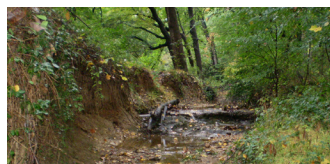


## Bridle Path Stream Restoration

McLean, Virginia



*from top: Restored stream; Severely eroded banks before restoration*

The thriving, urban community of Fairfax County is the most populous jurisdiction in both Virginia and the Washington, D.C. metropolitan area. Under an on-call contract with the Fairfax County Department of Public Works and Environmental Services Stormwater Planning Division, Biohabitats teamed

with Baker Engineering to restore 1,700 feet of Bradley Branch near Bridle Path Lane.

The Bridle Path Stream Restoration Project was initiated by the County to address numerous concerns—both local and watershed-based. The main channel had become incised and severely down-cut, resulting in falling trees, eroding banks, poor habitat, and loss of property for nearby homeowners. This project is part of a larger effort to meet Clean Water Act permit requirements, restore many of the County's degraded stream systems, and support regional

*This project eliminated severe bank erosion, while restoring aquatic and riparian habitat along 1,700 linear feet of suburban stream.*

initiatives to improve the condition of the Chesapeake Bay.

Biohabitats developed design alternatives and presented them to the community to solicit input and identify a preferred alternative. Specific design tasks include detailed fluvial geomorphic field analyses; sediment transport analysis; ecological and vegetative assessments; development of concept design drawings and a design justification report; and preparation of design and construction drawings, specifications, and cost estimate. Biohabitats also helped prepare regulatory permits and provided technical oversight during the construction phase.

The design protected private properties at risk because of stream erosion, stabilized the stream within the designated project reach using natural

channel design practices, and enhanced aquatic and terrestrial habitat along the stream and its drainage outfall channels. The selected approach raised the bed of the channel to alleviate bank shear stresses and reconnect the floodplain. A low bench was designed to accommodate more frequent floodflows. In-stream structures made of stone boulders were installed to maintain grades, dissipate energy and reduce erosion, and create habitat diversity. Special care was taken in developing the proposed alignment and channel bed elevations to minimize bank regrading and tree loss along homeowners' properties.

### SERVICES

Inventory & Assessments  
Design  
Permitting  
Construction Management  
Public Outreach

*conservation planning  
ecological restoration  
regenerative design*



800.220.0919  
www.biohabitats.com

