



In Polk County, \$7.6 million Sand Hill River project curbs soil erosion, helps fish habitat

July 2017 Snapshot

A Sand Hill River stabilization project along a 5-mile stretch between Fertile and Beltrami in western Polk County is on pace to cut in half the amount of sediment entering the channel, help farmers by curbing soil erosion and the cost of flood-damage, and improve habitat for fish – including sturgeon that spawn upstream.

A Red River of the North tributary, the Sand Hill is impaired for turbidity. This 5-mile stretch was deemed a high priority to reduce

sediment loading. The project advances a big-picture goal of reducing by 20 percent the amount of nutrients the Red River basin deposits in Lake Winnipeg.

“It’s going to enhance the river’s water quality, which is No. 1 in the SWCD’s eyes. And then it’s going to enhance the aquatic life and habitat, which is No. 1 in the DNR’s eyes,” said Nicole Bernd, West Polk SWCD district manager.



Water flowed over one of 18 rock riffles constructed within a 5-mile stretch of the Sand Hill River.

Eighteen rock riffles will reduce velocities to 5 feet per second at bank-full conditions. They were paid for in part through a \$475,000 Clean Water Fund grant awarded to the West Polk Soil & Water Conservation District in Fiscal Year 2015, the SWCD’s \$118,750 match, and a \$100,000 Enbridge Ecofootprint Program grant.

The four concrete drop structures modified by the U.S. Army Corps of Engineers will allow fish passage while maintaining grade-reduction benefits. They were paid for in part with nearly \$5 million in U.S. Army Corps of Engineers funding and more than \$1.9 million in Lessard-Sams Outdoor Heritage Fund dollars.

This work modifies a 1950s U.S. Army Corps of Engineers flood control project that straightened and channelized parts of the Sand Hill River. That channelization removed meanders, producing a steeper channel slope; shortened stream length; and increased flow velocities.

The result: channel bed incision and bank destabilization.

“The Corps came in and made (the river) straight a long time ago because they wanted to drain a lot of water, which it does very well. Over that 5 miles of straightened stream, you wind up with a lot of instability issues. There’s a lot of agricultural fields in that area, fields slumping into or toward the river,” said Brett Arne, Detroit Lakes-based Board of Water & Soil Resources conservationist.

Initially, there was plenty of distance between field and river. But increased rainfall exacerbated problems with the straightened river. Soil eroded. Township roads flooded.

“A river will always find its natural way. It will always find its meander, no matter how many times it’s been channelized,” Bernd said. “We need to keep agriculture foremost in our minds. Over the years we’ve had problems with cutting into fields, erosion coming into the river from fields, from other sources. What it has done is impair the river.”

The Sand Hill River project will see an unexpected second chapter. The work came in nearly \$1.5 million under budget because the contractor on site for the Corps’ fish habitat work also completed the water quality work.

With about \$246,000 in remaining Clean Water Fund money, which must be used for water quality projects, Bernd said the SWCD planned to install nine more riffles downstream near Beltrami. Remaining Lessard-Sams dollars, which total more than \$1.2 million, can be used for fish habitat and fish passage projects.

After the riffles, the priorities are installing side-water inlets to help control field runoff; and then replacing two box culverts at the Kittleson Creek outlet to the Sand Hill River. Any remaining funds would modify a dam to allow fish passage at Sandhill Lake.

“This project has leveraged funding to help our economic base. This project has benefitted our youth through education and monitoring,” Bernd said. “It has benefitted recreation with the kayaking and fishing. And it has hugely benefitted the collaborative working relationship between the SWCD, the watershed district, the DNR and the U.S. Army Corps of Engineers.”