A flood, a phone call, a wave of relief

> **“That’s the key for keeping the Minnesota River clean. You want to hold that water back as long as you can, and that’s exactly what happened in this case.”**
>
> — Greg Taylor, Lyon County landowner

Greg Taylor had installed a series of 12 dams on his Lyon County property. After two hard rains, the retention ponds filled but didn’t overflow into the emergency spillway. Three to 4 feet of debris covered the grates in the ponds’ concrete overflow structures. Taylor took care of the post-storm inspection and debris removal. **Photo Credit:** Kerry Netzke, Area II Minnesota River Basin Project

In Lyon County, the conservation work Area II Minnesota River Basin Projects accomplished with one landowner is put to the test

CLEAN WATER LAND & LEGACY AMENDMENT

MARSHALL — When the Area II Minnesota River Basin Projects’ phone rings after two hard rains and a flood, it’s rarely with good news.

Greg Taylor was on the line. The Marshall-area landlord and property manager had installed 12 dams on the once-farmed quarter-section he’d turned into a long-term conservation project. Three of the dams were cost-share projects engineered and constructed through Area II. The oldest of those, built nearly 20 years ago in a deep ravine, stood about 25 feet tall and involved a 6.3-acre flowage easement.

“I thought, ‘Oh dear Lord, they washed out’ — because that’s why (a landowner would) call,” said Kerry Netzke, Area II executive director. Instead, Taylor was reporting a success.

“The dams worked perfectly,” Netzke said.

A 5.5-inch, three-hour rain in late June was followed by 7 inches over two days in early July. The retention ponds filled but didn’t overflow into the emergency spillway. None of the structures was damaged. The system slowed the floodwaters, as it was designed to do.

“I knew they would hold,” Taylor said. “What I was flabbergasted by was none of our emergency overflows,

which are grass swales, had any debris in them at all but the pond was right to the top."

Three to 4 feet of debris covered the grates in the ponds' concrete overflow structures. Trash racks are installed at the top of the concrete manhole risers to prevent floating debris from entering and clogging the concrete pipe that runs through the earthen embankments. The conical-shaped galvanized steel rack is designed for debris to clear itself when floodwaters recede. With so much debris collected, in this case it was necessary to manually clear the accumulated cornstalks and small tree limbs.

The landowner is responsible for post-storm inspection and debris removal; it's part of the operation and maintenance agreement that accompanies this type of project.

"I'm sure there would have been standing water and damage done if not for his project," said Luke Olson, Lyon Soil & Water Conservation District technician. That's because the ravine turns into a drainage ditch that flattens out at the bottom and runs through agricultural land downstream.

Taylor, 72, suspected the ravine — 40 feet deep at its steepest point, cutting across two-thirds of the property — kept neighboring farmers from buying the 160-acre piece. He sold 47 acres of farmland and kept the rest. About 12 acres never had been farmed.

"I went to the flood-control people because I read about trying to clean the Minnesota River up," Taylor said. "The Minnesota (joins) the Mississippi, the Mississippi goes out to the Gulf and there's a dead zone out there from all the nutrients."

Over the years, Taylor worked with the U.S. Fish & Wildlife Service and the Lyon Soil & Water Conservation District to install the rest of the dams. Five of the 12 lie within a 2,000-foot stretch of the ravine. Netzke said the smaller dams built upstream on Taylor's property likely took the pressure off the large, downstream dam during the flood.

Elsewhere on the property, he's restored 55 acres of prairie, and planted thousands of trees and shrubs in two shelterbelts. Pheasants Forever has donated corn and soybeans to plant three 1-acre wildlife food plots. Most projects involved cost-share; Taylor paid for some of the projects on his own.

"I know the number. I don't want to print it. People would think I was nuts," Taylor said.

Olson said it was unusual for one landowner to install that many projects, and at his own expense.

"He's putting a lot of his personal funds toward these embankment projects, which we appreciate. He's pretty excited to do additional projects. He's optimistic for the potential of putting water on his landscape," Olson said. "He's all in if it's going to hold water."

Taylor's property lies within the Coteau des Prairies, AKA the Buffalo Ridge, a plateau composed of glacial deposits that sit about 1,000 feet higher than the floodplain below. Because of the large elevation difference, Netzke said the streams run parallel and close together.

To explain what that means in terms of flooding, Netzke used the analogy of a spilled cup of coffee. When a cup of coffee spills on a flat kitchen floor, is spreads out in all directions — as it would in a typical floodplain area. By contrast, flooding that affects the Buffalo Ridge acts more a cup of coffee poured down a playground slide — it gains speed and energy down that slope before it reaches the bottom, the downstream floodplain.

"That's the kind of flooding we have down here (in southwestern Minnesota)," Netzke said of the latter scenario. "(The topography) is just a whole pattern of parallel running streams," Netzke said. "When we get those heavy rainfalls, it comes rushing down that coteau."

The goal is to slow floodwater, allowing the sediment to settle out for two or three days as the water is slowly released. Taylor's project was a floodwater retention project. The permanent ponds and their wildlife benefits were more of an added benefit, created when clay was excavated to build the earthen dams.

Temporarily retaining water on Taylor's land not only lessens flooding on downstream farm fields but also has an effect on Lake Marshall 4 miles away.

"He's holding the water so sediment can deposit. He's catching the sediment-laden water. What comes off his property is … treated," Olson said.

Taylor has another dam in the works. The land will remain in trust and cannot be sold for 50 years after his death. His explanation for continuing the conservation work is simple.

"I'm a habitat guy," Taylor said. "I'm a wildlife guy."

Taylor has scaled back on hunting, leaving the trophy bucks and most of the pheasant hunting to his son and son-in-law. They leave the abundant waterfowl alone — believing it's wrong to sneak up on the birds making use of the habitat all season. Migratory fly-overs are fair game. Taylor also enjoys seeing the mourning doves, meadowlarks, Western kingbirds, brown thrush, warblers, Baltimore orioles and blue jays that turn up on his property.

"You're supposed to leave this place a better place than you found it. That's my deal," Taylor said.

At a Glance

INITIAL WORK: The first two dams, constructed through the Area II Minnesota River Basin Projects, cost $99,344. Area II provided a 75 percent cost-share. Projects included 6.3-acre and 2.2-acre flowage easements. Taylor refused payment for those easements, accepting only $1 to make the easement recording paperwork easier.

LAKE MARSHALL: Once as deep as 24 feet, Lake Marshall has filled in because of erosion and ditching. Today, it's closer to 2 feet deep. "It illustrates the fact that if these dams were in place before all the ditching happened, perhaps this lake would be functional," Netzke said.