



Restoring Wolverton Creek

Buffalo-Red River Watershed District project would improve field drainage, create wildlife habitat, curtail Fargo-Moorhead's costs to treat drinking water. Work could start as early as this spring.



The history runs deep in the Buffalo-Red River Watershed District, where a \$10.4 million Wolverton Creek restoration 60 years in the making could start as early as this spring.

Planned improvements would get the creek flowing again, cut Fargo-Moorhead's drinking water treatment costs, curb soil erosion and flood damage to fields, and augment wildlife habitat.

The BRRWD board could open bids by early April.

The first, \$3.7 million



phase centers on 6 miles in the midsection where water stands stagnant. The second, \$4 million phase centers on 9 miles starting at the headwaters southeast of

Wolverton where eroded topsoil constricts the creek to a trickle.

Cost will determine whether the board proceeds with one or both phases.

Top: Eroded topsoil constricts Wolverton Creek near the headwaters. Here, Wilkin County Ditch 5A empties into the creek in Wolverton Township. **Left:** Buffalo-Red River Watershed District Administrator Bruce Albright, left, board member Peter Fjestad and engineer Erik Jones met in Barnesville Aug. 3 for a Wolverton Creek tour.

Photo Credits: Ann Wessel, BWSR



Straight east of Comstock, Wolverton Creek runs under Clay County Road 2 in Holy Cross Township. This is the downstream (north) view.

A third, \$2 million phase would augment previous work – adding side-inlet culverts and buffers, clearing downed trees – starting at the outlet where Wolverton Creek cuts to the level of the Red River.

“It’s unfortunate that it’s gone on almost 60 years when they identified the need a long time ago to get something done,” said BRRWD Administrator Bruce Albright.

A Red River tributary, 21-mile-long, north-flowing Wolverton Creek carries eroded topsoil from seven

Buffalo-Red River Watershed District

The 1,785-square-mile Buffalo-Red River Watershed District extends into the western edge of Otter Tail County and reaches into Becker County from the southwest. It’s one of 10 major watersheds of the

Red River Basin.

The Wolverton Creek Watershed parallels the Red River. One-third of 21-mile-long Wolverton Creek lies in Clay County, two-thirds lies in Wilkin County.

legal ditches that drain a 105-square-mile watershed spanning Clay and Wilkin counties south of Moorhead. The ditch systems were built and the creek straightened more than 100 years ago to

increase drainage and crop production on farmland made fertile by glacial Lake Agassiz.

“It’s 98 percent agriculture,” Albright said of the watershed, “and probably

some of the most productive soils of the whole watershed. ... When the lake was here, it accumulated 110 feet of sediment.”

Jay Nord recalled hitting the tops of fence posts buried under 4 feet of dirt when his father cleaned out a section of creek that dried up in the 1976 drought.

Today, Jay and his brother Carl raise 4,500 acres of corn, soybeans and wheat in Wilkin County. Some of their land borders three-eighths of a mile of the creek plus three of the legal ditches that drain into it.



Left: Willow trees frame an upstream, easterly view of Wolverton Creek in Clay County’s Holy Cross Township, about an eighth-mile from the Red River. Along this 2.5-mile stretch, grant funds the Clay County Soil & Water Conservation District received in 2007 were used to remeander the stream.

Middle: Less than a mile away by road, 130th Avenue South passes over Wolverton Creek in Holy Cross Township. Clay County Ditch No. 36 (not pictured) lies to the east in this upstream view. The creek still cuts a winding path at this point. **Right:** The outlet of Clay County Ditch 53 is visible off 28th Street South in Holy Cross Township. Wolverton Creek parallels the road for another half-mile before it flows through a culvert.

“We’ve spent a lot of money on those ditch systems. But we realize the coulee needs to be fixed for them to work efficiently,” Nord said. “Farming along it, we see how there’s always a couple feet of water that’s not flushing out.”

In some places, Albright said the channel runs upstream until the water gets deep enough to break through the sediment.

“Our part will flood and it shouldn’t. Our buffers are way beyond what is needed,” Nord said in early August.



“We’ve got damage this year, and we’ve only had a 4.5-inch rain in one week. That shouldn’t have happened.”

Extracting sediment from Wolverton Creek and re-establishing the grade line should fix that. Nord also sees the long-term benefits of stream restoration.

“Community-wide, there’ll be better habitat. There’ll be better drainage. Water quality. We won’t be dumping as much sediment load in – and that goes all the way to the river and all the way north,” Nord said.



Wilkin County farmer Jay Nord has cropland bordering a small stretch of Wolverton Creek plus three of the legal ditches that drain into it.

Wolverton Creek will gain 770 acres of contiguous riparian wildlife habitat in the form of 200- to 750-foot-wide buffers. The Minnesota Department of Natural Resources required buffers as a condition of the permit to work in protected waters. The creek will gain 6 stream miles in the re-meandering. It’ll also gain a floodplain, and 159 side-inlet culverts designed to slow field runoff.

“Instead of having an open ditch where the water just comes gushing and then leaving sediment there, you’d have a dike with a pipe through it,” said BRRWD manager Peter Fjestad of Otter Tail County. “Water would slow up and then get metered into it rather than just free-flowing

and causing more erosion.”

Keeping 6,500 tons – about 500 dump truck loads – of topsoil out of Wolverton Creek annually is projected to exceed state water quality standards for turbidity, cutting Moorhead’s drinking water treatment costs.

Moorhead gets about 85 percent of its drinking water from the Red River. Wolverton Creek is one source of Red River sediment. Engineers estimate the project would cut in half sediment-loading from Wolverton Creek.

Many of the problems present today date to the mid-1950s, when the Soil Conservation Service registered talk of repairs. Meetings about Wolverton

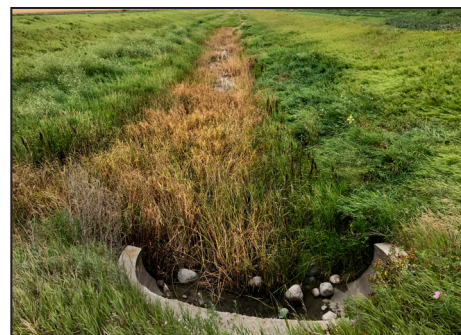
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– Jay Nord
Wilkin County farmer

Creek resumed a few years after the Buffalo-Red River Watershed District reorganized in 1976.

Landowners’ interest in repairing the creek channel rose and fell with flood conditions. BRRWD drew from a \$289,000 Clean Water Legacy grant Clay Soil & Water Conservation District received in 2007 to fix the most urgent problems along 2.5 miles near the mouth of Wolverton Creek, and to survey the entire channel.

“Once we had the whole



Left: An example of adequate buffering borders Wilkin Creek off of 28th Street South. The Wolverton Creek restoration will add 770 acres of riparian wildlife habitat through buffers, a condition the Minnesota Department of Natural Resources required to work in protected waters. **Middle:** East of Comstock, Wolverton Creek runs under Clay County Road 2 in Holy Cross Township. **Right:** Clay-Wilkin Judicial Ditch 1 is one of seven legal ditches that empty into Wolverton Creek, which flows to the Red River. The Wolverton Creek watershed drains 105 square miles within Clay and Wilkin counties.

survey done, we could see it doesn't do you any good to clean a half-mile here when you're just going to be running into a sediment wall once you quit your clean-out," Albright said.

The Buffalo-Red River Watershed District's seven-member board on Aug. 15 unanimously adopted the Wolverton Creek restoration project after a public hearing.

During its Aug. 14 meeting, the board contributed \$2 million in watershed funds. On Sept. 11, the board established a water management district to sustain the agricultural ditch system.

The WMD will raise \$100,000 a year for 10 years. (Farmers' annual cost: about \$1 an acre.) The board also wanted to establish a landowner-funded source to handle maintenance after WMD funds expire.

To date, BRRWD has secured \$7.8 million for the \$10.4 million project – including a \$2.8 million Targeted Watershed Program grant from the Minnesota Board of Water and Soil Resources, a \$1.9 million Lessard-Sams Outdoor Heritage Council award and a \$100,000 Enbridge Ecofootprint grant.

The watershed district



Top: Buffalo-Red River Watershed District Administrator Bruce Albright made a stop where Wilkin County Ditch 5A empties into Wolverton Creek in Wolverton Township. **Right:** Albright pointed to a spot near the start of the tour in Clay County's Holy Cross Township.



had explored making up the balance by funding buffer easements in areas that don't qualify for the Minnesota Conservation Reserve Enhancement Program. The Lessard-Sams Outdoor Heritage Council and DNR allowed BRRWD to fund the crop and non-crop easements it obtains

in connection with the restoration, using Reinvest in Minnesota rates.

The watershed includes about 450 landowners, about 40 of them with land bordering Wolverton Creek.

"Either you're a landowner that's got the creek running

“
We're going to have a channel that's going to be property maintained. It's going to be reconstructed so that it works, and the watershed's going to put in place a system to maintain it.”

– Bruce Albright, Buffalo-Red River Watershed District, on one restoration benefit

through your property where the work is going to take place, or you're a landowner on (one of the ditches) so you need this creek as an outlet. That's how everybody within the 105-square-mile watershed is involved," Albright said.

The Minnesota Board of Water and Soil Resources' mission is to improve and protect Minnesota's water and soil resources by working in partnership with local organizations and private landowners. Website: www.bwsr.state.mn.us.



Left: A couple of miles south of the Clay-Wilkin county line in Wolverton Township, narrow buffers are visible in the upstream (east) view of Wolverton Creek. **Middle:** At a future buffer site, drowned-out crops border the stream channel. **Right:** Tall grass nearly obscures Wolverton Creek at Wilkin County Rod 3/170th Avenue in Mitchell Township, where the creek cuts a thin line between fields.