

A crew from Ehlert Excavating dug the new, remeandered channel and harvested sod from the site to stabilize the banks of Whiskey Creek on Aug. 2, 2022. This second phase of construction created 2.8 miles of remeandered stream within a 2.1-mile-long corridor.



# First 7 miles of Whiskey Creek restoration show effectiveness

NRCS' National Water Quality Initiative, MPCA pilot grant, Outdoor Heritage Fund, BWSR Clean Water Funds support Wilkin SWCD, Buffalo-Red River Watershed District's work with landowners benefiting water quality, water quantity, wildlife



Natural Resources Conservation Service website: [www.nrcs.usda.gov](http://www.nrcs.usda.gov)

VIDEO: [Phase 2 remeandering](#)

**B**RECKENRIDGE — Work is slated to begin this spring on the third phase of a \$7 million Whiskey Creek restoration designed to improve water quality, water quantity and wildlife habitat in and along the 20-mile-long Red River tributary and two ditches that outlet into the creek and add 9 miles to the project.



Photo Credits: Ann Wessel, BWSR



*Pete Waller of BWSR, left, Kim Melton of Wilkin SWCD and Jon Quast of NRCS viewed segments of Whiskey Creek to see previous and current restoration work.*



Melton and Quast discussed progress of the Whiskey Creek project on Aug. 2, 2022, as they walked along a newly remeandered stream segment near Breckenridge. Phase 2 of a planned \$7 million, 20-mile-long Whiskey Creek restoration was completed in 2022. Related upland practices bring the total cost to \$9.9 million. Clean Water Fund grants from BWSR and a National Water Quality Initiative award from NRCS are among the funding sources.

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The [project](#) fixes decades-old erosion and flooding problems stemming from sediment buildup. It directly affects about 650 landowners. But the benefits of phosphorus and nitrogen reduction extend north to Lake Winnipeg, which has experienced blue-green algae blooms. Native plants and grasses buffering the remeandered creek will create a swath of wildlife habitat stretching from the Rothsay area to the Red River near Kent.

“We’re cleaning this out and re-channelizing, and we are improving our water quality. We are improving our water quantity; and we’re creating wildlife habitat and we’re adding aquatic habitat,” said Kim Melton, Wilkin Soil & Water Conservation District technician. “Restoring Whiskey Creek, really it’s got multiple benefits.”

Those benefits include reducing instances of frequent farmland flooding.

The 2.8-mile-long

## Whiskey Creek Funding Sources

Federal, state and local sources support the Whiskey Creek restoration. (And the water management district’s assessment of benefiting landowners covers expenses that aren’t covered by grants, and builds a long-term maintenance fund.) Starting with the largest award, the grants include:

**NRCS’ NATIONAL WATER QUALITY INITIATIVE AWARD:** \$2.9 million, received in 2020, available over four years; a partnership among NRCS, state agencies and the U.S. Environmental Protection Agency, providing targeted funding for financial and technical assistance in small watersheds with great need and where conservation practices can make the most difference

**OUTDOOR HERITAGE FUND:** \$2 million, available via the Minnesota Department of Natural Resources’ Stream Habitat Program

**MPCA:** About \$1 million, available in four four-year cycles starting in 2020, via an EPA Small Watersheds Focus Program pilot; designed to restore impaired waters, prevent degradation, provide long-term funding for targeted water bodies

**BWSR CLEAN WATER FUNDS:** Two grants totaling \$640,000, both awarded to Wilkin SWCD for gully stabilization and stream restoration; \$320,000 awarded in 2019, \$340,000 awarded in 2021

**U.S. FISH & WILDLIFE SERVICE:** \$50,000 via USFWS’ Great Plains Fish Habitat Partnership

**RED RIVER BASIN FLOOD DAMAGE REDUCTION WORK GROUP:** More than \$25,000; the DNR and the Red River Basin Watershed Management Board co-chair the group; it recommends funding for projects from bond funds administered by the DNR’s Flood Hazard Mitigation program

remeander completed in August 2022 brings the length of remeandered stream to 7.1 miles. The Buffalo-Red River Watershed District awarded the contract for the next, 3.1-mile-long segment to Ehlert Excavating of Breckenridge, which completed the previous work.

The BRRWD seeks and approves project funding. Staff from the Wilkin SWCD and the USDA’s Natural Resources Conservation Service work directly with landowners on voluntary conservation projects.

Melton and NRCS District Conservationist Jon Quast surveyed the contractor’s progress in early August 2022.

Backhoes and bulldozers excavated a winding, channel, which ranges from 2.5 to 3 feet deep, and built the berms that contained the wider, shallower riparian corridor.

Remeandering the once-straightened channel will help to slow velocity, curb bank erosion and avoid



From left: Quast, Waller and Melton took a closer look at a buffer bordering Whiskey Creek on Aug. 2, 2022, near Breckenridge.

the sedimentation build-up that caused break-out flooding and cut gullies into fields. Spring melt and heavy rains will spill over into the riparian corridor. The constructed berms are designed to handle a 10-year flood event, and to stop overland flooding from contributing sediment and nutrients to the stream.

“Before this project was started, this was a big slough. It was farmed up (to the banks) on both sides,” Melton said during a stop overlooking a segment constructed in fall 2021. “It was wide. It was flat. It was full of cattails and sediment, and farmers contributed nutrients into (the stream). It was backed up. It did not flow. ... It was an impaired stream that did not function.”

Beaver dams and downed trees exacerbated the problem.

“Now we see this beautiful two-stage channel that’s going to help water move off the landscape,” Melton said. The buffer, she said, will add wildlife habitat, and it will prevent sediment and the pollutants it carries from entering Whiskey Creek.

“The remainder of Whiskey Creek is going to create miles-long wildlife habitat in the corridor, basically leading from the head of Whiskey Creek all the way to the Red River.”

—Jon Quast, NRCS district conservationist

A \$2.9 million National Water Quality Initiative award from NRCS leveraged federal, state and local funds — including \$1 million in U.S. Environmental Protection Agency grants available through the Minnesota Pollution Control Agency, \$2 million in Outdoor Heritage Funds via the Minnesota Department of Natural Resources, and \$640,000 in Clean Water Fund grants from the Minnesota Board of Water and Soil Resources.

Combined funding sources reduced landowners’ share to less than 10%.

“Overall, we have had really supportive landowners. A lot of them saw the success of (the [Wolverton Creek](#))



Altrichter



Freese

project,” said BRRWD Administrator Kristine Altrichter. “I think they see it as an opportunity to accomplish the goals that they have for their land.”

Pat Freese said he looked forward to work slated for 2024, which could restore to its historic channel the 0.75-mile-long stretch of Whiskey Creek that is encroaching on the buildings in his Nordick Township farmyard.

Last summer, he watched the Whiskey Creek project take shape about a mile to the south. He has seen drone footage of the Wolverton Creek restoration and has seen that project’s mature buffer plantings.

“I’m just so enthralled with it because they do such a

## Related Work

Nine property owners on an unnamed Whiskey Creek tributary saw the benefits of the Phase 1 restoration, and approached NRCS and SWCD staff about implementing additional projects on their land.

“They have a lot of issues with sedimentation backing water up onto their property and eroding some of their cropland,” Quast said. “We want to put more conservation on the ground and help them out as well as long as we have that funding available.”

Work to reshape that channel could begin as early as this year, depending upon site conditions.

NWQI funding from NRCS supports work on the channel, and upland treatments — such as reduced tillage, no-till, strip-till and cover crops — that contribute to water quality within the watershed.

Conservation practices that complement the Whiskey Creek channel restoration include 30-plus acres of completed and planned riparian and upland wildlife plantings; more than 20 grade-stabilization structures; 800-plus acres of reduced-tillage practices such as strip-till or no-till; and 1,500-plus acres of cover crops. The conservation practices landowners within the watershed have adopted on their own augment the NWQI-supported water-quality improvements.



**Left and right:** Phase 2 of the Whiskey Creek stream restoration, seen here on Aug. 2, 2022, connected to Phase 1 work completed in fall 2021, which created 4.3 remeandered stream miles within a 3.3-mile corridor along Minnesota Highway 9 in central Wilkin County. **Middle:** Vegetation flourished along a segment of Whiskey Creek. Remeandering the once-straightened channel will help to slow velocity, curb bank erosion and avoid sediment build-up.

nice job. As time goes along, hopefully the rest of the Whiskey Creek project will be undertaken, it will be cleaned up, and it will look similar in nature to what they did there,” Freese said.

“It’s going to clean out the sediment that has built up over the past 50 to 100 years, and allow the creek to flow better,” Freese said. “They’ll be able to take care of the (bank) erosion and at the same time remove the beaver dams.”

The BRRWD formed a water management district through which benefiting landowners are assessed.

“The benefit to the landowner is not only a reduction in annual flooding across their cropland and (a reduction in) crop loss. It also reduces soil erosion from their land, and head-cutting when those waters rise rapidly in the spring,” Quast said. “It benefits them by protecting source groundwater, and (by) preventing excess nutrients

**“ It was full of sediment and nutrients — pollutants — that would not allow this stream to function as a whole. Applying a two-stage stream system to this channel is going to make it function again. ”**

—Kim Melton, Wilkin SWCD technician

and pesticides from flowing from their cropland into the stream.”

By reducing field and streambank erosion, the targeted best management practices landowners are implementing throughout the Whiskey Creek watershed will curb sediment- nitrogen- and phosphorus-loading. Whiskey Creek is impaired for turbidity, bacteria, dissolved oxygen and macroinvertebrates.

Clean Water Fund grants supported the two-stage channel construction, and the practices landowners installed to reduce sediment and pollutants. The NWQI funding supported practices

landowners installed related to channel restoration, streambank restoration and buffer strips.

Quast, who has since taken a job with NRCS in North Dakota, elaborated on the buffers’ wildlife benefits:

“This is a fairly large increase in the available amount of habitat that we have in this area. We’re taking acres and acres of thoroughfare,” Quast said. “You’re talking deer, pheasants, turkeys, fox, your aquatic species in the stream, your invertebrates, water birds, herons — you name it. Anything that you can think of that’s in the western prairie will probably end up making its way

through here.”

SWCD staff will inspect and maintain the buffers and the riparian corridor, which ranges from 250 to 770 feet wide, depending upon how much land property owners wanted to enroll in permanent easements.

Voluntary [Minnesota Conservation Reserve Enhancement Program](#) easements were available for cropped land. By making easements available on the non-cropped land, the BRRWD made it possible for landowners to receive compensation for all of the buffered acres.

“The benefits to having CREP easements is the land is permanently protected,” said Craig Lingen, Wilkin SWCD district manager. “With the CREP easement, down the road if the land gets sold, the easement goes with the land. So that area will never be farmed again, which permanently protects the land for the creek.”

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