



**Clean Michigan Initiative  
Nonpoint Source Grant  
1999-0021**

Marquette County Road Commission

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## County Road 510 Soil Erosion & Sedimentation Control Project

July 1st, 2000 - November 28th, 2003

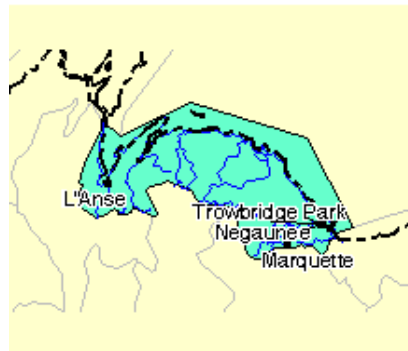
Erosion from County Road (CR) 510 enters the headwaters of the Garlic, Little Garlic, and Yellow Dog Rivers, some of the area's best trout/steelhead streams in the Upper Peninsula. These sediments bury the gravel streambeds that are vital for supporting fish reproduction and food organisms. Major land use of the watershed consists of approximately 76% forestland and 24% rural residential/recreational land. Very little development exists in the watershed. The intent of this challenging project was to decrease the amount of sediment-laden runoff from CR 510. Road embankments often serve as the banks of the stream, and at one location, the Garlic River runs parallel to the road and serves as the road 'ditch' for nearly one mile. Other stream crossings presented challenges due to the steep terrain, erosive soils, and the difficulty of diverting water off the roadway.



**Grant Amount: \$ 404,000**

**Match Funds: \$ 289,600**

**Total Amount: \$ 693,600**



### Best Management Practices:

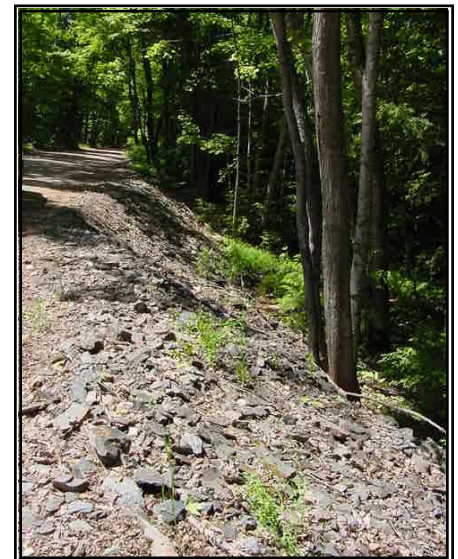
- 17 diversions
- 7 road stream crossings
- 3 check dams
- 1 grassed waterway
- 3 replaced culverts
- 295,472 sq ft modular pavement
- 9 grade stabilization structures
- 1,000 LF stormwater conveyance channel



### Annual Load Reductions:

- 256 tons of sediment

This stream bank received rock riprap as a stabilization measure, which reduces erosion and sedimentation into the nearby stream.



A new, extended culvert (viewed from the top) allows water to flow more freely under CO Rd 510. This site features a pan to direct water out of the culvert toward the stream bed.