

CONSERVATION *Showcase*



Terraces Popular in Protecting Muchakinock Creek

Mahaska County farmers are responding to a push to clean up Muchakinock Creek, which was added to Iowa's impaired waters list in 2002 after falling below state standards for maintaining aquatic life.

Cleaning up Muchakinock Creek with soil saving and water quality improving best management practices is part of the Mahaska County Soil and Water Conservation District (SWCD) Muchakinock Creek Watershed Project. The plan is to target the most erosion-prone areas in the watershed.

The Mahaska County SWCD, in cooperation with state and federal conservation officials, formed the Muchakinock Watershed Project to reduce sediment delivered to the stream by 25,000 tons every year.

Years of soil erosion and sediment delivered from nearby cropland, along with stream channeling in its headwaters, caused the biggest problems. Muchakinock Creek starts near Pella and flows southeast past Oska-loosa and Eddyville before joining the Des Moines River. The watershed covers 49,200 acres.

Local producers plan to install nearly 50,000 feet of terraces in 2008 with financial assistance through the USDA's Environmental Quality Incentives Program (EQIP), the Iowa Watershed Protection Fund (WSPF) program, and the Section 319 program of the U.S. Environmental Protection Agency (EPA).

EQIP is a voluntary conservation program administered by the USDA's Natural Re-



Florence Rempe

sources Conservation Service (NRCS) that promotes agricultural production and environmental quality to install or implement structural and management practices on eligible agricultural land. The Iowa WSPF program was established in 1999 by the Iowa Department of Agriculture and Land Stewardship-Division of Soil Conservation (IDALS-DSC) to accelerate watershed protection efforts in the state. And, the EPA's Section 319 program provides funding to the Iowa Department of Natural Resources (DNR) to address nonpoint source pollution in the watershed.

"We've been very successful convincing farmers to install terraces," said Matt Lechtenberg, watershed coordinator. "Terraces are an effective practice in treating sheet and rill erosion and in preventing gully erosion."

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Terraces are earthen structures that intercept runoff on moderate to steep slopes. They transform long slopes into a series of shorter slopes, reducing the rate of runoff and allowing soil particles to settle out. The resulting cleaner water is then carried off the field in a non-erosive manner.

Mahaska SWCD Commissioner Florence Rempe said she convinced several neighbors to install terraces, especially now, with funding available. "As a commissioner and resident of this community I am committed to cleaning up Muchakinock Creek," she said. "Farmers want to keep the soil on their own property; they don't want it to go anywhere."

Terraces Not the Only Answer

Rempe's son, Jack, farms the family's 700 acres. The Rempes have built 3,500 feet of



Mahaska County farmers are signing up to install terraces on their land at a record pace. Terraces reduce the rate of runoff and allow soil particles to settle out, resulting in cleaner water.



Local conservation officials are encouraging producers to install filter strips like this one in Mahaska County to further protect Muchakinock Creek from sediment runoff and other pollutants. (Photo Courtesy Mahaska SWCD)

terraces since the start of the project, plus they installed filter strips, or conservation buffers, to protect Muchakinock Creek.

Coordinator Lechtenberg said he wishes more producers would follow the Rempes' example. "Terraces are most effective when used in combination with other practices," he said. "Filter strips provide a buffer between cropland and the creek, slowing down the velocity of water and absorbing pollutants."

Other conservation practices local producers are installing as part of the project include:

- Water and Sediment Control Basins work where terraces might not. They are effective in trapping runoff water and sediment before entering the water. There are 189 basins planned for the project.
- Grade Stabilization Structures are dams, ponds, embankments or other types of structures that reduce water flow. About 10 structures are planned in the watershed.
- Grassed Waterways are shaped and placed in areas with concentrated water flow to slow water, guide it off the field and reduce gully erosion. The project plans to install 15 acres of waterways.

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- Contouring, or planting rows around hills rather than up and down hills, reduces erosion from water runoff and conserves soil and water resources.
- Conservation Tillage uses last year's crop residue to provide ground cover, protecting against soil erosion from wind and water. No-till is used on approximately one-third of cropped fields in Mahaska County.

Mahaska County District Conservationist Kevin Funni says watershed farmers are applying conservation practices at a record pace

in the county. "Many landowners and producers in the watershed have stepped up and said, 'yes, I want to put conservation on the land to improve the creek,'" he said. "They are the ones to be credited for their willingness and cooperation."

To learn more about conservation practices and programs to help you protect your land and water, contact your local USDA Service Center.

*By Jason Johnson, Public Affairs Specialist
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Muchakinoock Creek in cold, snowy February 2008.