Clean Michigan Initiative
Nonpoint Source Grant
Tracking code #2002-0039

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Munising Bay-St. Martin's Hill

July 31, 2004 through June 30, 2006

The Munising Bay watershed is a Lake Superior watershed consisting of 30,350 acres. Sediment is the primary pollutant of concern. This project stabilized a system of critically eroding gullies adjacent to an eroding gravel road. The site consisted of a steep hill called St. Martin's Hill, that carried sediment down the road and into a sediment basin that could not handle the sediment load. Correcting the site required paving a portion of the road and installing curb cuts to drain water off the road; installing storm sewer and curb drains with water-drop control structures on the steep and narrow portions; and installing rock riprap over geotextile fabric in the main flow channel, with rock check dams to decrease the flow of water. This project resulted in the elimination of one of the largest sources of sediment to Munising Bay.

Grant Amount: $ 91,200
Match Funds: $ 520,700

Total Amount: $ 611,900

Best Management Practices:

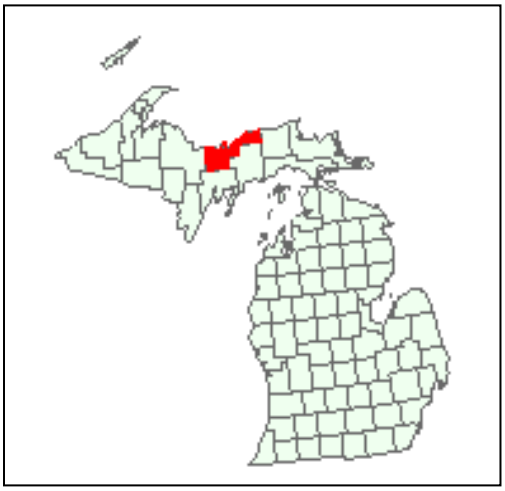
- Check Dams
- Critical Area Treatment
- Grade Stabilization Structures
- Sediment Basins
- Stormwater Conveyance Channel

Annual Load Reductions:

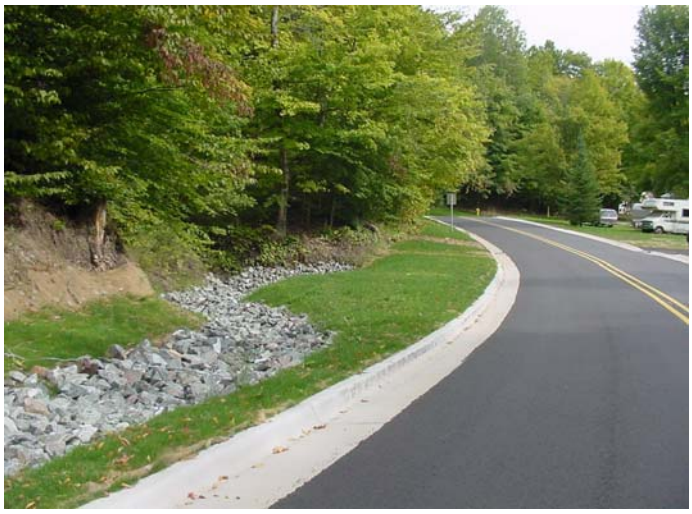
- Sediment 4,455 tons
- Phosphorous 3,791 lbs.
- Nitrogen 7,582 lbs.

Partners involved:

- City of Munising, Michigan
- NRCS
- Great Lakes Basin Program
- National Park Service-Pictured Rocks National Lakeshore
- Michigan State University Extension
- City of Munising Schools
- UP Resource Conservation and Development Council



Before: Due to large amounts of sediment runoff—denoted by the arrows—a sediment basin at the downslope end of the road filled up rapidly and sediment discharged into Lake Superior.



After: Paving the road stopped much of the sediment. In addition, the new conveyance channel drains water into a rip-rapped flow channel, then into under road piping and into a sediment basin at the bottom of the steep hill. Curb-cuts help to divert water off the road and reduce erosion.

Before: During rain events storm water flowed into the old sediment basin, causing deep gullying along the entire stretch of road.

After: The rock-lined channel prevents erosion by slowing down water as it is traveling down the steep grade. Velocity dissipaters, which consisted of embedding rocks in a concrete apron, were installed at certain points throughout the channel to provide additional protection.