



# Clean Michigan Initiative Nonpoint Source Grant

Tracking code: 2000-0181



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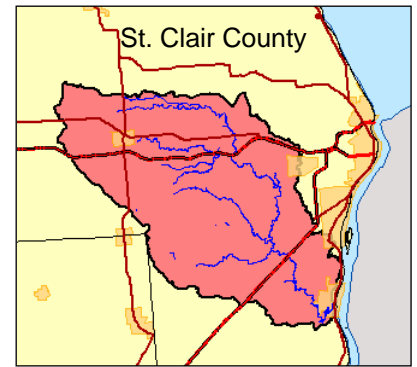
## Pine River Watershed Stream Bank Stabilization Project

November 15, 2002 through September 30, 2006

The Pine River Watershed, a tributary of the St. Clair River, consists of 195 square miles of agricultural, industrial urban and suburban land in St. Clair County. The goal of this project was to improve water quality in the Pine River by stabilizing stream banks in tributary county drains and eliminating uncontrolled cattle access to the streams/drains. The County Drain Commissioner inspected most county drains in the watershed for general erosion problems and for sites where cattle were allowed to water and graze along drains, trampling the banks and preventing vegetation from taking hold. This has been, historically, a typical practice in St. Clair County. Four sites were designated for cattle exclusion fencing in the grant application. It was not easy to find landowners willing to cooperate. At two of the original sites, the landowner decided to put up his own cattle exclusion fence. At a third site, the landowner got out of cattle raising. The project then focused on one large site along the O'Loughlin Drain where cattle used the road bridges as underpasses to cross under roads from one pasture to another.



**Grant Amount: \$ 28,900**  
**Match Funds: \$ 15,500**  
**Total Amount: \$ 44,400**



### Best Management Practices

- Three livestock crossings installed (geotextile and crushed stone)
- 6,000 linear feet of cattle exclusion fencing and gates
- Critical area treatment: 0.5 acres seeded

### Estimated Annual Pollutant Load Reductions:

- Sediment: 68 tons
- Phosphorus: 78 lbs.
- Nitrogen: 155 lbs.

The Natural Resources Conservation Service and Soil Conservation District assisted by advising landowners on Best Management Practices for cattle grazing. The project has raised awareness of the problem of cattle in county watercourses and provided a model of what can be done to solve the problem.

### Partners involved:

- O'Loughlin Drain Drainage District
- St. Clair County Drain Commissioner
- Lichota Farms
- MDEQ Water Bureau
- St. Clair County Soil Conservation District
- Natural Resources Conservation Service
- Environmental Consulting & Technology, Inc.

### Controlled access of cattle to stream

Before



After



Cattle grazing and watering in the O'Loughlin Drain before the installation of livestock crossing and cattle exclusion fencing.



The same site on the O'Loughlin Drain shortly after the livestock crossings and fence was installed. The banks were still not vegetated at this time.



Construction of the livestock crossings involved excavation of the slope to create a gentle grade and the laying of geotextile fabric over which stone could be laid to armor the banks and bottom against cattle hoofs.



A hydraulic excavator was used to excavate the slopes, apply the stone and even to push in the fence posts. The workmen, who were familiar with cattle, advised that small diameter stone should be used or the cattle might be afraid to walk on it.