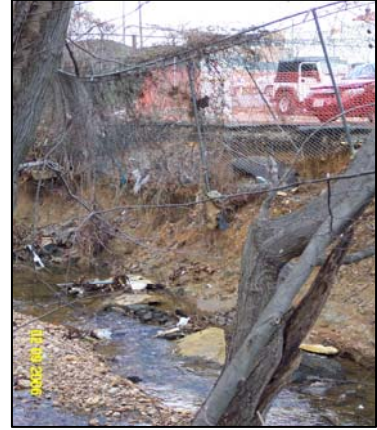


Stormwater Management Pilot Study: North Fork of Accotink Creek, Fairfax City, Virginia

Project Description

The purpose of this project is to provide information to Municipal Separate Storm Sewer System (MS4s) operators and states on the performance of selected best management practices (BMPs), specifically, stream restoration techniques, on improving biological and in-stream water quality within an urban watershed. This objective will be achieved by collecting and monitoring improvement in water quality and biological conditions in Accotink Creek in Fairfax City before, during, and after stream restoration.



Accotink Creek and its tributaries within the City of Fairfax are important natural sources that provide recreational and aesthetic values that enhance the quality of life in the City. The headwaters of Accotink Creek originate within the City of Fairfax and flow southeast through Fairfax County to its confluence with Potomac River, which flows into the Chesapeake Bay. The Accotink Creek headwater watershed has uncontrolled urban runoff that has resulted in erosive forces causing channel deepening, widening and bank and bed sediment transport downstream. This runoff is adversely affecting aquatic life within the creek. Many of the fish and other aquatic life populations, which are important for the Creek's viability, have declined (<http://www.fairfaxva.gov/environment/streams.asp>). In the spring of 2002, the city completed stream restoration improvements on the North Fork of Accotink Creek from Stafford Drive to Lee Highway.

This project consists of monitoring before and after restoration of 1,800 linear feet of degraded stream channel in the North Fork of Accotink Creek from Lee Highway to Old Lee Highway in the City of Fairfax, Virginia. Proposed restoration includes installation of native plant materials along the stream and bioengineering structures to stabilize the stream channel and bank. These actions are intended to restore the stream channel to a stable condition and reduce stream bank erosion thereby reducing sediment loads in the stream. The actual construction is scheduled to start in the spring of 2006.

This project is a joint effort between United States Environmental Protection Agency (USEPA) Office of Research and Development (ORD) and USEPA Region 3. Current additional cooperators are the Center for Watershed Protection (CWP) and the United States Geological Survey (USGS).

In-stream samples will be collected and analyzed for physical, chemical, and biological parameters to document the changes in stream quality as a result of this restoration project. Survey and assessment of the stream and upland areas will also be conducted. Goals of this project are to: investigate the effectiveness of BMPs, specifically, stream restoration techniques and other potential watershed enhancements, on increasing available biological habitat and improving in-stream water quality in the impaired stream within this urban watershed; demonstrate the utility of continuous water-quality monitoring as an innovative, cost-effective tool for detecting water-quality improvements that are related to BMP implementation activities; and identify specific impairments of concern within the stream corridor and upland areas and recommend additional management practices to improve the overall water quality.

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