



SOURCE WATER PROTECTION THROUGH CONSERVATION FUNDING

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THE REGIONAL CONSERVATION PARTNERSHIP PROGRAM (RCPP): MIDDLE CEDAR PARTNERSHIP PROJECT

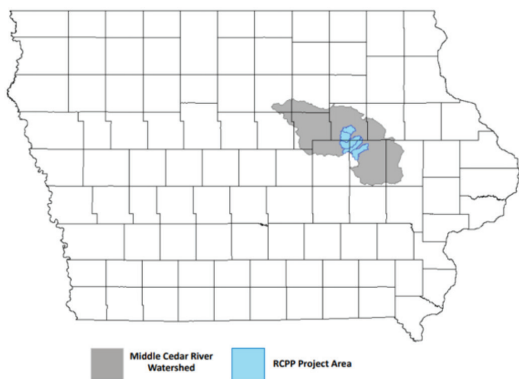
PROJECT OVERVIEW

The Middle Cedar Partnership Project (MCP) is a 16-partner project that is working with local conservation partners, farmers and landowners to install best management practices such as cover crops, nutrient management, wetlands and saturated buffers to help address degrading water quality, mitigate flood events, and improve soil health in the Cedar River Watershed, a 2,417 square mile portion of the Cedar River located in east central Iowa. A major contributor of nitrogen and phosphorous to Iowa waters and the Gulf of Mexico, the Middle Cedar watershed is designated as one of nine priority watersheds by the Iowa Water Resources Coordinating Council (IWRCC) under the Iowa Nutrient Reduction Strategy. The state has dedicated significant funding to establish demonstration conservation projects in priority watersheds, including two projects in the Middle Cedar, the Miller Creek Water Quality Initiative and the Benton/Tama Nutrient Reduction Demonstration Project.

The Middle Cedar Partnership Project expands the scope, outreach, and longevity of these projects, advancing implementation of conservation practices by partnering the City of Cedar Rapids with local producers and conservation groups. This long-term effort to reduce nutrient loading and mitigate flood impacts will protect raw drinking water quality and maintain safe, abundant water supply for Cedar Rapids, further securing an economy that relies on delivery of a high quality water product to various industrial users.

PROJECT PARTNERS:

- City of Cedar Rapids (Lead)
- Benton Soil and Water Conservation District
- Tama Soil and Water Conservation District
- Black Hawk Soil and Water Conservation District (BHSWCD)
- Natural Resources Conservation Service (NRCS)
- Iowa Department of Agriculture and Land Stewardship (IDALS)
- Iowa Department of Natural Resources (IDNR)
- Iowa State University Extension Service (ISUES)
- DuPont-Pioneer (DP)
- Sand County Foundation (SCF)
- The Nature Conservancy (TNC)
- Iowa Farm Bureau (IFB)
- Iowa Soybean Association (ISA)
- Iowa Pork Producers Association (IPPA)
- Iowa Corn Growers Association (ICGA)
- Benton/Tama Counties and Miller Creek Watershed Quality Initiative projects



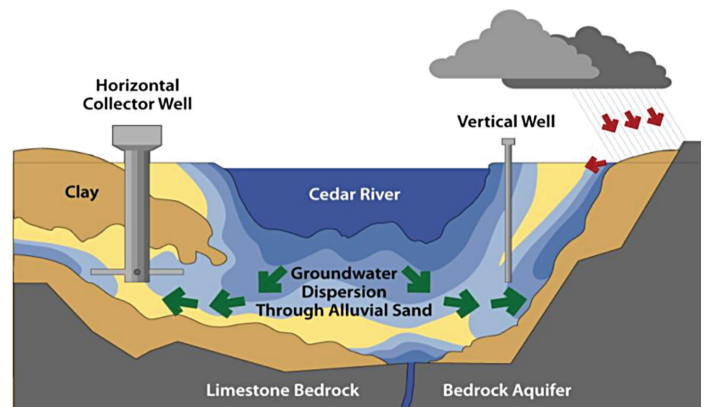
PROJECT AREA

The Middle Cedar Partnership Project is working to increase the implementation of nutrient and flood reduction practices in five HUC12 watersheds located within the larger Middle Cedar River HUC 8 watershed, a 2,417 square mile area within the Cedar River watershed. Land use in the focus area is predominately row crop, primarily sowed with corn and soybeans. The five HUC 12 watersheds identified as the focus area for this project are all demonstration sites for the Iowa Nutrient Reduction Strategy and together encompass approximately 135,000 acres.

NATURAL RESOURCE CONCERNS

There is an urgent need to address increasing concentrations of nitrates and extreme flood events in the Cedar River. Elevated nitrate levels in the Cedar River upstream of Cedar Rapids prompted a Clean Water Act 303(d) impairment listing for nitrate in 2004. A Total Maximum Daily Load (TMDL) was subsequently developed in 2006 that targeted a 35% nitrate load reduction.

Cedar Rapids draws its drinking water from shallow alluvial wells along the Cedar River. Without sustained efforts to control nutrient loading in the larger Cedar River watershed, the City of Cedar Rapids raw water sources will become increasingly difficult and costly to treat to provide a safe and adequate supply of drinking water. A large majority (70-75%) of the drinking water produced by Cedar Rapids Water Treatment facilities is distributed to large food production industrial users, such as PepsiCo, Cargill and General Mills. A devastating economic ripple effect would be put into motion if the City were unable to consistently provide a safe, high quality water product for these industrial consumers to use in their processes.



The City of Cedar Rapids draws its drinking water from shallow vertical and collector wells constructed in the sand and gravel deposits along the Cedar River. Image source: City of Cedar Rapids.

The Middle Cedar watershed also contains multiple communities that have experienced considerable flood damage and associated economic impacts. Cedar Rapids alone sustained \$5 billion in damages from the 2008 floods, which was the second 500-year flood event in 15 years. Significant impacts were also experienced in La Porte City, Vinton, and Palo. The Cedar River at Cedar Rapids reached major flood stage again in the summer of 2014 with considerable damage to personal property and city infrastructure.

Soil health is closely linked to solutions for both water quality and water quantity concerns, and is critical to sustaining the high levels of agricultural productivity in the Middle Cedar watershed. Strategies to improve soil health, such as cover crops and no-till, are increasingly gaining recognition throughout Iowa due to the multiple benefits they provide, both on-farm and downstream. Soil health is likely the highest priority for landowner/producers with regard to resource concerns.

PROJECT OBJECTIVES AND ACTIVITIES

The overall goal of the MCPP is to support and expand ongoing demonstration and implementation projects aimed at reducing nutrient impacts to Iowa waters and the Gulf of Mexico. The project would advance implementation of conservation practices by building upon the conservation goals established by the Miller Creek and Benton/Tama Water Quality Initiative Demonstration Projects. Conservation practice objectives for these state-funded projects include in-field management practices, and edge-of-field implementation practices to reduce nutrient losses.

Objective 1: Develop watershed plans to include monitoring and evaluation that will optimize effective Best Management Practice (BMP) placement.

In order to effectively target best management practices (BMP) to high priority locations in the watershed, watershed plans are being developed for the five targeted sub-watersheds. Plans will incorporate conservation practice placement maps which will take into account landscape characteristics such as land use, soil type, topography, and other information to identify best placement of conservation practices to achieve maximum benefit in reaching specific goals. These maps, and other information, will be used to prioritize placement of BMPs for this project.

Objective 2: Implement BMPs through financial and technical assistance to reduce nitrate loads to the Cedar River.

Conservation practices currently identified include nutrient management, cover crops, bioreactors, saturated buffers, wetland creation, and wetland easements. To enhance adoption rates of conservation practices, the project provides outreach to local farmers to share the benefits of conservation practices that hold significant promise for nutrient reduction.

Objective 3: Conduct outreach activities with landowners and producers in the five HUC 12 watersheds.

The Middle Cedar Partnership Project will continue the on-going outreach and technical assistance already being provided to the approximately 435 landowners/producers through the Benton/Tama and Miller Creek projects. These outreach efforts currently include field days, webinars, social media communication, mailings, and one-on-one contacts. The project partnership wants to increase the adoption of conservation practices in the Middle Cedar watershed through communication and education.

PROJECT OUTCOMES:

- 6,539 acres of cover crops
 - » 134% increase in cover crop acres from 2015 to 2016
 - » Approximately 15% of total crop acres in MCPP area are in cover crop program
- 6,522 acres of nutrient management plans or practices
- 9,173 acres of no-till, strip-till or reduced tillage practices
- 2 saturated buffers

FOR MORE INFORMATION, VISIT:

http://www.cedar-rapids.org/residents/utilities/middle_cedar_partnership_project.php

CITATIONS

Content for this case story was derived from material provided by the Middle Cedar Partnership Project, supported by the Natural Resource Conservation Service, U.S. Department of Agriculture, and from content obtained from the City of Cedar Rapids and its website. Any opinions, findings and other conclusions or recommendations expressed in this presentation are those of the author(s) and so not necessarily reflect the views of the U.S. Department of Agriculture.



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