



**Clean Michigan Initiative
Nonpoint Source Grant**



Dickinson Conservation District
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Pine Creek Watershed

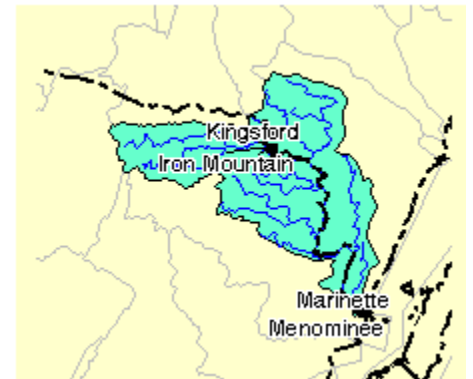
June 15th, 2000 - January 30th, 2004

The Pine Creek Watershed area is approximately 47,350 acres located in south central Dickinson County. The Pine Creek Watershed is part of the Sturgeon River watershed, which is a tributary of the Menominee River. Forested areas of the watershed comprise about 34,700 acres, or 73% of the total land area. Agricultural acreage amounts to just over 5,000 acres, or 10% of the land. The remaining 17% consists of urban areas, non-forested lands, water, wetlands, and barrens. Sediment is the primary pollutant impacting the watershed and comes from a variety of sources: past forest harvests, agricultural cropland runoff, future forest harvests, Groveland Dam, road-stream crossings, etc. The secondary pollutant is the input of nutrients from animal wastes and fertilizer use. Load restrictions on the District 5 Road bridge force logging trucks to travel on wet roads across an eroding culvert bridge in order to cross Pine Creek. The bridge is listed on the Michigan Critical Bridge list. The goal of this project was to reduce priority sources of sediment and nutrients.



Grant Amount: \$ 461,572
Match Funds: \$ 206,333

Total Amount: \$ 667,905



Best Management Practices:

- 3 Culvert installations/upgrades
- 6 road crossing bridges installed
- 430 Linear Feet of Approaches stabilized
- 236 Linear Feet of Rock Rip Rap
- 480 Square Feet of Animal Walkway
- 1,000 Linear Feet of Buffer/Fence
- 2 Waste Storage Facilities
- 1 Grade Stabilization Structure
- 3 Forest Harvest Crossings
- 403 Linear Feet of Timber Crib Bank Stabilization



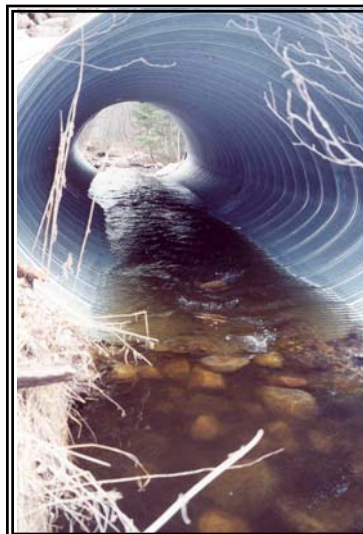
Annual Load Reductions:

Sediment:	1,253 tons/yr
Nitrogen:	3,223 Lb/yr
Phosphorous:	1,661 Lb/yr

I&E Activities:

A separate 319 I&E grant obtained provided:

- Newsletters
- Tours
- Civic and School Presentations
- Volunteer Meetings



Partners involved:

- City of Norway
- Pine Creek Valley Farm
- Trepanier Farms
- Zanon Farm
- Norway High School Industrial Arts
- Kingsford High School Env. Science
- MSU Extension-Sustainable Forestry Education Program
- U.P. Engineers & Architects
- USDA Natural Resource Conservation Service
- Michigan Department of Natural Resources
- Michigan Department of Environmental Quality



Hosking Creek Bridge Before:

The bridge has been washed off the bank, impeding the flow of the creek.



Hosking Creek Bridge After:

Norway High School students built this bridge and helped assemble it on site. The bridge has adequate capacity (i.e. doesn't impeded flow) and is anchored to abutments.



Parker Animal Waste System Before:

Water drains through this manure pile/ feed lot area, before flowing down a steep slope behind the barn.



Parker Animal Waste System After:

A waste storage facility, filter strip, diversion, heavy use protection, and critical area seeding have helped reduce runoff and nutrient input. Note that at the time these photos were taken, the seed, etc. had just been installed, hence the site is not completely stabilized.