

# Indiana Watershed Initiative RCPP

# SHATTO DITCH

*Shatto Ditch Two Stage- Photo Credit: Brittany Hanrahan*

The Indiana Watershed Initiative (IWI) is building on previous research and partnerships, and is based on voluntary conservation practices that will improve water and soil quality and protect agricultural productivity - a win-win. The Regional Conservation Partnership Program (RCPP) promotes coordination to deliver conservation assistance to producers and landowners. NRCS provides assistance to producers through partnership agreements and through program contracts or easement agreements.

## The Problem

Like much of the Mississippi River Watershed during the past 150 years, large sections of Indiana have undergone extensive land use change as vast wetlands and prairies have been converted to productive cropland. While these croplands have played a crucial role in feeding the country and the world, runoff from these fields has also significantly impaired adjacent stream water quality, threatened habitats of at risk aquatic species and jeopardized downstream habitats.

## The Solution

The overarching goal is to help producers and landowners implement watershed scale conservation practices that reduce nutrient runoff while maintaining productive and profitable agriculture operations. Specifically, we will pair the watershed scale implementation of winter cover crops and the two-stage ditch along the majority of the ditches in two Indiana watersheds to reduce nutrient loss from fields and improve soil health.

## The Benefits

The project will measure the costs and benefits of pairing of cover crops and the two-stage ditch. Benefits of pairing of cover crops and the two-stage ditch potentially include reduction in the cost of agro-chemicals, improvements in productivity associated with improvements in soil quality, and more effective use of inputs.

## The Core Conservation Practices

### Cover Crops

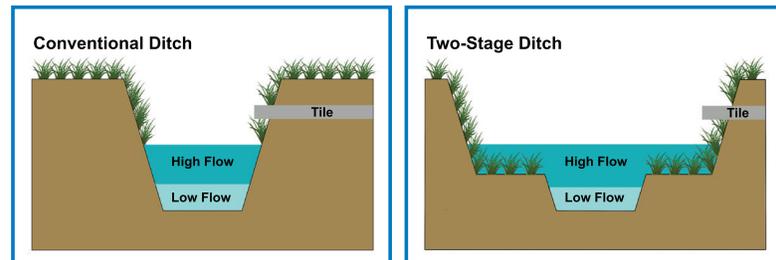
Crops including grasses, legumes, and forbs are planted for seasonal cover. Cover crop establishment will be timed to adequately protect the soil during the critical erosion periods especially during winter snowmelt and storms. Plants selected for cover crops will have the physical characteristics necessary to provide adequate protection to prevent nutrient loss, as well as improve soil health.

### Two-Stage Ditch

Two-stage ditches are drainage ditches that have been modified by adding floodplain benches within the overall channel. These benches mimic a natural floodplain zone. During high flows caused by storms or runoff, constructed floodplains allow water to spread out and slow down leading to greater channel stability.

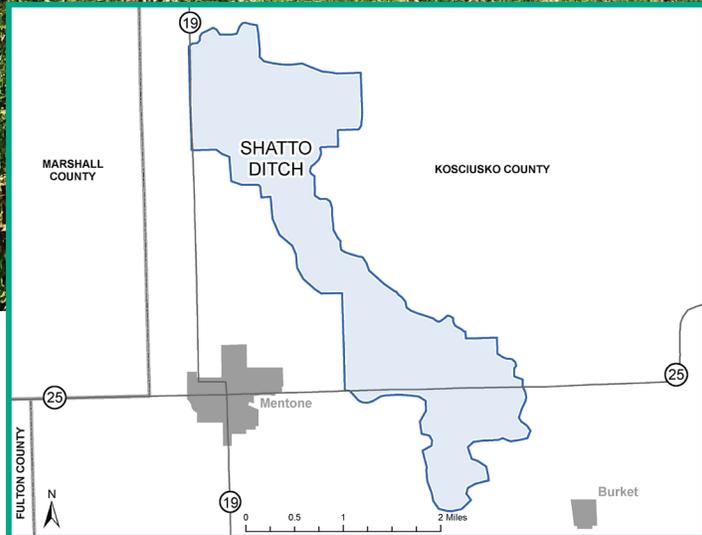
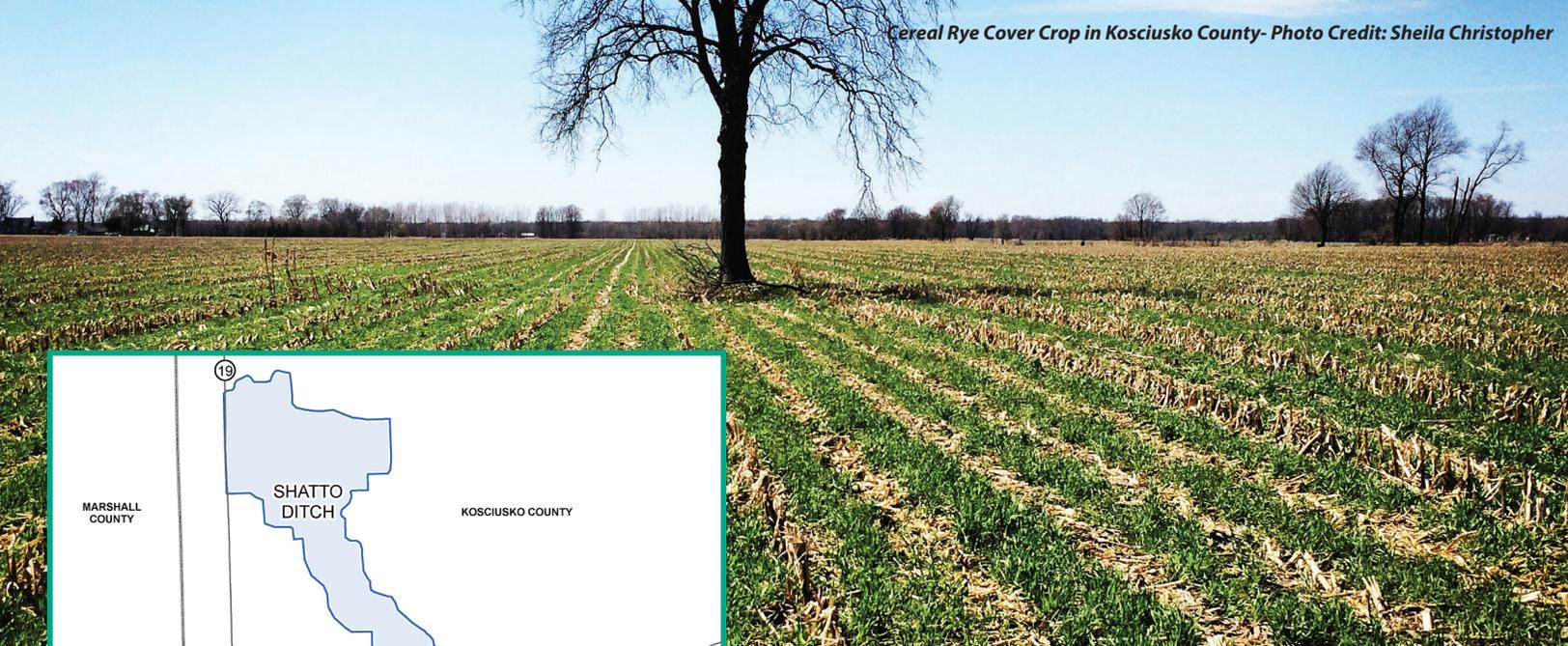
## The Monitoring

This project will use water monitoring, soil sampling and agronomic data provided by producers and partners to conduct an economic valuation and benefit-cost analysis at the watershed scale. In addition, these data will provide input for modeling efforts that will allow for broader conclusions regarding the effectiveness of these conservation practices, regionally and beyond.



*Figure 1: Conventional Ditch vs. Two-Stage Ditch*

For more information, visit Indiana NRCS at: [www.in.nrcs.usda.gov](http://www.in.nrcs.usda.gov)



## More Information

If you would like more information about RCPP, visit the Regional Conservation Partnership Program website at: <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/in/programs/farmbill/?cid=stelprdb1248173>

If you would like more information about Farm Bill Programs, check out the Indiana NRCS webpage at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/in/programs/farmbill/>.

For more information about USDA-NRCS program eligibility or applying for a program, please contact your local NRCS office.

### Kosciusko County Service Center

NRCS District Conservationist - Chad Schotter  
SWCD Program Administrator - Darci Zolman  
217 E. Bell Drive  
Warsaw, IN 46582-9350  
Phone: 574-267-7445 Ext. 3  
E-Mail: [chad.schotter@in.usda.gov](mailto:chad.schotter@in.usda.gov)  
E-Mail: [darci.zolman@in.nacdnet.net](mailto:darci.zolman@in.nacdnet.net)

## The Watershed

Through Fiscal Year 2016, Indiana is targeting RCPP assistance to conservation practices that reduce nutrient reductions in the Shatto Ditch watershed, located in the larger Iroquois River Watershed.

### Shatto Ditch

Total Acres: 3,300  
Acres of Cropland: 2,400  
Acres of EQIP Eligible Cropland: 2,400  
Stream Miles: 5.5  
EQIP Eligible Stream Miles: 5.0

## The Funding

NRCS provides dollars to eligible farmers and other landowners to help pay for conservation practices. Funding is made available through the Environmental Quality Incentive Program (EQIP).

## The Partners

Kosciusko County Soil & Water Conservation District  
University of Notre Dame  
Indiana University - Bloomington  
The Nature Conservancy  
Kosciusko County Surveyors  
United States Geological Survey

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