

Title: Deer River Culvert Replacements

Michigan AUID Number: Neither Fribley Creek nor Twenty-Six Mile Creek were or are on Michigan's 303(d) list.

GRTS Number: This project was not funded with Section 319 funds nor used as match for another project, so it is not in the GRTS system. Section 319 funds were used for the monitoring described below, which in 2002 was Grant 975474020, Project 24 and in 2007 was Grant 975474070, Project 01.

Opening Paragraph: Fribley Creek and Twenty-Six Mile Creek are small headwater tributaries of the Deer River in Iron County, near the Village of Amasa in Michigan's Upper Peninsula. A 50-year flood event in April 2002 severely damaged numerous road/stream crossings in the watershed, including culvert crossings on these two creeks.

Problem: Culverts on Fribley Creek and Twenty-Six Mile Creek were washed out by a major flood, which increased sediment loads to the creeks and impacted aquatic macroinvertebrate communities.

Project Highlights: Washed out culverts on Fribley Creek and Twenty-Six Mile Creek were replaced with larger culverts, which reduced sediment inputs to the streams and allowed the riparian vegetation to recover from the flood.

Results: Culvert replacement resulted in noticeable improvements in streamside vegetation (Figure 1). Macroinvertebrate populations, while generally healthy in these high-quality headwater streams, measurably improved after the culverts were replaced (Table 1):

- The total number of macroinvertebrate taxa increased by 40 percent in Fribley Creek and by 60 percent in 26-Mile Creek.
- Sensitive mayfly, caddisfly and stonefly taxa increased by 67 percent in Fribley Creek and by 56 percent in 26-Mile Creek.
- Tolerant taxa like isopods, snails, leeches, and air-breathing insect larvae declined substantially.

Partners and Funding: The larger culverts were installed by a local timber company, who had an agreement with the Iron County Road Commission to maintain the stream-road crossings on their property.

Photographs:

Figure 1.



Data:

Table 1. Results of Pre and Post Sampling.

	Fribley Creek		26-Mile Creek	
	Pre (2002)	Post (2007)	Pre (2002)	Post (2007)
Total taxa	20	28	20	32
No. EPT taxa*	6	10	9	14
Percent isopod, snail & leech taxa	6	4	3	0
Total score**	-1	+3	+1	+4

*Sensitive taxa; mayflies, caddisflies and stoneflies

**On a scale of – 9 to + 9

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