

In the Pomme de Terre River watershed near Morris, Clean Water Funds and federal assistance support prioritized projects targeting Perkins Lake. Farmers are seeing the benefits of conservation that mends gullies and slows runoff; impaired waters benefit from nutrient reductions.



Left: Residue from last season's corn crop helped to prevent erosion in Darrick Henrichs' Stevens County field, where a wet spring made a prevent-plant necessary this season.

Photo Credits: Ann Wessel, BWSR



After water and sediment control basins were installed in mid-August, **top**, Henrichs, **above**, prevent-planted winter cereal rye as a cover crop. Next spring, he'll no-till soybeans into the cover crop, and then spray to kill the rye once the beans emerge. The water and sediment control basins are part of Stevens SWCD's approach to improving ag drainage and water quality.

Gaining ground

Stevens SWCD's cropland erosion fixes catching on

DONNELLY — A shallow trench stretched across Darrick Henrichs' field in the hills northeast of Morris, marking a tile line that connected eight earthen dams designed to save topsoil, slow runoff and trap pollutant-carrying sediment bound

for the Pomme de Terre River and Perkins Lake.

The project is part of the Stevens Soil & Water Conservation District's big-picture, targeted approach to Clean Water Fund-backed work that improves both agricultural drainage and water quality within the Pomme de Terre River watershed. Both the river and lake are impaired for nutrients.



An aerial view shows the trenches where a crew from the excavating contractor Hormann Works LLC of Dumont installed tile as part of the project involving eight water and sediment control basins in Henrichs' field.

Photo Credit:
Stevens SWCD



Annual reduction estimates show Henrichs' project alone will save 280 tons of topsoil, and keep 140 tons of sediment and 161 pounds of phosphorus out of the river and lake. One pound of phosphorus can produce up to 500 pounds of algae.

"The farmer benefits from this project by keeping his topsoil where it belongs instead of down at the bottom of the hill in a gully. It eases their operation, makes the field more farmable, and more productive," said Stevens SWCD Administrator Matt Solemsaas. "The major water quality benefit of the project would be reduced sediment load in the Pomme de Terre River and Perkins Lake."

Since 2019, Stevens SWCD and Natural Resources Conservation Service staff have worked with 12 landowners to install nearly \$400,000 in voluntary conservation projects directly affecting Perkins Lake. Those have included 35 water and

sediment control basins, six shoreline stabilizations, two grassed waterways and one rain garden. Elsewhere in the vicinity, landowners have installed 40 alternative tile intakes.

The work drew from two sources of Clean Water Funds the Minnesota Board of Water and Soil Resources awarded to the Pomme de Terre River Association Joint Powers Board: It tapped \$105,880 from a 2019 Clean Water Fund grant and \$148,427 from Watershed-Based Implementation Funding. An additional \$128,717 came from federal Environmental Protection Agency dollars from the Minnesota Pollution Control Agency. With leveraged NRCS assistance, landowners' share was reduced to 25%.

The \$112,560 water and sediment control basin project constructed this summer in Henrichs' 127-acre Rendville Township field was the second one he's worked with the

“ Conservation is important to me because it seems like out here in these hills if we don't take care of it now, all the good dirt on top will end up eventually washing to the bottom.

— Darrick Henrichs,
Stevens County farmer

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Natural Resources Conservation Service website: www.nrcs.usda.gov

dams on 50 acres a half-mile to the north.

"It's working spectacular," Henrichs said of the first project. "We're just trying to control erosion. When my grandpa was farming, he didn't really believe in anything like that."

Henrichs, who returned to the family farm full-time in 2016

SWCD to install. The first, which finished in spring 2021, involved four earthen

after working for a local co-op and for other farmers, took over after his grandfather died in 2019.

Years earlier, a district conservationist from the USDA's Natural Resources Conservation Service had approached Henrichs' grandfather about installing water and sediment control basins. He wasn't interested. Henrichs was.

"Out there (in the hills), it's probably just as important as anything else we're trying to accomplish," Henrichs said of the conservation practices he's implemented.

Henrichs is in the third year of

a five-year NRCS Conservation Stewardship Program contract to plant cover crops. With a nutrient management plan, he's now working on variable-rate fertilizer application across the 1,450 acres of corn and soybeans he raises with his father, Brian, and wife, Amber.

Through the CSP, he's also installed automatic sprayer shut-offs to fine-tune pesticide application, and has planted a 1-acre monarch butterfly habitat on land that was difficult to farm.

"Now, conservation-wise on our farm we are doing grid sampling for specific spreading of fertilizer so if we need more, we can put it in places that need it more. And in places that we need it less, we'll use less," Henrichs said. "We probably never would have done it, but when you get into these programs there's other options within the program. So that kind of started our journey into the conservation end of it with variable-rate fertilizer, seed — someday maybe chemical."

In the past, Solemsaas said getting landowner support for projects was challenging. That started to change as farmers saw successful projects in neighbors' fields, and as dedicated funding sources such as Watershed-Based Implementation Funding became available.

"You get one guy that's a little proactive and tries something, then the neighbors see it and see how successful it is, and they decide that they want to try it, too," Solemsaas said. "We're getting to that point now where I have more requests than I have funds."

The Pomme de Terre River watershed is slated to receive another Watershed-Based Implementation Funding



Perkins Lake, seen here from a park, is impaired for nutrients. The rolling topography in the surrounding landscape is prone to erosion, which can cut deep gullies and carry sediment to the Pomme de Terre River. The river feeds Perkins Lake. The Stevens SWCD is working with willing landowners on erosion-control projects. Photo Credit: Ann Wessel, BWSR

“ The Clean Water Funds have been key in getting a lot of these types of projects done. ... And now the Watershed-Based Implementation Funding is kind of a permanent version of that. ”

— Matt Solemsaas, Stevens SWCD administrator



award in 2023. The SWCD has nearly \$100,000 in additional projects lined up for when those funds become available.

"The funds (make) it easier to do the sediment dams, from my own experience as a farmer," said Ron Staples.

A Stevens County commissioner and BWSR Board member, Staples raises about 2,000 acres of corn and soybeans in Synnes Township. About eight years ago, he worked with NRCS' EQIP assistance to install more than a dozen sediment dams within

the Pomme de Terre River watershed.

"We all want cleaner water. Everybody's striving for that," Staples said.

Sixty percent of the 874-square-mile Pomme de Terre River watershed lies in Stevens County. It drains to the 105-mile-long namesake river, which runs through Perkins Lake. The only lake in Stevens County ringed by houses, Perkins is bordered by a park with a public boat launch.

"The areas that aren't

Funding Sources

Projects targeting the Pomme de Terre River and Perkins Lake in Stevens County draw from the following, which were awarded to the Pomme de Terre River Association:

\$541,776 in a 2019 BWSR Clean Water Fund projects and practices grant for targeted implementation within the multi-county watershed, available through Dec. 31, 2022.

\$717,428 in 2021 Watershed-Based Implementation Funding, available through Dec. 31, 2023.

\$304,100 in a 2019 MPCA award of EPA dollars to implement best management practices, available through Aug. 31, 2023.

impaired, we try and keep them not impaired. That's a main goal. And then we try to restore what we can," Solemsaas said. "The tons and tons of sediment that we're going to prevent from getting into the waterways with (work) like this Henrichs project — you add that up. If (the SWCD does) a half-dozen of those a year and our partners do that many as well — that's hundreds of thousands of tons of sediment, which carry a lot of nutrients. That helps. If we didn't do anything, that would all still be pouring into that system."

Restoring water quality takes time.

In the fields, water and sediment control basins produce a more immediate result. On Henrichs' land, the structures mended the gullies that siphoned topsoil and split the field.

"I think immediately we're going to be able to see addition in yield because everything in the (lowest spot) where the best ground is will now be farmable," Henrichs 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.