

Red River Basin conservation projects highlight progress across the region



Rock arch rapids at the modified Buck's Mill Dam site on the Pelican River near Lake Melissa in Becker County provide a gradual route for fish while maintaining the existing water-control elevation.

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Ashley Rezachek,
BWSR



Clean Water Funds supported some of the conservation projects featured during the Minnesota Watersheds 2026 Summer Tour, including modifications made at the Buck's Mill Dam site and wetland restoration work in Becker County.

The Minnesota Watersheds 2026 Summer Tour showcased conservation projects that are improving water quality, reducing flood risks, controlling erosion and sediment, restoring habitat and reconnecting rivers across the Red River Basin.

Minnesota Board of Water and Soil Resources (BWSR) Board members, staff and partners were among those who viewed 18 projects in Becker, Clay and Norman counties. The late-August tour was hosted by Minnesota Watersheds — a nonprofit that serves local governments that manage water within watershed boundaries — in partnership with BWSR, the Red River Watershed Management Board (RRWMB), the Wild Rice Watershed District (WRWD), the Pelican River Watershed



Each August, BWSR Board members, BWSR staff and partners tour conservation sites to see project outcomes and accomplishments. Tour locations rotate throughout the state. Between the four stops featured during the 2026 tour, attendees also viewed additional projects from the bus, including flood-control levees and ring dikes that protect rural homes and agricultural land, wetland restorations, agricultural erosion-control practices and streambank stabilization projects.

District (PRWD), the Becker Soil & Water Conservation District (SWCD) and the Red River Retention Authority.

"At a high level, learning about the many funding sources committed to this region and

seeing their implementation is inspiring," said BWSR Board Chair Todd Holman, who attended the tour. "The vision and management of the locally led watershed districts, SWCDs and their many contract agents was so easy to see in rock arch

dam projects, flood damage reduction projects and projects that stack public benefits for habitat, water quality and flood control.”

At four of the sites featured on the tour, participants disembarked to see the work up close and hear from the partners involved. At the remaining locations, participants viewed and discussed the projects from the tour buses.

Details about the four Aug. 26 stops follow.

Buck’s Mill Dam: Fish passage

The Buck’s Mill Dam project on the Pelican River near Lake Melissa in Becker County improved fish passage and addressed safety concerns about the deteriorating structure.

More than 100 years ago, the dam was part of a lock system used by steamboats traveling between Detroit and Pelican lakes.

Due to concerns that changes to the dam could affect upstream water levels and recreational lakes, project partners began community outreach early.

The PRWD, the Minnesota Department of Natural Resources (DNR) and Moore Engineering Inc. worked together on the project, which is part of the larger DNR [Reconnect the Red Fish Passage Program](#) and [Get Out MORE](#) campaign. Becker County acquired the private land, while other partners contributed expertise and funding.

The project replaced an abrupt drop with natural rock arch rapids to maintain the existing water-control elevation while allowing fish passage. A downstream



Top: Tour attendees viewed the Goose Prairie Marsh enhancement project in Clay county during the Aug. 26 tour. **Bottom:** Attendees also viewed the Rice Lake wetland restoration site in Becker county where rock arch rapids were installed.



culvert was also replaced. The river was slightly realigned to protect private property where the embankment was getting close to a building.

Construction took half the time originally planned, finishing in June after about four months. The \$3 million project was funded through the DNR’s Get Out MORE campaign and the Outdoor Heritage Fund, which draws from the Clean Water, Land and Legacy Amendment.

“This is one of the best projects I’ve ever worked on for outreach and community buy-in, and I think that’s because it was teed up for

so long. Everybody knew it was a target. Everybody knew we had a local partner in the watershed working with the DNR, working with soil and water. We all came together. We had a lot of community support,” said Shanna Rix-Bach, PRWD interim administrator.

Before construction finished, project partners observed several fish moving through the new rapids, including a 32-inch walleye. A bald eagle was also spotted carrying off a large fish.

“It was truly the collaboration and the communication

intentionality of all departments working together that made this project a success,” said Garrett Monson, senior project manager at Moore Engineering Inc.

Pelican River Watershed District: Rice Lake wetland restoration

For the PRWD, the Rice Lake wetland restoration represents more than two decades of work.

“This project is in our board minutes back into the ’70s and ’60s. Our boards have been discussing this since we were founded in 1966. So for us to complete the first phase and then be working on the second phase, this is a big, big win for our watershed district,” Rix-Bach said.

Becker County Ditch 13 was constructed in the 1910s to promote pasture and ag use. The effort had limited success, and the area remained a partially drained wetland that would eventually become the focus of restoration efforts.

PRWD and the Minnesota Pollution Control Agency (MPCA) began water-quality testing throughout the Upper Pelican River watershed in 1995. A 2002 assessment found water-quality impairments in Little Floyd, North Floyd, Big Floyd, Big Detroit and Little Detroit lakes. Excessive phosphorus loading was identified as one of the primary concerns.

Monitoring data showed total phosphorus concentrations increased about threefold from just downstream of Little Floyd Lake to just downstream of the Rice Lake wetland. Studies identified the 280-

acre wetland as a primary source of phosphorus loading to Big Detroit Lake, supporting the case for restoring the wetland to reduce phosphorus release.

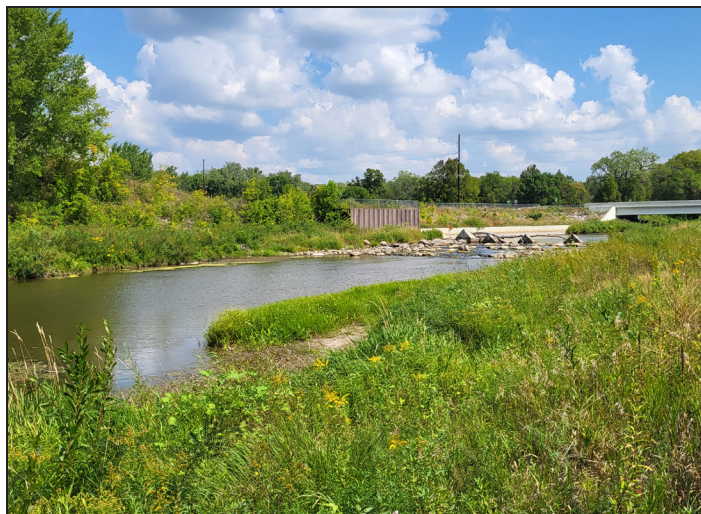
The PRWD acquired the first of 50-plus easements for the project in 2003. It secured the final easement in September 2025.

The restoration is being constructed in two phases. The first, \$540,000 phase, completed in 2021, included an upper embankment and water-control structure with drawdown capability, and a rock arch rapids to restore Rice Lake. The culvert at the historic Rice Lake outlet was also replaced with a rock weir grade-control structure to reduce future maintenance.

The second phase, under construction in fall 2026, includes another embankment, water-control structure and rock arch rapids, which will restore additional wetlands along County Ditch 13. The work is expected to be completed in November at an estimated cost of \$1.2 million.

Water-quality monitoring will continue following the restoration. Phosphorus levels coming out of the restored area are still fluctuating as the lake adjusts to the restored hydrology, while summertime phosphorus levels in Big Detroit Lake remain within MPCA water-quality goals. The project also contributes to a growing network of fish-passage improvements on the Pelican River.

The project is one of the watershed district's longest-running restoration initiatives and has been a long-term partnership



The Heiberg Dam restoration project in Norman County restored the Wild Rice River's historic path while retaining the dam's role in controlling ice breakup.

involving the DNR, which provided in-kind support. Clean Water Fund dollars from BWSR support the restoration.

Goose Prairie WMA: Managing water for habitat

The Goose Prairie Marsh enhancement project is helping to balance two needs: storing spring floodwater and maintaining and improving wildlife habitat.

"This was a win-win, a good partnership project where we're gaining wildlife benefits. We're also gaining some flood storage, especially in the spring," said Rob Baden, Detroit Lakes-based DNR area wildlife supervisor.

The project was constructed from 2022 through 2024 to improve water-level management and reduce flood risks in the marsh and surrounding headwaters of the South Branch Wild Rice River.

The project established an additional 119 acres of permanent vegetation on private lands to help buffer the existing 642-acre Goose Prairie Wildlife Management

Area (WMA). It also provides up to 1,315 acre-feet of spring flood storage from a roughly 6-square-mile watershed.

The work addressed problems with Clay County Ditch 18, which historically ran through the marsh. Sediment and cattail buildup in the outlet channel had restricted flows, while the ditch created maintenance challenges and allowed water levels in the marsh to fluctuate rapidly.

The project included a new outlet channel outside the marsh, and a new water-control structure. Moving the channel outside of the marsh means future ditch maintenance won't affect the marsh, while the control structure allows DNR and WRWD staff to manage water levels throughout the year.

Water levels are raised in the marsh each March to store spring runoff. By May 1, the water level is drawn down to normal pool level and maintained throughout the summer to minimize rapid water-level fluctuations that could affect nesting birds and

provide adequate water levels for aquatic plants. The water level is lowered again toward the end of the year to create additional storage capacity for the following spring.

The \$1.5 million project was a cooperative effort involving the DNR, WRWD and regional partners. Funding came from several sources, including the Outdoor Heritage Fund, RRWMB, WRWD, Watershed-Based Implementation Funding (WBIF) from BWSR and the DNR's Flood Hazard Mitigation Program.

Heiberg Dam: Restoring a river

J.F. Heiberg, a Norwegian-born businessman who settled in Twin Valley, Minnesota, built the Heiberg Dam more than 100 years ago to mill flour, and later, to generate electricity.

After the dam was destroyed by a flood in 1965, landowners and residents observed changes in river conditions, particularly during the spring ice breakup. Concerns about increased ice-related erosion downstream prompted efforts to reconstruct the dam, which the WRWD did in 1975.

The reconstructed dam remained until a 2002 flood, when the Wild Rice River broke through its banks and moved into the Mashag Creek channel, bypassing the dam and cutting a new path for the river. The change disconnected meanders and significantly shortened the river.

The Heiberg Dam restoration, constructed in 2006 and 2007, restored

the river's historic path while retaining the dam's role in ice management. The project was a collaboration involving the DNR, WRWD, White Earth Nation and other partners. It rebuilt the upstream embankment and re-established the connection to the Wild Rice River oxbow channel.

The work lowered the dam's crest by about 6 feet. Four-foot-tall icebreakers reduce

the potential for larger ice jams.

The project also incorporated rock boulder weirs to improve fish passage and create a gradual transition instead of the abrupt drop associated with a traditional low-head dam. Additional work by the DNR addressed erosion farther downstream and helped maintain the restoration work near the dam.

In 2007, partners celebrated the project with the reintroduction of lake sturgeon to the Wild Rice River. The White Earth Nation was instrumental in the stocking effort at the dam site. Since then, the DNR has documented lake sturgeon spawning in the river system, a sign of progress in reconnecting habitat throughout the basin.

The \$1.14 million project was funded by the WRWD with support from the U.S. Fish and Wildlife Service, the DNR, the White Earth Nation, the Federal Emergency Management Agency and the National Fish and Wildlife Foundation.

BWSR staff members write and produce Snapshots, a monthly newsletter highlighting the work of the agency and its partners.