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NRCS Helps Union County, SD Farmers Reclaim Land

BY LORETTA SORENSON FOR THE NATURAL **RESOURCES CONSERVATION SERVICE**

NATURAL RESOURCES CONSERVATION SERVICE, Huron, SD, October 2, 2015 -Jefferson farmer John Corio was one of hundreds of South Dakota farmers who helplessly watched Missouri River floodwaters quietly and persistently swallow acres of farmland during the 2011 Missouri River flood.

The record high water that spilled over the riverbanks at the end of May 2011 and ravaged some areas along the river into September 2011 were estimated to cost billions of dollars in damage.

Missouri River water levels along Corio's land in southern Union County have always been affected by the upstream operation of the Gavins Point Dam at Yankton. It's something Corio watched his father deal with and learned to manage once he took over the farm.

Corio's flooded 26-acre tract of cropland along with several acres of pastureland lies at the foot of a 20-foot bluff just west of his farm site. Both he and his father raised crops and hay on the land since the farm was established in 1939. While the land always tended to be wet, the soil was productive and careful management usually netted an acceptable yield.

"It wasn't unusual for changes at Gavins Point Dam to cause water levels here to rise around harvest time," Corio says. "Then it

was challenging to get the crop out." When the 2011 flood waters came, Corio watched soils he and his father had toiled for years to build up and protect disappear under 10-feet of wayward water.

"Once the water finally went down, there was a thick layer of mud all across the field, Corio says. "Some people had a lot of sand wash in during the flood. For me, it was mud."

As Spring 2012 approached, Corio wasn't The high water mark is easy to see on cottonwood trees growing across he contemplated his options, he received encouraging news from his local Natural Resources Conservation Service (NRCS) District Conservationist, Jeff Loof. NRCS was offering landowners in Corio's area an opportunity to enroll land in a special Wetland Reserve Enhancement Program (WREP) perpetual easement designed to help alleviate further erosion of land along the river, restore Missouri River floodplain wetlands and improve wildlife habitat. The easement agreement provided a plan and

funding for restoring the land. "John was one of four landowners who took advantage of this specially funded WREP opportunity," Loof says. "Altogether, more than 600 acres of land adjacent to John's land in southern Union County that was severely affected by the flood was enrolled in this easement.'

Much of the land entered into the easement was covered with up to four feet of sand, which was so deep it hindered reclamation of roads and all reclamation efforts in the area. The eroding, shifting sands began blowing and moving immediately after floodwaters receded.

You can easily see the water line on the cottonwoods that survived the flood," Loof says. "Dead cedar trees are also very obvious. They didn't survive the floodwater. Many trees tipped under the pressure of the floodwater's strong current. After the water went down, some landowners harvested logs from the area."

Once flood waters receded, sand deposition made it unfeasible to farm some

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The easement agreement included a one-time per-acre payment to landowners, which Corio invested in some more profitable land tracts on his farm. Enrolled acres were seeded with native plants intended to provide wildlife habitat and natural weed control. Plant selection also



included an emphasis on pollinator habitat. The seed mix included many grass species typical of the Tall Grass prairie, such as Big Bluestem, Indiangrass, Switchgrass, Sand Bluestem and Prairie Sandreed. Flowering species included Purple Praireclover, Illinois Bundleflower, Maximillian Sunflower and Prairie Coneflower. Other species suitable for the wetlands areas were also seeded.

"Before any reclamation could begin, the ongoing affect of water levels as a result of operations at Gavins Point Dam was thoroughly explored," Loof says. "We wanted to be certain that reclamation was worth doing and could be successful. Officials also reviewed the environmental issues, including potential effects to threatened and endangered species, related to establishing the easement."

Many of the affected acres had been previously enrolled in the Conservation Reserve Program (CRP) because of their marginal cropland characteristics and vulnerability to flooding. Under the WREP

perpetual easement agreement, no fences or water developments can be established on the enrolled acres. If necessary, enrolled acres are mowed to help manage weeds. Landowners can also realize benefit through the use of periodic haying to facilitate improved grass vigor and production. This use, however, requires additional permitting with the development of a Compatible Use Plan.

Seeding was completed in Spring 2013. In the 2014 growing season, seeded vegetation had plenty of weed competition. However, by Spring 2015, Big Bluestem, switch grass, and Indian grass suppressed weeds. Prairie coneflower, gray goldenrod and other blooming perennials drew butterflies, bees and other wildlife to the area.

"It took time for the seeded plants to become established," Loof says. "But now, barring any further flooding, the land should be self-sustaining.'

What are the chances the area will flood again.

"About 99.9%," Corio says. "It may not be as bad as 2011, but it's pretty certain it will flood again."

If that happens, the easement acres will help absorb floodwaters and reduce damage to surrounding crop acres. If restoration or reclamation is required again, NRCS will take on that responsibility.

"Well established vegetation will help buffer the area from flood damage and erosion if it floods again," Loof says. "In the meantime, it provides important wildlife habitat and preservation of an area that's invaluable to the general public and the residents of Union County."



area.

natural prairie vegetation

wells were also destroyed in the flood.

"John was one of four farmers who



the restored land recently completed in Union County. John Corio enrolled the flood-prone cropland acres into a Farm Bill conservation easement that helped him to seed the area back to of the land. Several irrigation systems and worked cooperatively to develop this easement, protecting a total of 600 acres," Loof says. "They recognized that there was a great benefit to them, to the area and to the nation to preserve this large expanse of Missouri River floodplain. Restored, the area will be important to migrating waterfowl as nesting habitat and to pollinators in this

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