

Grants propel Grass Lake restoration



Clouds reflect on the partially restored north end of Grass Lake. Once the \$5.5 million restoration is complete, Grass Lake will resemble a cattail marsh. Watershed modeling and previous data collection project the Grass Lake restoration will reduce sediment-loading from a 13-square-mile drainage area to downstream waters by more than 90%. It's expected to reduce phosphorus by nearly 60%.

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Kandiyohi SWCD



[The BWSR Board visited the site as part of its 2017 annual tour.](#)

The Kandiyohi County-led multi-partner, multi-benefit project is in its final phase. Among anticipated benefits: water quality improvements in downstream lakes, Willmar flood relief, improved agricultural drainage and shoreline erosion control.

WILLMAR – The final piece of a \$5.5 million shallow lake restoration 30 years in the making is under construction this fall in Kandiyohi County. Once the main water control structure is built and the 850-acre basin fills, Grass Lake will once again filter and retain water.

The multi-benefit project has garnered support from local landowners and conservation organizations, the city of Willmar, Kandiyohi County, Kandiyohi Soil & Water Conservation District (SWCD), and federal agencies including the USDA's Natural Resources Conservation Service (NRCS) and the U.S. Fish & Wildlife Service.



Engelby



Peterson

“We’re hoping to see water quality improvements downstream, far less shoreline erosion on the lakes and rivers downstream, and then some floodwater relief,” said Loren Engelby, Kandiyohi

County public drainage manager. By retaining water, Grass Lake also will improve agricultural drainage systems’ efficiency.

A \$250,000 Clean Water Fund grant from the Minnesota Board of Water and Soil Resources (BWSR), and a \$400,000 Conservation Project Legacy grant from the Minnesota Department of Natural Resources (DNR) made building the water control structure possible.

Details

RESTORATION ELEMENTS: 1,040 acres of shallow prairie wetland, nearly 500 acres of upland habitat, islands (including prairie and native oak savanna)

DOWNSTREAM, GRASS LAKE WATERSHED: lakes Wakanda, Eleanor, Little Kandiyohi, Big Kandiyohi, Lillian; South Fork Crow River

“That is what we needed to do the final phase,” Engelby said. He was appointed project coordinator for the county, but his 27-year involvement started when he was Kandiyohi SWCD’s RIM program manager.

Built in 1906 to expand ag production, Kandiyohi County Ditch 23 ran through the middle of Grass Lake. More of the lake was drained in 1955. Over time, changing ag practices and city stormwater pushed more water through the system, contributing to flooding in southeast Willmar, downstream erosion and downstream lakes’ water-quality impairments. Increasingly heavy rains made farming within the 1,200-acre basin more difficult.

The first landowner enrolled the first Reinvest in Minnesota (RIM) easement within the basin in 1988. Others followed. Eventually, Kandiyohi County and BWSR agreed it was best to pursue a lakebed restoration instead of a piecemeal restoration.

“From the city of Willmar and the local residents (to) the agricultural community and the lakes, rivers and streams downstream – they’re all going to experience, at some level, some relief and some benefit,” Engelby said.

Southeast Willmar was prone to flooding during the spring melt and after heavy rains. Grass Lake and its surrounding wetlands – visible from the Minnesota Highway 23/71 bypass – feed the South Fork Crow River, which flows into the Mississippi River, and a series of shallow lakes popular among anglers and waterfowl hunters.

“There’ll be less sediment going downstream, so there’s a great water quality component,” Engelby said.



The final phase of work involves a water control structure.

Numbers & Current Partners

COSTS: About \$2.5 million for easements acquisition; about \$3 million for vegetation, restoration

BWSR GRANTS: \$250,000 Clean Water Fund grant for riparian easements and restoration awarded in 2020 (Kandiyohi County is providing a 10% in-kind match); \$1.4 million awarded in 2016 for project activities including construction

and consulting services contracts (funds came from a 2011 capital budget appropriation).

CURRENT PARTNERS: Kandiyohi County and Kandiyohi SWCD’s partners include the USDA’s Natural Resources Conservation Service, BWSR, DNR, MPCA, the city of Willmar, Ducks Unlimited and the Wakanda Lake Association.

“Fisheries and the waterfowl habitat (are) going to be improved. The lakebed itself will create phenomenal wildlife habitat. Then the water quality component – just by storing and treating those 9,500 acres of watershed coming into it, should be just incredible.”

The project restores 850 acres of the 1,200-acre basin. Kandiyohi County will maintain the level of the restored lake and manage the vegetation.

Twenty-five conservation easements – 22 of them perpetual RIM easements, two of them 30-year easements through NRCS’ Federal Wetlands Reserve Program, one a Kandiyohi County perpetual easement – protect the entire 1,500-

acre project area, which encompasses seasonal wetlands and upland habitat.

From Grass Lake, water flows to Lake Wakanda. A 1,750-acre shallow lake a few miles south of Willmar, Wakanda is among the lakes affected by excess nutrients, municipal wastewater and untreated runoff. A popular fishery and designated waterfowl resting area, Lake Wakanda was once a staging area for thousands of waterfowl.

“We’re definitely looking for flooding reductions downstream to help impact that chain of lakes,” said Ryan Peterson, the Kandiyohi SWCD RIM coordinator who works directly with landowners.

Grass Lake is also the

headwaters of the South Fork Crow River. The Minnesota Pollution Control Agency (MPCA) in 2008 listed Lake Wakanda as impaired for aquatic recreation due to excess nutrients. Severe algae blooms have been a problem. The South Fork Crow River is impaired due to turbidity and excess nutrients.

Based on watershed modeling and previous data collection, the Grass Lake restoration is expected to reduce sediment-loading from a 13-square-mile drainage area to downstream waters by more than 90%. It’s expected to reduce phosphorus – which feeds the algae that can turn lakes green – by nearly 60%.

“It’s really been looked at as the silver bullet,” Peterson said of the Grass Lake restoration, which will resemble a cattail marsh when work is complete.

“We’ve also restored a lot of upland habitat around the perimeter that should help pollinators and ground-nesting species,” Peterson said.

The project has progressed as funds became available. Engelby said keeping everyone informed was the key.

“We have 15 or 16 private landowners and their families, we have the county board of commissioners, we have the county drainage authority, we have the city of Willmar, we have a multitude of conservation groups – DNR, U.S. Fish & Wildlife Service, Ducks Unlimited, Pheasants Forever, Minnesota Waterfowl have all been very significant partners,” Engelby said of additional partners involved over the years. “What’s unique is being able to pull all those partners together to reach a common goal.”

Work is expected to finish by next spring.