



Section 319

NONPOINT SOURCE PROGRAM SUCCESS STORY

ILLINOIS

Implementing Agricultural Best Management Practices Restores Aquatic Life Use

Waterbody Improved

Uncontrolled runoff from non-irrigated crop production had impaired the aquatic life designated use of Dutchman Creek, causing the Illinois Environmental Protection Agency (Illinois EPA) to add the creek to the 1998 Clean Water Act section 303(d) list of impaired waters for nutrients and siltation. Stakeholders implemented a successful U.S. Environmental Protection Agency-funded outreach and education program in the Dutchman Creek watershed that promoted no-till agricultural practices and prompted landowners to convert more than 400 acres of environmentally sensitive land back into forest. These changes improved water quality and restored the creek's aquatic life use, allowing Illinois to remove the creek from its 2008 303(d) list of impaired waters.

Problem

Data collected as far back as 1994 show that Dutchman Creek was not supporting designated uses for aquatic life, in part due to nutrients and siltation. These data also suggest that non-irrigated crop production was a likely source of these impairments. As a result, Illinois EPA placed a five-mile segment of Dutchman Creek on the 1998 section 303(d) list of impaired waters.

Project Highlights

The Dutchman Creek watershed encompasses slightly more than 100 square miles of Johnson County's 348 square miles (Figure 1). Illinois EPA used section 319 funds to implement three nonpoint source pollution control projects that, while not targeted specifically to the Dutchman Creek watershed, benefitted the creek. The first project, funded by a 1994 section 319 grant, provided an education and outreach program to promote no-till farming practices to operators in Johnson County. This grant allowed the Johnson County Soil and Water Conservation District to buy a no-till drill that producers could rent (Figure 2). During the two-year project, operators in the county planted 2,784 acres using this drill. The second project, funded by a 1996 section 319 grant,



Figure 1. Map of Dutchman Creek watershed, showing locations of projects implemented between 1994 and 2004.



Figure 2. A farmer plants a crop using a no-till drill.

provided cost share for producers to convert environmentally sensitive land (highly erosive, riparian stream corridor, or prior converted wetlands) within the Cache River watershed back into forest. This project converted 300.1 acres back to forest in the Dutchman Creek watershed. The last project, funded by a 2000 section 319 grant, was a second phase of the Cache River project. This project converted 124.5 acres back to forest in the Dutchman Creek watershed. These two forest planting projects had documented estimated load reductions of 2,620 tons of sediment, 5,000 pounds of nitrogen, and 2,500 pounds of phosphorus per year in the Dutchman Creek watershed.

Results

Data from 2004 show that Dutchman Creek's aquatic life use is no longer impaired. The fish Index of Biotic Integrity showed a rating of 50, and the macroinvertebrate Index of Biotic Integrity rating was 59.7. Both of these indices are well above the Illinois threshold of > 41 , where aquatic life is no longer considered impacted. Therefore, Illinois EPA determined that Dutchman Creek fully supports its aquatic life designated use and removed the creek from the 2008 section 303(d) list of impaired waters.

Partners and Funding

The Shawnee Resource Conservation and Development Area administered the two Cache River forestation projects. Excluding administration costs, a total of \$26,799 in section 319 funds and \$28,615 in state and local funds was spent in the Dutchman Creek watershed to implement the 424.6 acres of tree planting.

The Johnson County Soil and Water Conservation District administered the county's no-till drill project. Countywide, the project used \$13,176 in section 319 funds and \$8,784 in state and local funds for education and to purchase a drill for operators' use. The district has continued the program and now has four no-till drills available for producers to rent.



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