

Great Lakes Basin Program GLRI Project:

Targeted Efforts for Reducing Sedimentation in the Pinnebog River Watershed using BMP Auctions

Size: watershed

Grant Amount: \$795,373

Year Awarded: 2010

Sponsor: Michigan Department of Agriculture

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Submitted Project:

II. Project Background

Erosion and Sediment Goal

*Estimate the total amount of **erosion**, in tons, your project will save.*

24,500 tons

*Estimate the total amount of **sediment**, in tons, your project will save.*

20,000 tons

*Describe the major **sources** of sediment in your watershed and the types of sources you will be reducing (cropland, streambank).*

Cropland and streambank erosion.

Watershed/ Project Work Area

Name of your watershed plan and the agency that approved the plan.

Pinnebog River Watershed Plan, approved by the Michigan Department of Environmental Quality (now known as the Michigan Department of Natural Resources and Environment), adopted October 8, 2007.

Watershed: list all 12 digit USGS HUC codes that compromise your watershed.

04080101-0303

This project was funded by the Great Lakes Restoration Initiative, and is maintained through the Great Lakes Basin Program for Soil Erosion and Sediment Control at the Great Lakes Commission.



Describe the **Priority Areas** within the watershed where you are going to concentrate your efforts. List by area or narrative description of specific conditions.

This project will focus efforts on riparian properties with potential erosion concerns as identified by High Impact Targeting (HIT) tool, and riparian properties with sedimentation resource concerns as identified in conservation plans.

How many acres are in the watershed?

124,844

How many acres are in:

- Agriculture including pasture landuse?
106,117
- Forest including brushland landuse?
12,484
- Urban, suburban, industrial, commercial and rural residential landuse?
2,497

U.S. **Congressional District(s)** where project is located, as listed at www.house.gov/writerep/.

Michigan's 10th Congressional District

III. Implementation

A written contract will be required between you and the landusers/landowners to fund conservation practices with GLBP funds. The contract will include among other items, the type, number and location of each practice to be installed as well as the cost-share/incentive rate to be paid for each practice. (We will also use the signed contract as proof of commitment of funding for reimbursement of your expenses.)

Fill out all that apply:

D. Alternate Incentive Methods (ex. pay per ton/unit reduced/increased) List each unit separately (ex. Pay per ton of sediment reduced rather than pay for a particular BMP.) If you have more than one ALT, copy and paste the ALT1 section and change the number as appropriate.

ALT1

Description: BMP Auction

Methodology

This project will fund a 0.5 Full Time Equivalent (FTE) position at the Huron Conservation District (HCD) to work with landowners on implementing agricultural Best Management Practices (BMPs) to address soil erosion and the subsequent sedimentation concerns. The project will use a new BMP Auction concept to direct resources toward the highest impact investments.

BMP Auctions

This project was funded by the Great Lakes Restoration Initiative, and is maintained through the Great Lakes Basin Program for Soil Erosion and Sediment Control at the Great Lakes Commission.



In recent decades, nonpoint sources of pollution have received increased attention. In particular, runoff from agricultural lands has been cited as a primary contributor of sediments, nutrients, and pesticides into the nation’s waterbodies. Challenges still remain despite many years of effort and billions of dollars spent on BMPs aimed at reducing these nonpoint sources of pollution. The question remains: How can local Conservation Districts, non-profit conservation organizations and extension professionals use scientific tools, combined with the knowledge and participation of local stakeholders, to address water resource issues at the watershed scale? One aim of this proposal is to introduce an innovative technique (BMP Auction) to answer this question by developing economically feasible watershed management plans to environmental problems. Our goal here is to advance the BMP Auction method based on lessons learned from previous experience (piloted in an east-central Kansas watershed). It is worth noting that this technique was designed and tested successfully by one of our project principal investigators (A. P. Nejadhashemi) and published in an article called “Using a BMP Auction as a Tool for the Implementation of Conservation Practices” (*Journal of Extension* Volume 47[4], 2009).

The first step in the BMP Auction is to estimate the pollutant load from different fields within the study areas. The primary sources of soil erosion are cropland and streambank erosion. Water quality tools will guide the HCD staff to work one-on-one with producers to identify the sources of soil erosion on their farms and propose potential BMPs to address those sources.

HCD staff will develop conservation plans (or utilize existing plans) that identify the system of BMPs that the producers are interested in implementing on their farms and the expected costs of those BMPs. This information will be used to design the BMP Auction. Potential BMPs to be used include filter strips, no-till cultivation, cover crops, streambank restoration and wetland restoration.

The next step is the actual auction process, in which an auction form is provided to producers living in the watershed. The form will ask producers to provide information on the location of their farms, the types of conservation practices they would like to implement, and the requested funding to cover costs of starting and maintaining the conservation practice.

Once the auction forms are collected, a watershed tool (for example, a Soil and Water Assessment Tool – SWAT) will be used to determine 1) each farm’s sediment load (tons/acre) to surface waters, before implementing the conservation plan and 2) how much the sediment load will be reduced once the BMPs are implemented at both the field and watershed levels.

The bids are ranked by the amount of water quality improvements generated per dollar granted. In the next step, the sediment load reduction for each farm is divided by the amount of the requested funds. This calculation will be repeated for every submitted conservation plan. Those producers whose plans provide the most water quality improvement for the least cost will receive grant funding (lowest cost/ton of sediment reduced).

Check the quarters the task is to be started and completed:

Quarter	1	2	3	4	5	6	7	8	9	10	11	12
Start/Complete	X	X	X	X	X	X	X	X	X	X	X	X

Number of acres/units of BMP to be installed during project:
 Approximately 6,800 acres (estimated)

Incentive method: price/ton of sediment reduced
and rates: \$27.50/ton of sediment (estimated)

Expected soil savings in total tons: 20,000

IV. Media Campaign

A. You will be required to conduct a kickoff event in the first quarter of the project. You are specifically to invite, among others, all members of Congress who have a portion of their district within your watershed project boundaries, the media and the chair of the Great Lakes Commission delegation from your state. Describe how and what you will do to meet this requirement.

The kickoff event will be held at Wilcox's Park located in the City of Bad Axe within the Pinnebog River Watershed. A catered lunch will be served. Invitations will be mailed to, among others, Tim Eder, Great Lakes Commission, executive director, Senator Debbie Stabenow, Senator Carl Levin, Representative Candice Miller, State Senator James Barcia, State Representative Terry Brown, Stacy Langley, Huron Daily Tribune, Craig Routsen, WLEW Radio, and the Huron County Board of Commissioners.

A PowerPoint presentation will outline the goals and the expected outcomes of the project. Key invitees will be given an opportunity to make comments.

A gift of products produced within the Pinnebog River Watershed will be presented to each attendee

B. You are also required to establish an on-going outreach campaign. Describe your on-going outreach campaign strategy for:

1. The general public/media,

Information concerning the project will be made available through newspaper articles, radio announcements, Huron Conservation District (HCD) website, HCD annual open house and published annual report.

2. Landowners/landusers,

Information concerning the project will be provided through newspaper articles, landowner mailings, tours, newsletters, HCD website and targeted one-on-one contacts.

3. Elected officials

Elected officials will be invited to the HCD annual plot tour, HCD Open House, Pinnebog Quarterly Steering Committee Meetings where they will be updated on project activities. Elected officials will also receive mailings with information pertaining to the project. Information will also be available on the HCD website.