

CONSERVATION *Showcase*



Partnership Helping to Restore Topeka Shiner Habitat

A committed effort by conservation-minded partners and private landowners helped to restore 13 oxbow wetlands along floodplains in the North Raccoon River Watershed to increase the population of the Topeka shiner, an endangered fish species.

Throughout 2008 and 2009, the U.S. Fish and Wildlife Service (USFWS), USDA's Natural Resources Conservation Service (NRCS), The Nature Conservancy, Greene County Soil and Water Conservation District (SWCD), and the Iowa Department of Natural Resources (DNR) partnered to restore the oxbows and make progress toward removing the Topeka shiner from the Federal Threatened and Endangered Species List.

The Topeka shiner, a small minnow that is less than three inches long, is typically found in prairie streams with stable stream channels and in off-channel oxbows with sandy or gravel bottoms.

Kraig McPeek, private lands biologist with USFWS, says Iowa has the only known remaining population of Topeka shiners that drain to the Mississippi River, mainly in the Des Moines lobe. He calls the Topeka shiner the poster child for 30 or 40 fish species that rely on in-tact stream corridors and riparian habitat. "If the Topeka shiner is gone, it may



(From Left) NRCS District Conservationist Kevin Kordick, Soil Conservation Technician Carolyn Schwartz, and U.S. Fish and Wildlife Service Biologist Kraig McPeek stand near a recently restored oxbow.

be connected through relationships with 20 or 30 other species," said McPeek. "If you pull that cog out of the wheel, what are the next species to go, and the next? Eventually, the whole system fails."

The Topeka shiner was added to the Federal Threatened and Endangered Species List in 1999. Its presence is typically associated with good water quality and habitat for many other aquatic species. An oxbow is a bow-shaped water body formed in a former channel of a river. To be removed from the Threatened and Endangered Species List, the population of a species must be stable or increasing over a 10-year period.

Project Funding

To implement the plan partners secured funding to cover the average \$7,500 cost for each oxbow restoration, which included excavation and reseeded. The USFWS provided 75 percent of the costs through the Iowa DNR's Landowner Incentive Program



The Topeka shiner is less than three inches long typically found in prairie streams with stable stream channels and in off-channel oxbows with sandy or gravel bottoms. (Photo Courtesy of Kraig McPeek, USFWS)

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(LIP). NRCS' Environmental Quality Incentives Program (EQIP) covered the remaining restoration costs. "We felt like we needed to fully fund the restorations, instead of requiring the landowners to pay a portion," said McPeck. "Much of the targeted land was used for pasture, so we knew asking farmers to take land out of production and get little in return was too much to ask."

To gain interest in the project, Greene SWCD hosted public meetings, targeting landowners with property along Cedar and West Buttrick Creek. "Landowners filled rooms and were very receptive to our plan," said Carolyn Schwartz, NRCS soil conservation technician. "Several landowners signed up right there at the end of the meeting. It ended up a very conservation-minded group of landowners."

The Nature Conservancy provided a bulk of administrative support and funding, including permitting, letters and invitations to landowners, and even tools and equipment for surveying and analyzing potential sites.

Restoration Process

NRCS surveyed the areas and designed the oxbows. The first restoration began in fall 2008. Post-sediment alluvium (silt) was excavated down to the sand and gravel layer to recreate the habitat. "When we hit that layer, groundwater naturally started bubbling in immediately," said McPeck. "The Topeka shiner always needs water, so it was important to dig down to the old river bed, so the oxbows don't dry out."

Schwartz says the oxbows are all uniquely shaped. Some are wide, some are long and narrow, and others are shaped like fish hooks. One constant is the size – most are about one-third of an acre.

A key restoration element was lowering stream banks near the restored oxbow by one foot to allow stream water to back in to the oxbow. This occurs naturally as water levels rise in the spring. "This was important to



A restored oxbow wetland west of Churdan, Iowa, was constructed along Cedar Creek to allow the Topeka shiner to back in from the creek.

allow the shiner and other small fish species into the oxbow, but not larger predators like bullhead and bluegill," said McPeck. "We don't want constant flow into the oxbow." By fall 2009, 13 oxbows were restored through contracts with nine landowners.

Terry Adams allowed an oxbow to be restored on his pastureland west of Churdan. He learned about the project as a member of the Greene County Board of Supervisors. "The wildlife is beautiful in Greene County, and the oxbows will just enhance that," he said. "It's been a great project, and it turned out better than I thought. It will look really nice in a few years when all of the wildflowers come up."

Analysis and Future Restorations

The partnership has secured additional funds that will support an Iowa State University student to analyze shiner numbers and other variables, such as fish size. McPeck says these findings will also help in the design of future oxbow wetlands.

The USFWS is providing an additional \$200,000 for oxbow restorations and native seeding in the North Raccoon River's sub-watersheds. "We're going to leapfrog off this partnership and hope to restore another 20 or so oxbows," said McPeck. "By the time those are completed, we will have restored a significant portion of Topeka shiner habitat in

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the North Raccoon basin and will be closer to the goal of getting the shiner off the Endangered Species List.”

McPeck says the project was successful, and will continue to be a success because partners’ strengths were utilized. “NRCS’ relationship with local landowners, techni-

cal expertise designing structures and survey work, and (USFWS) technical knowledge of the species – it’s a perfect marriage,” he said.

For more information about the Topeka shiner, visit www.iowadnr.gov/fish/iafish/tos-card.html.

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A newly restored oxbow in Greene County.