

Vermillion River watershed tour spotlights rural, urban conservation



Habitat improvement projects at East Lake in Lakeville were among the conservation projects featured during the Summer Tour with BWSR and Partners within the Vermillion River watershed on Aug. 23. VRWJPO senior watershed specialist Travis Thiel, who has since been named VRWJPO administrator, discussed conservation efforts affecting nutrient-impaired East Lake, which can be seen in the background. **Photo Credits:** Ashley Rezachek, BWSR



Clean Water Funds supported some of the conservation projects featured during the annual board tour held in the Vermillion River watershed.

During an eight-stop tour of projects across Dakota County, the Minnesota Board of Water and Soil Resources (BWSR) and the Vermillion River Watershed Joint Powers Organization (VRWJPO) highlighted local conservation and water-quality efforts throughout the Vermillion River watershed.

The tour drew more than 60 people who viewed and learned about local conservation and water-quality projects. Featured work included habitat enhancements, stormwater improvements, a 120-acre wetland bank easement, and a family farm that incorporated native prairie strips to filter surface water runoff.

BWSR and the VRWJPO hosted the daylong tour, which explored diverse projects in both urban and rural settings. The Vermillion River watershed covers 335 square miles, the largest by area in the seven-county metropolitan area.



About 49 miles of streams and tributaries in the watershed are Minnesota Department of Natural Resources-designated trout streams.

“There were a lot of urban opportunities to see projects and programs that we don’t always see and hear about as much,” said BWSR Board Chair Todd Holman.

“I thought the tour was an exceptional mix of urban, rural, private landowner

Grazing goats, seen on one of the Aug. 23 tour stops, helped to restore the habitat surrounding East Lake in Lakeville.



Left: The city of Apple Valley and the VRWJPO used a BWSR Watershed-Based Implementation Funding grant to retrofit a stormwater pond in Erickson Park in 2021. The project provides additional water-quality treatment and infiltration, resulting in better management and treatment of low flows, a reduction in phosphorus delivery to Farquar Lake, and better access for maintenance. **Middle:** The segment of the Vermillion River within Rambling River Park in Farmington is impaired for turbidity, dissolved oxygen and aquatic life. An Aug. 23 tour stop highlighted a trout stream restoration, which involved planting native seeds, constructing bioengineering practices and excavating soil to better connect the Vermillion River to its floodplain. **Right:** The city of Lakeville and the VRWJPO were among the partners involved in the King Park stormwater reuse system project, one of eight stops on the summer tour. A pump system reuses and moves water from the stormwater ponds to irrigate the park's baseball fields.

work, collaboration with partners and local governments,” Holman said. “It showed in-stream habitat work, riparian habitat work, and all the thinking that goes behind each project. It showed how partners team together to use BWSR programs to help execute their goals and objectives.”

The tour drew representatives from the cities of Apple Valley, Farmington and Lakeville; landowners; Dakota County Soil & Water Conservation District staff; Dakota County commissioners and staff; and state and federal agency staff.

From its headwaters near Elko, the Vermillion River flows east through Dakota County to Hastings, where it falls over a bedrock cliff, creating Vermillion Falls. The river then turns south and runs parallel to the Mississippi River. The Cannon River joins the Vermillion before it discharges to the Mississippi River near Red Wing.

Recent assessments indicate challenges within the watershed include excess sediment, bacteria and nutrients, and low dissolved oxygen levels. These issues negatively impact wildlife, including trout. Additional watershed concerns include

rising nitrate levels in groundwater and surface water.

The first tour stop, in the city of Lakeville, showcased habitat improvement efforts at East Lake, which is impaired due to excess nutrients. Adjacent woodlands contain a large population of invasive species within the understory. A habitat assessment the city completed in 2021 identified the need to continue restoration efforts within East Lake and the surrounding area. Since then, the city has partnered with the VRWJPO to restore 1,600 feet of shoreline and enhance 18 acres of native oak savanna. The Clean Water Fund-backed project included native seed plantings to stabilize the soil, plus invasive species removal

on the shoreline and in the woodlands.

The next stop highlighted a stormwater reuse system in Lakeville’s King Park. Project partners — the city, the VRWJPO, BWSR and Dakota County — worked on a three-phase irrigation system to prevent stormwater runoff from overflowing the nearby stormwater pond and draining into Middle Creek, an impaired tributary of the Vermillion River.

In 2011, partners installed a pump system to irrigate two baseball fields and lower the water level in the stormwater pond. During the project’s second phase in 2016, a larger pond was built to collect stormwater from a nearby reconstructed road. A new,

larger pump station was installed, and two additional baseball fields were irrigated. Lakeville spearheaded the third and final phase in 2019, which irrigated an additional four baseball fields and the park’s common areas using water from the pond.

Holman remarked on project partners’ ability to create a mutually beneficial system, despite their varying priorities.

“It’s not completely an easy process,” Holman said. “Those folks clearly worked together to try to figure out how to do good reuse and climate resiliency work, and cost-effective work for their constituents within the context of being safe, effective and thinking a little out of the box.”

Annual estimates show the first two phases of the project save about 3.1 million gallons of the municipal water supply. The project has seen other benefits including a reduction in total suspended solids, total phosphorous, E. coli and stormwater discharge into Middle Creek.

The tour concluded with a visit to the South Branch Vermillion River nitrate treatment constructed wetland in Castle Rock Township. The South Branch Vermillion



Dakota County SWCD resource conservationist John Stelzner and NRCS soil conservation technician Matthew Schaar discussed prairie strip implementation and climate resiliency on the Kimber family farm in Castle Rock Township, one of eight stops on the Aug. 23 summer tour.

River subwatershed has the highest nitrate load in the Vermillion River watershed, contributing to drinking water contamination in the eastern part of the watershed.

In 2017, [the VRWJPO designed and constructed a nitrate](#)

[treatment practice](#) next to Dakota County Road 78, which the county was rebuilding. A wetland was created and enhanced with wood chips to reduce nitrate levels and improve the quality of surface and drinking water.

A neighboring pre-treatment pond allows the bulk of the sediment to settle out before water discharges to the wetland. The project reduces total nitrate levels by an estimated 13,600 pounds per year, and suspended solids by an estimated 7.6 tons

per year. Additional benefits include improved habitat within the South Branch tributary and the main stem of the Vermillion River, where sediment negatively impacts wildlife refuge and spawning areas.

Five questions with BWSR Board Chair Todd Holman

Gov. Tim Walz appointed Todd Holman as the new Minnesota Board of Water and Soil Resources (BWSR) board chair in July. Holman replaced Gerald VanAmburg. Holman is the Mississippi Headwaters program director for the Minnesota-North Dakota-South Dakota Chapter of The Nature Conservancy. He manages the Camp Ripley Sentinel Landscape program, helps with the North Central Conservation Roundtable consortium, and has worked on protection program application in the Pine, Crow Wing and Upper Mississippi river watersheds. Holman worked for several years in land-use planning for Todd and Crow Wing counties, and was a community development director for the city of Baxter. He was vice-mayor of Baxter for 13 years. Holman joined the BWSR Board in 2019. He later moved to St. Cloud and was appointed as a citizen member on the board. His term as chair runs through January 2025.

Holman shared goals and ideas following his appointment as chair. The following has been edited for length.

What do you see as the biggest current opportunity for BWSR?

This last legislative session was one of the most



BWSR Board Chair Todd Holman attended the 2023 summer board tour.

successful for both new and programmatic conservation funding support. Our opportunity is to get that funding out through our programs to the land and water where it can have the most positive impact. It is also our opportunity to find new ways to deliver and serve communities that can benefit from our programs.

What do you view as BWSR's biggest challenge?

We live in a large and very diverse state. Our continued challenge is to provide technical services through programs and financial incentives that benefit soil and water, soil health, forests and local economics that can be resilient for future generations. Incorporating the state [Climate Action Framework](#) goals and objectives and the people

elements into our existing and pilot programs will be a near-term focus for BWSR.

How is BWSR involved in work that addresses a changing climate?

BWSR staff have participated in the development of the state's first Climate Action Framework. That framework guides us as a lens to look through as we develop new programs, decision support tools, financial incentives and technical support for our partners, landowners and interested parties across Minnesota. The framework also gives BWSR new opportunities to develop interagency and partner collaborations to achieve those climate goals.

BWSR is among the lesser-known agencies. What's your nutshell description of the agency?

The history and current practice and purpose of our organization is to deliver soil and water conservation technical services and financial incentives to private landowners, farmers, foresters, conservation districts, watershed districts, watershed management organizations and other interested partners and persons. There are many opportunities in our future to build relationships to provide these services to non-traditional partners going forward as we develop pilot programs and outreach tools to achieve locally developed goals.

What's one thing you wish everyone knew about BWSR?

BWSR is really informed by local conservation priorities developed in concert with local districts and organization staff. Local staff have meaningful relationships with landowners as they provide technical assistance and support over years of continued service. BWSR is all of those people who link up through our agency staff to the board's decision-making process. It is that grassroots connection to landowners and interested parties that I think makes BWSR unique and successful.