

Tuscarora Creek Bank Stabilization Project

Growing Greener Project C90003037

Project Description: This project sought to repair an extreme case of erosion along Tuscarora Creek, where it threatened to undermine the Tell Township Municipal Building along Tuscarora Creek Road in Huntingdon County, PA. For the past several years, high flows, coupled with split flow and gravel deposition, have resulted in the loss of up to 30 feet of bank due to erosion of the bank toward the building, which stood merely 10 feet from the edge of the bank. Three other areas of erosion were identified, one which had eroded dangerously close to the edge of the road and one that eroded right up to the foundation of a privately owned cabin.

Project Goals: The goals of this project were to restore and stabilize 1,300 LF of stream by addressing these areas of erosion. The restoration plan was to create floodplain benches adjacent to these critical areas. Stabilizing habitat structures such as log vanes and mudsills would be constructed to protect the benches, and a riparian buffer would be planted on the newly created floodplains to provide vegetative stability as well as habitat benefits for aquatic and avian species. All in all, our goals were to:

- Repair of the eroded pocket adjacent to the Tell Twp. Municipal Building;
- Install a bankfull bench and mudsill where the stream was close to the roadway;
- Block a back channel that was splitting the flow, causing erratic flow patterns;
- Install stream stabilization structures along outside bends and new floodplain sections.
- Restore 1,300 linear feet of stream.



Before: A large pocket had eroded into the bank, threatening the Tell Twp. Municipal Bldg. and parking lot.

Project Results: As a result of the implementation by the U.S. Fish and Wildlife Service, the three identified eroded areas were repaired and stabilized; plus, an additional area was identified upstream of the project reach and added to the scope. By the end of the project:

- ✓ 1,875 LF of stream were restored;
- ✓ 200 LF of bankfull benches were constructed to move the flows away from the eroding banks;
- ✓ 1 mudsill installed to stabilize the largest bench;
- ✓ 2 rock rubble vanes installed to direct flow around a sharp bend;
- ✓ 15 log vanes installed to direct flow away from the banks;
- ✓ 1 gravel stream crossing installed to protect banks from impacts due to equipment crossing the stream.



After: The pocket was filled with native material and edged with rock for stability. It was later planted with trees and shrubs. A streamlined, stable stream is the result.

Through these project activities, 251.1 pounds of nitrogen, 7.2 pounds of phosphorus and 15.7 tons of sediment were prevented from being delivered annually to the Chesapeake Bay.

Project Costs: \$88,510.00 Growing Greener Grant Program, \$21,372.00 in matching funds.

Lessons Learned: Tackle erosion problems before they get too large that they threaten infrastructure.

Partners: U.S. Fish and Wildlife Service; Habitat Forever; Huntingdon County Conservation District; The Foundation for California University of Pennsylvania.

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