

OVERVIEW

Encouraging compatible and sustainable agricultural practices is a principal strategy for conserving the economically and ecologically significant Mississippi River. Focusing watershed conservation projects on managing water drainage reduces the delivery of nutrients, bacteria and sediment while restoring natural stream flows and wildlife habitat.

The Nature Conservancy has introduced several techniques to reduce the amount of runoff including planting cover crops; controlling drainage and practicing sub-irrigation; planting perennial crops; enhancing soil carbon; practicing no-till; and restoring or protecting wetlands. Many of these techniques can increase crop yield or have negligible negative impacts on production.

The Conservancy has four “platform” agricultural watershed projects in the Upper Mississippi River Basin: the Root River in Minnesota, the Pecatonica River in Wisconsin, the Boone River in Iowa, and the Mackinaw River in Illinois. Each project serves as a laboratory to evaluate management strategies. Platform sites will influence conservation projects throughout the basin.



BOONE RIVER IN IOWA

Covering 895 square miles of north-central Iowa, the Boone River's watershed is both environmentally and economically significant. Rare mussel and fish species depend on the watershed's stream as do the almost 200,000 people who live in Des Moines, which relies on the river as a secondary source of water. With 84 percent of the watershed in row crop production, concerns include nutrient loading, stream and gully erosion, stream habitat degradation and altered hydrology.

The Nature Conservancy's goals for the Boone River are to improve water quality and wildlife habitat for the benefit of native species and people who depend upon the river. Strategies include reducing loading and concentrations of nitrogen and phosphorous, improving storage and retention of water on the landscape and identifying the causes of sedimentation and stream bank erosion.

Partners: Iowa growers and landowners, the Iowa Soybean Association, Prairie Rivers Resource Conservation and Development (RC&D), Prairie Winds RC&D, Iowa State University, Natural Resources Conservation Service, Boone River Watershed Association, Cargill

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MACKINAW RIVER IN ILLINOIS

At 728,000 acres, the Mackinaw River watershed is the fourth largest watershed of the Illinois River system. Almost 80% of the watershed is devoted to row crop agriculture. Urban expansion and changing agricultural practices have resulted in habitat loss and a decline in water quality, but the Mackinaw is a great example of a watershed that can be restored. Concerns include nutrient loading, sedimentation and altered hydrology.

The Nature Conservancy's goal for the Mackinaw is to improve water quality and wildlife habitat. Strategies include assessing the effectiveness of outreach and conservation practices on a paired watershed, testing the effectiveness of tile-retention practices at the watershed scale, evaluating wetlands for their ability to filter water and optimizing the placement of buffers and wetlands.

Partners: Landowners, Illinois State Water Survey, Natural Resources Conservation Service, Illinois Department of Natural Resources, Pioneer-DuPont, University of Illinois Champaign-Urbana, Mackinaw River Partnership, Illinois State University, McLean County Soil and Water Conservation District, Ducks Unlimited, Lumpkin Family Foundation, Agrem LLC

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PECATONICA RIVER IN WISCONSIN

The 120-mile-long Pecatonica River, as well as its 50-mile East Branch, flow through southwestern Wisconsin. The Conservancy is focusing on the Military Ridge Prairie Heritage Area, a 50,000-acre landscape within the watershed. The area is home to a large number of native species including rare grassland birds. Concerns include potential commercial or residential development, historical sediment deposition in the former floodplain and nutrient enrichment from fertilizer runoff and livestock.

The Conservancy's goal is to maintain current agricultural practices and to improve water quality. Strategies include working with the agricultural community, especially the area's dairy farmers, to keep the land from being converted as well as restoring stream banks and floodplain habitat. The Conservancy is also participating in the Wisconsin Buffer Initiative Pilot Project, which will test the effectiveness of targeting conservation practices on areas identified as key for water quality within a watershed of the Pecatonica River.

Partners: Wisconsin landowners and growers, Dane County Land Conservation Department, Driftless Area Land Conservancy, Iowa County Land Conservation Department, Natural Resources Conservation Service, Pheasants Forever, Southwest Badger Resource Conservation & Development Council, The Prairie Enthusiasts, Trout Unlimited, University of Wisconsin-Madison, Wisconsin Department of Natural Resources and the Wisconsin Buffer Initiative.

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ROOT RIVER IN MINNESOTA

Flowing in southeastern Minnesota, the Root River drains slightly more than a million acres. The Root River basin supports migratory birds and several important mussel and fish species including native brook trout. Concerns include excessive erosion that has impaired water quality, large amounts of sediment that degrade wildlife habitat and altered stream flow.

The Conservancy's goal is to reduce annual stream discharge and sediment at the mouth of the Root River. Strategies include working with landowners to identify and implement conservation practices including stream buffers, reduced-till farming, and controlled drainage. Two-stage drainage ditches, bioreactors and infiltration ponds are also put into use.

Partners: Minnesota growers and grower associations, Minnesota Department of Agriculture, Mower Soil and Water Conservation District, University of Minnesota, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, Ag Drainage Management Coalition, Fillmore Soil and Water Conservation Service, Cargill and Soil and Water Conservation Districts in Winona, Fillmore and Mower Counties

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