South Branch Watershed Association of Hampshire County Implements National Fish & Wildlife Grant

The South Branch Watershed Association was the successful recipient of a $25,000.00 2003 Chesapeake Bay Small Watershed Grant through the National Fish & Wildlife Foundation. Through this grant, the organization was able to mitigate a total of 1,900 linear feet of moderate to severe stream bank erosion on the main stem of the South Branch River in Hampshire County by using Natural Stream Restoration (NSR) techniques. After many delays and hitches the association finally was able to complete implementation in September of 2005. These three sites were chosen for mitigation after a preceding comprehensive erosion assessment was performed on the main stem of the river within the county. Sites were ranked based upon severity of erosion, landowner cooperation, and suitability for application of NSR techniques. The association worked closely with the West Virginia Conservation Agency and Canaan Valley Institute to get this project off the ground. Decota Consulting, an environmental consulting and engineering firm located in Charleston, WV was hired to design the projects. The following offers an overview of each project:

Herriott Natural Stream Restoration Site

A point bar forming on the right descending bank has narrowed the channel, increasing shear stress on the left descending bank causing erosion. In addition, the "growing" point bar has deepened the channel, reducing the usability of an existing ford, the only access to the property owned on the south west side of the river. The goal at this site was to reshape the point bar to encourage sediment transport through the system without encouraging deposition. The project was completed by removing the outer edge of the bar, creating a channel approximately 310 feet in width, similar to the widths measured both upstream and downstream for the site. The newly constructed outer edge of the point bar was sloped steeper than the existing slope, approximately 2:1 or slightly steeper. This allows helical currents at bankful flows to transport sediment through the reach without causing deposition. Material removed from the outer edge of the bar was used to construct the bench, forming an "inner berm". All disturbed areas above bankful were re-shaped to a 2:1 slope or flatter. They were then reseeded. Woody vegetation will be established during the spring. Approximately 900 linear feet of stream bank was stabilized through this project.

Coleman Natural Stream Restoration Site

This site posed the challenge of severe erosion occurring on approximately 500 linear feet of stream bank. The site was adjacent to a pasture field. Vertical cuts were measured at 20 feet in some areas on the site. Portions of a small mid-channel bar were removed to help construct a bankful bench. Material was lacking to fully construct the bench, therefore two rock vanes were constructed to reduce near bank stress and encourage deposition in appropriate areas. These vanes were constructed by "dumping" 36 inch shot rock in the form of a rock vane. All appropriate angles and slopes were adhered to and the rock was compacted into place. The idea behind building the structures in this manner was to reduce construction time and costs. Upon the end of construction, steeply eroding areas were reshaped to a 2:1 slope or flatter, reseeded, and a riparian buffer was established. Woody vegetation will be established in the Spring. Approximately 500 linear feet of stream bank was stabilized through this project.

Malcolm Natural Stream Restoration Site

This site was a concern due to the immense loss of stream bank on a site used for recreation. The project was fairly simple. It involved reshaping the upper stream bank above the ordinary high water mark to a 2:1 slope or flatter. This allows for the establishment of vegetation. Upon completion, the disturbed area was reseeded and mulched. Woody vegetation will be established in the Spring. Approximately 500 linear feet of stream bank was stabilized through this project.

All sites will be monitored visually and prior bank pinnings will be evaluated to determine the soil loss post-implementation. Establishment of woody vegetation will be incorporated Spring 2006.

Excess sediment, nitrogen, and phosphorous are all concerns to the degradation of the Chesapeake Bay. The intent of these demonstration sites was to experiment with innovative and inexpensive methods farmers are using to try to decrease sediment loading and most importantly to them, conserve their valuable soil. For more information on this project or to schedule a site tour, contact Carla Hardy at the West Virginia Conservation Agency at 304.538.7581.