



Michigan's  
Nonpoint Source  
Program

**Federal Clean Water Act  
Section 319 Grant**  
#2012-0029



Shiawassee Conservation District

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**Mid-Shiawassee River Watershed Restoration Project**

July 1, 2013 to September 30, 2016

The Mid-Shiawassee River Watershed is an area of mixed agriculture, urban, and rural residential land uses. *Escherichia coli* (*E. coli*) bacteria, nutrients, and sediment are the primary pollutants affecting the Watershed. The goal of this project was to reduce pollutants from nonpoint sources in an effort to improve water quality and restore impaired designated uses. This project included the development of a program designed to identify failing septic systems and provide cost-share opportunities to eligible homeowners for septic system replacement. Scent-trained canines and water collection analyses were used to target areas for outreach. This project also included agricultural conservation practices to reduce nonpoint sources of priority pollutants.

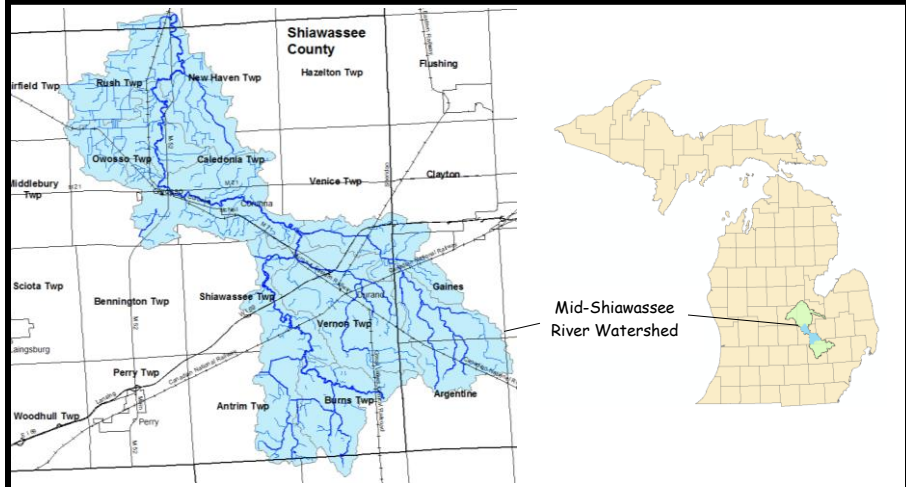
A second goal of this project was to enhance awareness, build support, and encourage stewardship of natural resources. A series of workshops, press releases, mailings, and outreach events reaching people throughout the watershed were instrumental in achieving this goal.

**Best Management Practices:**

- 30 Home\*A\*Systs
- 29 Septic Systems inspected
- 22 Engineered Septic Systems installed
- 545 acres Nutrient Management, including injected manure
- 286 acres Cover Crop, multiple species
- 119 acres Cover Crop, single species
- 750 linear feet Filter Strips
- 59 acres incorporating both nutrient management (injected manure) and residue management (no-till)

**Annual Load Reductions:**

- 479 tons Sediment
- 717 pounds Phosphorus
- 1,584 pounds Nitrogen



**Grant Amount: \$ 536,700**

**Match Funds: \$ 222,300**

**Total Amount: \$ 759,000**

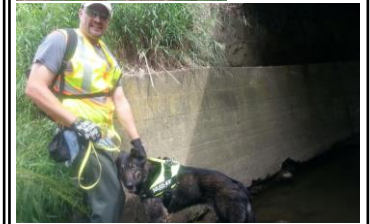
**I&E Activities:**

- 491 Direct Mailings to Landowners
- 86 Septic Contractor Mailings
- 33 Press Releases
- 27 Youth Presentations
- 10 Outreach Events
- 6 Workshops
- 6 Presentations at Partner Events
- Electronic Recycling Spin-Off Program



**Partners involved:**

- Shiawassee County Health Department
- Natural Resources Conservation Service
- Shiawassee County Drain Commission
- Genesee Conservation District
- Genesee County Drain Commission
- Environmental Canine Services, LLC
- City of Durand
- City of Owosso
- Shiawassee River Watershed Landowners





BEFORE: Failing septic system drain field



AFTER: Newly installed "mound" septic system



BEFORE: Soil pit showing failing septic drain field



AFTER: "Mound" septic system installed replacing failing system



Manure fertilizer injected into no-till field



No-till cornfield with manure injection