Lake Regional Park, which has a swimming beach, fishing piers, and a public boat access.

The lake was listed as impaired for aquatic recreation in 2008. In the past, severe algae blooms emerged during the summer. There wasn't room to install effective, phosphorus-reducing projects within the 1,611-acre, fully developed watershed. A total maximum daily load study determined 70% of the total phosphorus came from within the lake.

Matching funds came from Three Rivers Park District, the Elm Creek WMC, the city of Maple Grove, the Fish Lake Area Residents Association and Hennepin County.

"It's a validation of a long history of work and effort that's gone into improving surface water and lake quality in the city," said Maple Grove Water Resources Engineer Derek Asche, noting partners' involvement. "Ever since the Clean Water Land and Legacy Amendment and the funding that's come from BWSR, we've really been able to take some of the biggest steps forward. ... A lot of the work doesn't come cheaply but can be very effective, like an alum treatment."

The Elm Creek WMC also recognized partners' work: "Anytime something like that happens, it's great news. It's a sign that all the behind-the-scenes work does pay off in a measurable way," said Joe Trainor, the Elm Creek WMC commissioner representing Maple Grove.

Shingle Creek Watershed Management Commission: Bass Lake, Pomerleau Lake

Alum treatments on two Plymouth lakes — Bass and Pomerleau — achieved the phosphorus reductions necessary to be considered for delisting in 2024.

The two-part treatments, applied to each lake in fall 2019 and fall 2020, drew from a \$267,040 Clean Water Fund grant BWSR awarded to the [Shingle Creek Watershed Management Commission](#) in 2018. The treatments addressed internal phosphorus-loading, following nutrient-load reduction work in the watershed.

Bass and Pomerleau are part of a three-lake chain listed as impaired for nutrients in 2002. The third, Schmidt Lake, was delisted in 2014.

Ringed by homes and bordered by a small city park with a fishing pier, 183-acre Bass Lake flows to Bass Creek, a Shingle Creek tributary. Water-quality improvements here affect those downstream waters. The shallow lake sees heavy recreational use from lakeshore residents who get on the water to fish and boat via private access.

West of Bass Lake and across Interstate 494 lies 26-acre Pomerleau Lake. Twenty-six feet deep at its deepest, it's bordered by wetlands within the [Northwest Greenway](#), a wooded nature preserve with walking paths and bike trails.



From top: A Clean Water Fund grant awarded to the Shingle Creek WMC supported an alum treatment on Pomerleau Lake in Plymouth. **Photo Credit:** Ben Scharenbroich, City of Plymouth *The Ramsey-Washington Metro Watershed District and partners' projects contributed to Kohlman Lake water-quality improvements.* **Photo Credit:** Gareth Becker, Barr Engineering

Rapid residential development 15 to 20 years ago helped to protect Pomerleau Lake's water quality because it coincided with efforts to preserve natural areas — including woodlands and wetlands that lie within the Northwest Greenway. Also, the redevelopment — where large residential lots, pasture, row crops and a golf course once stood — unfolded under modern water-quality standards. Infiltration stormwater ponds were built into the development.

"The area around it has only recently developed, so it was just kind of like this little hidden lake that nobody really knew (about)," said Diane Spector, a senior water resources planner with the engineering consultant firm Stantec who advises the WMC on technical matters. "It was something that the city really saw as being a gem,

and that just added to the value of undertaking the alum treatment."

Spector said cities' efforts to incorporate best management practices into street and park improvement projects, along with enhanced street sweeping and public education, underscore an ongoing commitment to improving water quality.

"We've seen improvements in stream water quality based on those efforts," Spector said.

While delisting Shingle Creek, a highly impacted urban stream, "is going to be a long haul," Spector said the proposed delistings demonstrate the possibility — and the necessity of partnerships among the WMC, cities, lake associations, citizen groups and funding sources. Clean Water Fund grants not only make it possible for the WMC and

cities to complete more projects but also demonstrate that the endeavor is worthwhile.

"If BWSR thinks that that it's an important enough project to allocate some of its Clean Water Funds, then that's something that would be worthy of the cities and the other partners putting their own money into as well," Spector said.

Thirteen of the 15 lakes within the Shingle Creek watershed were listed as impaired. Bass and Pomerleau would bring to five the number of lakes delisted within the watershed. Along with Schmidt Lake, Lower Twin and Ryan lakes in Robbinsdale were delisted in 2014.

Ramsey County Ramsey-Washington Metro Watershed District: Kohlman Lake

First in the six-lake Phalen Chain of Lakes, Kohlman Lake draws wildlife-watchers — plus paddlers, anglers and boaters who gain access via Lake Gervais. Known for shorebirds and water lilies, the 79-acre shallow lake in Maplewood is part of the chain of lakes' [water trail](#).

A nutrient impairment affecting aquatic recreation landed Kohlman Lake on the impaired waters list in 2002. After years of work to curb runoff and pollutants, the lake is poised to shed that impairment. Phosphorus levels began meeting the state shallow-lakes standard in 2010, and Chlorophyll-a in 2011.

Drawing from six Clean Water Fund grants plus two WBIF awards from BWSR, the [Ramsey-Washington Metro Watershed District](#) and its partners worked with property owners, churches,

schools and businesses to install retrofits, rain gardens and other best management practices — projects that directly contributed to the water-quality improvements.

From 2010 through 2016, BWSR awarded the RWMWD Clean Water Fund grants totaling \$1,208,515, plus WBIF grants in 2019 and 2021.

Among those grant-funded projects affecting Kohlman Lake: stormwater treatment at six churches — Lakeview Lutheran, Redeeming Love, St. Stephen's, Parkview United, North Presbyterian and House of Prayer Lutheran; runoff filtration projects at Harmony Learning Center and Maplewood Middle School; rain garden installations in the 208-acre Casey Lake neighborhood, a 15-acre wetland; stormwater treatment via four rain gardens and two tree trenches at Target in North St. Paul; and stormwater treatment via a cistern, tree trenches, rock filter, permeable pavers and rain gardens at the Maplewood Mall.

The RWMWD's targeted retrofit program and stewardship grant program prioritized impaired or at-risk waters — including Kohlman Lake and its subwatershed.

Paige Ahlborg, RWMWD project manager, described the impact of Clean Water Funds combined with watershed district dollars: "We were able to create these partnerships where we could approach the churches and schools that usually don't have those extra funds to put these projects in."

The church and school projects treated stormwater runoff from large parking lots and roofs — improvements that would have become mandatory only if triggered



The Comfort Lake-Forest Lake Watershed District's water-quality improvement work has focused on a 5,586-acre drainage area affecting Bone Lake. Photo Courtesy of Comfort Lake-Forest Lake Watershed District

by new development. The Ramsey County SWCD contributed Community Partners grant funds to the Lakeview Lutheran and Redeeming Love church projects.

The \$858,000 project at the North St. Paul Target store drew \$93,000 from WBIF. Completed in 2021, it removed 50 parking spaces, and treated the remaining 4 acres of impermeable surface via rain gardens and tree trenches. The project keeps an estimated 6 pounds of phosphorus and 1,140 pounds of sediment out of Kohlman Creek annually.

The \$6.5 million Maplewood Mall retrofit treats 20 million gallons of stormwater annually, handling runoff from 35 acres of pavement and concrete that carried phosphorus to Kohlman Lake. A \$500,000 Clean Water Fund grant BWSR awarded to the RWMWD in 2010 supported the work. The project — including tree trenches, a rock filter, rain gardens, permeable pavers and a 5,700-gallon cistern — filters 67% of rainwater — compared with 3% previously.

Delisting Kohlman Lake's nutrient impairment was based on data collected from 2011-21.

"Just because it has been

delisted, we can't just forget about it. We want to keep these good projects going in, maintain that good water quality," Ahlborg said.

Based on an uptick in phosphorus and Chlorophyll-a levels over the past few years, the watershed district is examining whether another alum treatment is necessary to address the internal phosphorus load.

Kohlman Lake and contributing waters including Kohlman Creek and Willow Creek remain district priorities.

"Now we're looking for those maybe not-so-obvious opportunities (such as the North St. Paul Target project) to maintain and continue to improve the water quality of Kohlman (Lake)," Ahlborg said.

Washington County Comfort Lake-Forest Lake Watershed District: Bone Lake

Stocked with walleye and accessible via public boat access, 220-acre Bone Lake lies in Scandia, where homes surround about 75% of it. A Washington County highway parallels its undeveloped northwestern edge.

Bone Lake was listed as impaired for aquatic recreation in 2004 because of excessive nutrients.

Four Clean Water Fund grants from BWSR totaling nearly \$823,500 have supported \$1.2 million in the [Comfort Lake-Forest Lake Watershed District's](#) water-quality improvement work that contributed to Bone Lake's proposed delisting this year — including projects centered on Moody Lake. One more Moody Lake project, estimated to cost \$299,375 and supported by a \$239,500 Clean Water Fund grant awarded in 2022, is under way.

To date, water-quality improvements have contributed to an estimated 786-pound-per-year reduction in phosphorus entering Bone Lake. Monitoring data show Bone Lake has met or exceeded the state standard for phosphorus levels each year since 2015. Water clarity has shown improving trends since 2011.

"We focused on the main contributing drainage areas into Bone Lake for a truly targeted approach," said CLFLWD Administrator Mike Kinney.

That, in turn, helped to improve the water quality downstream from Bone Lake, which flows through a series of lakes before it reaches Comfort Lake, and then the Sunrise, St. Croix and Mississippi rivers.

"One of the things to help Bone Lake was to improve the water bodies that were contributing water to Bone Lake," Kinney said. "Our sequential diagnostic monitoring indicated to us, based on real data that was incorporated into the modeling that we did, how important that amount of water coming in from Moody Lake is to the water quality for Bone Lake."

A Moody Lake wetland rehabilitation completed in 2020 contributed to 78% of the phosphorus reduction from the external load. That \$561,700 project drew from a \$429,280 Clean Water Fund grant BWSR awarded to the CLFLWD in 2016.

Diagnostic monitoring revealed the problem, which the CLFLWD addressed before tackling Moody Lake's internal phosphorus load with an alum treatment in 2019. A \$135,000 Clean Water Fund BWSR awarded the district in 2018 supported the alum treatment. Together, the wetland and alum treatment projects keep an estimated 769 pounds of phosphorus out of Moody Lake annually. The wetland project also keeps an estimated 457,120 pounds of sediment out of the lake annually.

The project under way in early 2024 is designed to achieve the 12% phosphorus reduction needed for Moody Lake to meet state water-quality standards. It includes a wetland enhancement, upland restoration, shoreline stabilization and rain garden installation.

Next, Kinney said he anticipated the CLFLWD would work with MPCA staff on the potential to delist Comfort, Moody and Shields lakes.

"In the earlier years of TMDLs (total maximum daily load studies), roughly 20 years ago, we thought all of these were going to require very lengthy timeframes — 50 to 75 years, potentially more. Utilizing this sequential diagnostic monitoring in addition to some additional resources — looking at historical aerial photography, talking to longstanding residents and using sediment cores to look at what the lake water quality



Winona County's Beaver Creek, a designated trout stream, flows through a narrow valley. **Photo Credit:** Winona County SWCD

was like prior to European settlement — has helped us get to these kinds of water-quality improvements at a much faster rate, and at a much lower cost per pound than what we thought was achievable 20 years ago," Kinney said.

Winona County Winona County SWCD: Beaver Creek

A designated trout stream tucked between tall bluffs in a narrow valley near Whitewater State Park, Beaver Creek is the spot Winona County SWCD resource conservationist Amanda Gentry suggests when anglers ask.

"It's gorgeous for trout fishing," Gentry said. She has spent a lot of time in the county's streams conducting Aquatic Invasive Species surveys for the SWCD. She also has worked as the SWCD's feedlot engineer technician.

Clean Water Fund grant-backed feedlot improvements on the bluffs have contributed to water-quality improvements that led to delisting Beaver Creek's aquatic life impairment. Two projects directly affected the creek.

One drew from an \$893,950 Feedlot Water Quality Management grant BWSR



Natural Resources Conservation Service

USDA is an equal opportunity provider, employer and lender.

awarded to the Winona County SWCD in 2011, supporting solutions for manure storage, wastewater and open feedlot runoff. The second drew from local capacity funds the SWCD received in 2020, building a stacking slab for manure storage and installing runoff control from an open feedlot.

Streambank restoration work complements the runoff reductions. Severe and repeated flooding in the 1930s forced the town of Beaver to disband.

"In the 12 years I've been with the district, this is one of the first delistings I've been a part of. I think about the number of practices in that small watershed that have been installed since I've been here, and it's pretty awesome to think about the improvements that have been done, especially up on top of the bluff in the farm fields that drain toward Beaver Creek," Gentry said. "For me, it's one of those victories that you can feel as though you've had a part in."

By curbing runoff and

“ I think about the number of practices in that small watershed that have been installed since I've been here, and it's pretty awesome to think about the improvements that have been done. ”

— Amanda Gentry,
Winona County SWCD
resource conservationist

sediment loss in farmyards and fields, the projects and practices result in phosphorus and bacteria reductions, which translates to better habitat for macroinvertebrates and fish.

"Having these funds in place is just extremely important to be able to make it feasible for these projects to be completed. Without the funding they can't be done; it's just way too expensive," Gentry said.

A feedlot fix with 12 months' manure storage can easily exceed \$500,000.

"In a lot of cases, especially in the recent past, it was hard to fully fund a project with only one funding source. A lot of times we would (leverage) EQIP dollars (Environmental Quality Incentives Program support via the USDA's Natural Resources Conservation Service) and our local capacity or state cost-share dollars to assist a landowner in being able to afford these projects. If they can't afford a project, they can't get a contractor out there to do it, the problem is just going to continue."

Wright County Wright SWCD: North Fork Crow River

The North Fork Crow River, a 125-mile-long state water trail, winds from Lake Koronis near Paynesville through Meeker and Wright counties to the Mississippi River at Dayton.

The Wright SWCD's work with landowners on gully stabilization projects in farm fields has contributed to water-quality improvements in the 47.7-mile-long reach from the Meeker County line to Mill Creek south of Buffalo. That reach now meets water-quality standards. It landed on the impaired waters list in 2012 based on benthic macroinvertebrate bioassessments. Those bottom-dwelling, small aquatic animals and insect larvae are good water-quality indicators because they spend all or most of their lives in the water and they have limited mobility.

BWSR awarded the first in a series of Clean Water Fund grants to the Wright SWCD in 2012 for sediment-reduction work affecting the river. Four of those grants totaling \$606,675 — awarded in 2013, 2015, 2017 and 2020



A drone view depicts a segment of the winding North Fork Crow River in Wright County's Middleville Township. **Photo Credit:** Michael Candler, Wright SWCD

— supported work tied to water-quality improvements that directly contributed to the delisting. Those four grants resulted in more than \$1 million in projects — involving 22 landowners who installed a total of 54 water and sediment control basins and 19 grade stabilizations. Leveraged funding tied to those grants totaled \$330,400 in EQIP assistance from NRCS. Landowners' match totaled \$144,675.

"These gullies are a conduit for sediment, and then it gets the river all clouded up, and then the bugs can't find food and they (die). And then the fish have no food, so it's a big circle," said Dan Nadeau, Wright SWCD resource conservationist. "These guys fished and swam in the river as kids,

and they're farming next to it (now) and they've got grandkids that want to swim and fish (in the river)."

The gully fixes curb erosion, and farmers have been eager to sign on. Nadeau said the water-quality benefits extend to the Mississippi River, a source of Twin Cities drinking water.

"Downstream, this water turns into somebody's drinking water," Nadeau said. And we talk about that with these guys. ... They want the river clean, just like we do."

Wright SWCD Manager Luke Johnson and Nadeau estimated 75% of the grant-backed projects addressing gully fixes directly affected water-quality improvements in the North Fork. The remaining 25% more directly

“ We’re helping water quality, and they’re getting some field back. ”

— Dan Nadeau, Wright SWCD resource conservationist

affected lakes within the watershed.

"These guys want to do something, but these projects aren't cheap," Nadeau said. "They want to do the right thing and Clean Water Fund dollars give us that avenue to help them make these changes that they probably want to make."

Johnson said the delisting is one way to show county commissioners and SWCD board members that their investment in the SWCD is producing results.

"We are very appreciative of what the Wright County Commissioners and (SWCD) Board have done for us, with having the staff to be able to go out and execute these projects," Johnson said. "I think we can show them successes — that what they're giving us is actually translating into tangible results."



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