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WATERSHED STRUCTURES AND CONSERVATION PRACTICES HELP REDUCE FLOODING DAMAGES

Over \$3 million in flood damages prevented in southeast Nebraska during record rainfall event.

LINCOLN, May 8, 2015 – As residents in southeast Nebraska clean up from Wednesday night’s storms, employees with the USDA Natural Resources Conservation Service have been surveying the damage from the record-setting rainfall event. Despite the lowland flooding damage NRCS employees observed; the Agency’s engineers and conservationists determined if it hadn’t been for the conservation practices and flood control structures installed by landowners, flooding damages could have been much worse. NRCS estimates that the flood control structures built in Thayer, Jefferson and Saline counties helped prevent over \$3 million in flooding damages.

NRCS State Conservationist Craig Derickson said, “Over 50 years ago, NRCS worked with local landowners to construct structures to help reduce flooding damages. Those structures are still doing their job today.”

NRCS, with assistance from the Natural Resources Districts and in cooperation with private landowners, has constructed many flood control structures in southeast Nebraska through the Watershed Protection and Flood Prevention Act. These funds authorized NRCS to provide assistance with the planning and installation of flood control structures and in applying conservation practices.

Flood control structures may easily go unnoticed across the landscape. But after a heavy rain event, like what was recently experienced in southeast Nebraska, these structures spring in to action. They capture rushing flood water and hold the water back allowing it to be slowly released downstream. Slowing the water down and allowing it to be gradually released reduces damage to roads, bridges, fences, cropland and other property.

“With big rain events we really see the benefit of flood control structures. They work together with conservation practices to prevent damage to infrastructure. When things like roads and bridges are spared from damages, then we’re talking about a lot of dollars saved,” Derickson said.

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Randy Pryor, county extension agent in Saline County, lives and works in Wilber, Neb. He said he was saddened to see the damages caused by the heavy rain, but agreed that watershed structures played a big role in helping protect property and reduce flooding.

“There is no question in my mind the newly completed high hazard flood control structure designed by the NRCS (located) by the City of Wilber water tower saved homeowners in town from a huge mess along the creek,” Pryor said.

With nearly 900 watershed dams constructed statewide, the Watershed Protection and Flood Prevention Act has benefited over 1.6 million acres in Nebraska. Benefits include significant savings in soil erosion, water conservation, road and bridge damage reduction, wetland/upland wildlife habitat creation and most importantly, saved lives and property. The total benefits to Nebraska exceed \$37 million each year, according to NRCS.

While flood control structures help hold back large amounts of water, everyday conservation practices applied to farmland can also play an important role in reducing runoff. Fields are especially vulnerable to heavy rains this time of year. Residue left over from last year's harvest will be broken down and not provide much protection. But conservation practices like terraces, buffer strips and waterways help keep runoff from cropland to a minimum.

Conservation tillage can also make a major difference in the way a field handles a rain event. No-till - when a crop is planted without tilling the soil - is the most effective tillage practice to reduce runoff, according to Dan Gillespie, no-till specialist with NRCS in Battle Creek, Neb.

"The 70 percent to 90 percent residue cover that continuous no-till provides will decrease soil erosion by 95 percent and increase water infiltration by 200 to 400 percent. The increased water infiltration is a result of residue cover and improved soil structure. The residue cover deflects and dissipates the impact of raindrops on the soil surface, preventing sealing of the soil surface and allowing the rainfall to soak in," said Gillespie.

In Hebron, where over 10 inches of rain was recorded after Wednesday's storm, NRCS Resource Conservationist Aaron Hird saw first-hand how residue cover can make a big difference in the way a field handles heavy rainfall. On two adjacent fields, one field had a cover crop growing on it and the other field was conventionally tilled. The conventionally tilled field had standing water on it while the field with the cover crop had very little water movement across the field and very little standing water. After such a significant rainfall, Hird was impressed to see what a difference a conservation practice can make.

“The water infiltration rate after 6 years of cover crops changed this field drastically! I can't believe that he (the producer) was able to infiltrate 10-plus inches over an 11 hour storm event,” Hird said.

For more information on installing conservation practices on your land to help prevent erosion and reduce flooding, contact your local Natural Resources Conservation Service office located in the USDA Service Center, or learn more at www.ne.nrcs.usda.gov.

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Note to reporters: Photos shown below, as well as additional flooding photos, are available by contacting Joanna Pope at (402) 437-4123. Low resolution copies shown below:



The Wilber watershed structure planned and funded by the USDA Natural Resources Conservation Service functioned as designed after Wednesday's storm event, capturing and slowing heavy rainfall to help prevent flood damage downstream in Wilber, Neb.



The principle outlet from the Wilber watershed structure creates a controlled, gradual release of water, which helps protect the homes and infrastructure downstream.



This cropland field in Thayer County was protected by a cover crop when Wednesday night's storm hit. The cover crop helped the heavy rainfall be absorbed into the soil and prevented erosion.



This cropland field in Thayer County was damaged by erosion following Wednesday night's storm.

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This waterway helps capture and slow water in concentrated points in the field, protecting the soil from erosion.



Terraces capture water after heavy rains and holds the water until it can be absorbed into the soil. This prevents soil erosion.

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