



Michigan's  
Nonpoint Source  
Program

Clean Water Act 205j  
**Nonpoint Source Grant**  
Tracking code #2009-0020



Muskegon Conservation District

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## Duck Creek Watershed Planning Project

March 1<sup>st</sup>, 2010 - December 31<sup>st</sup>, 2012

The Duck Creek Watershed is 13,952 acres in size, and located entirely within Muskegon County (Fruitland Township / Dalton Township), Michigan. The headwaters of Duck Creek are part of a wetlands complex in western Dalton Township. A major tributary that flows into Duck Creek is Scholes Creek. The headwaters of Scholes Creek are part of a different wetlands complex located in northeast Fruitland Township. Scholes Creek converges with Duck Creek and empties into Duck Lake. Duck Lake is a drowned river mouth lake with an area of 271 acres.

The Duck Creek Watershed is considered a high quality watershed in the State of Michigan with no TMDL listings. With the threat of this changing due to increased development pressure, the Duck Creek Watershed Assembly (DCWA) became concerned about associated storm water impacts to water quality. The DCWA, a small but active group of watershed volunteers, began monitoring activities and identified the following issues: 1. increase in water temperature and sedimentation, 2. increase in nutrients and nuisance algal blooms, 3. increase in exotic species, and 4. degradation of fish and wildlife habitat. These water quality concerns led to the development of this watershed planning project and resulted in an approved watershed management plan.

**Grant Amount: \$121,700**

**Match Funds: \$35,400**

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**Total Amount: \$157,100**

### Priority Pollutants in the Duck Creek Watershed:

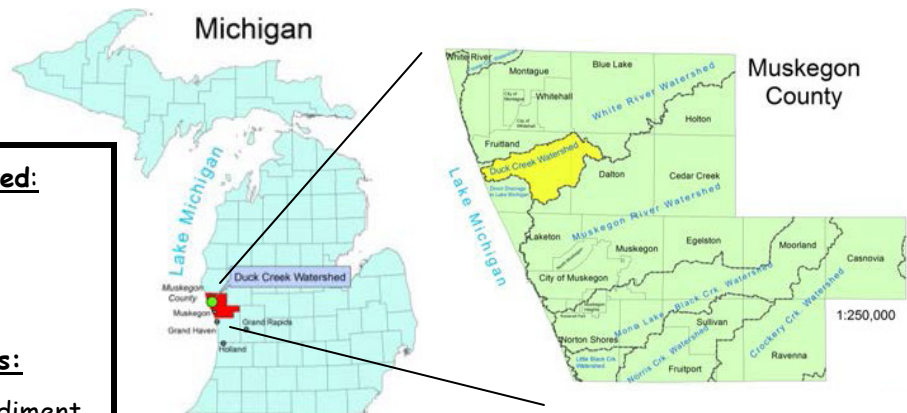
**High Priority** - Sediment & Temperature

**Medium Priority** - Nutrients & E. coli

**Low Priority** - Invasive (Exotic) Species

### Duck Creek Watershed Management Plan Goals:

1. Protect/Improve water quality by reducing sediment contributions and stabilizing known stream bank erosion sites, isolating cattle crossings, repairing damaged culverts, restoring wetlands, incorporating (LID) techniques, establishing conservation easements, and educating property owners regarding use of stormwater management practices.
2. Protect/Improve warm and cold-water fisheries by eliminating sources of warm-water discharges.
3. Protect/Improve water quality by reducing nutrient contributions from residential, commercial, and agricultural sources including fertilizer users, pet owners, and livestock operators.
4. Protect/Improve the recreational uses of the watershed by reducing E. coli and other bacteria contributions from residential, commercial, and agricultural stormwater runoff.



### Partners involved:

- Annis Water Resources Institute
- Cardno JFNew
- Duck Creek Watershed Assembly
- Fruitland Township
- Dalton Township
- Duck Lake Riparian Owner's Association

## Project Pictures



**Muskegon Conservation District Staff collecting data during the Duck Creek watershed inventory.**



**Muskegon Conservation District Staff collecting data prior to installing temperature loggers.**



**Cattle access to Duck Creek - identified as Site #4 in the Watershed Management Plan.**



**Warm water discharge to Duck Creek - identified as Site #5 in the Watershed Management Plan.**