

Title: Macatawa River Bank Erosion Improvements

Michigan AUID Numbers: 040500020401-01, 040500020402-02, 040500020403-01, 040500020404-01, 040500020405-01, 040500020406-01, 040500020407-01

GRTS Number: 975474080, Project 08

Opening Paragraph: The Macatawa River watershed is in Ottawa and Allegan Counties in southwestern lower Michigan, and drains into Lake Michigan. In 2008 the Macatawa Area Coordinating Council (MACC) conducted a watershed-wide survey of streambank erosion potential, using the rapid Bank Erosion Hazard Index (BEHI) assessment procedure. In the course of assessing bank erosion at 117 road crossings around the watershed, the MACC also compared current channel conditions to more qualitative observations made during a previous NPS-funded road/stream crossing inventory conducted in 2004. Noticeable improvements were noted at six locations. Culverts, bank stabilizations, and other management practices were installed as described below.

Problem: Excessive sedimentation is impacting aquatic biological communities (fish and macroinvertebrates) in much of the Macatawa River watershed, and eroding streambanks are believed to be a significant source of sediment to the watershed.

Results: Six of the locations surveyed exhibited noticeably increased bank stability (Figures 1 through 6; Table 1), usually accompanied by increased riparian vegetation. In some cases the cause of the increased stability was apparent (replacing collapsing culverts or bridges, surfacing gravel roads, rip rap installation), while in other cases the cause of the improvement was less obvious.

Partners and Funding:

A Section 319 Rural Program Development grant to the Macatawa Area Coordinating Council totaled \$286,687, which was matched by \$145,567. This grant funded the BEHI survey in 2008. The 2004 road/stream crossing survey was performed by MDEQ nonpoint unit staff.

Photographs:

Figure 1. 104th Avenue north of Van Buren Street, before and after culvert replacement.

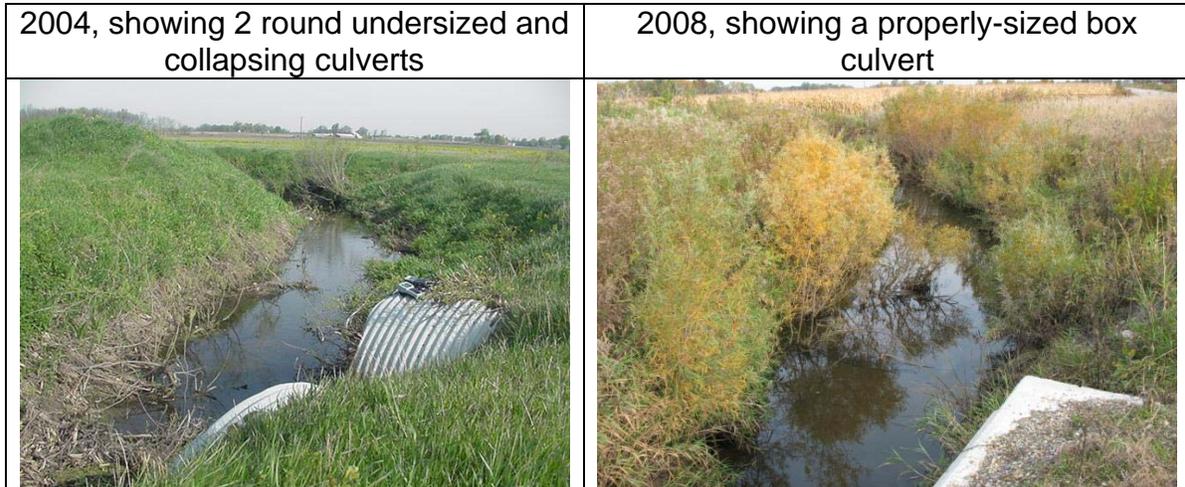


Figure 2. Quincy Street east of 112th Avenue, before and after road resurfacing and bridge replacement.

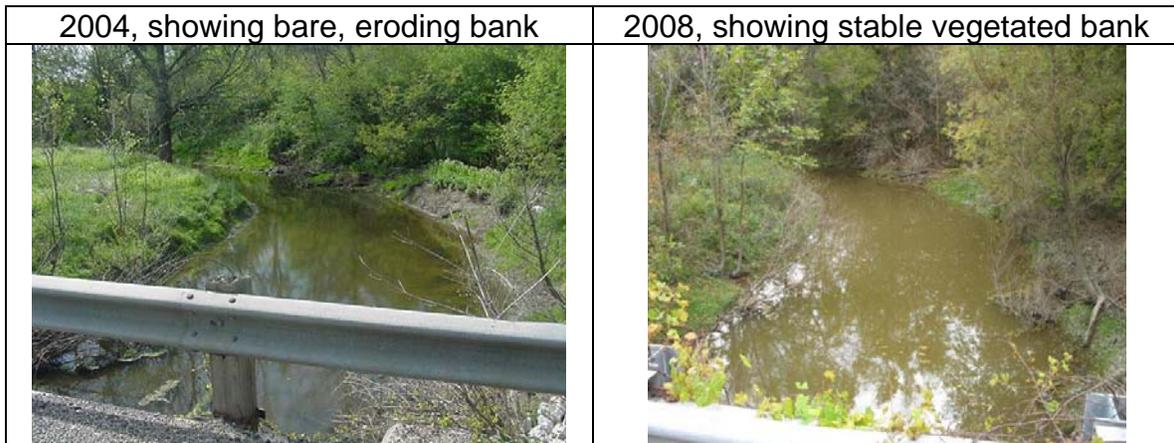


Figure 3. 43rd Street north of 144th Avenue, after culvert replacement and rip rap addition.

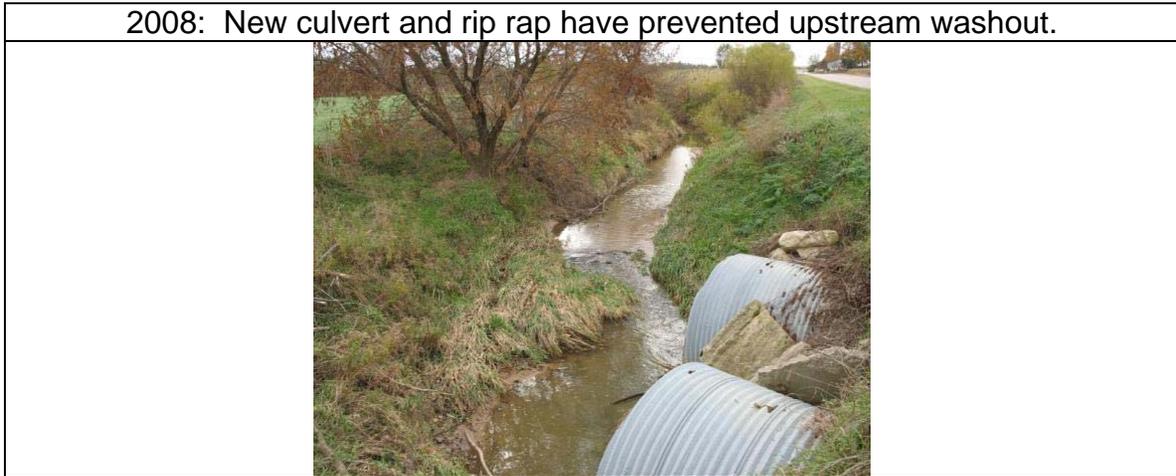


Figure 4. 42nd Street north of 147th Avenue, showing affects of stabilized streambanks.

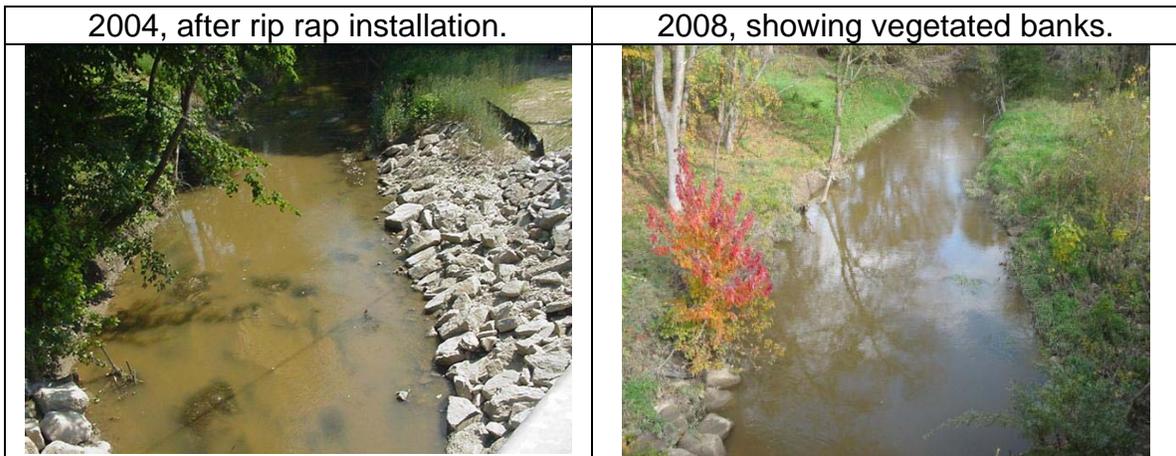


Figure 5. 56th Street north of 141st Avenue, before and after bank stabilization.

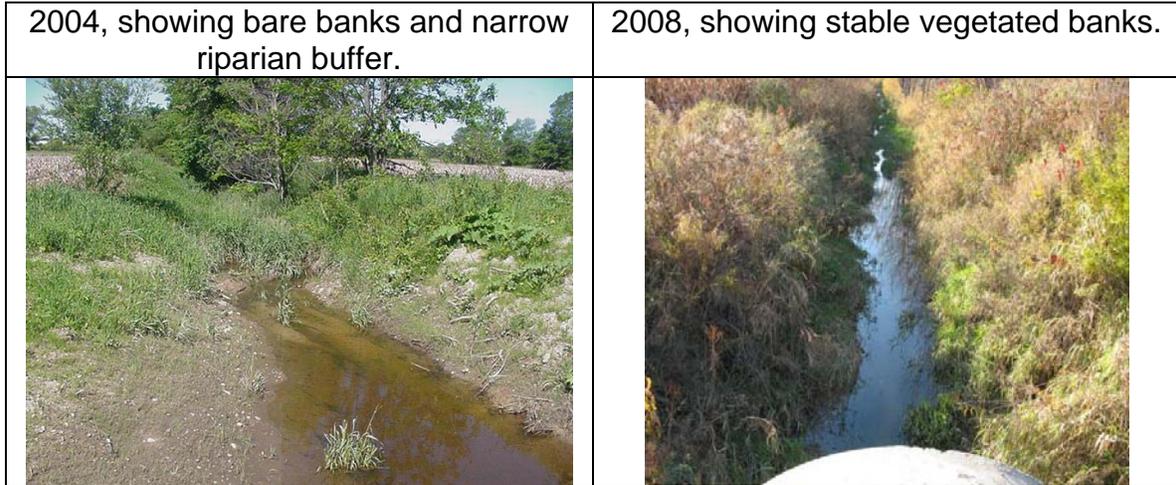
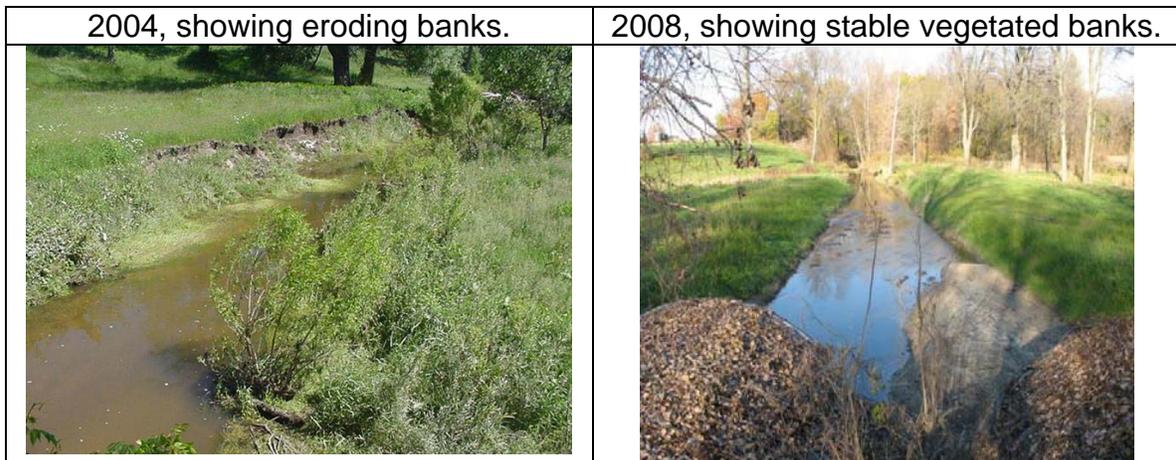


Figure 6. Russcher Road south of 144th Avenue, before and after bank stabilization.



Data:

Table 1. 2008 Bank Erosion Hazard Index (BEHI) Scores.

Location	BEHI Score*	Erosion Risk
104 th Avenue north of Van Buren Street	11.8	Low
Quincy Street east of 112 th Avenue	7.3	Low
43 rd Street north of 144 th Avenue	12.3	Moderate
42 nd Street north of 147 th Avenue	13.8	Moderate
56 th Street north of 141 st Avenue	7.3	Low
Russcher Road south of 144 th Avenue	19.8	Moderate

* Scale = 5.8 to 40

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