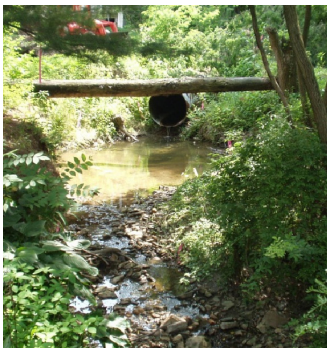
BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY

Gwynns Falls Tributaries at Gwynnbrook Avenue Stream Restoration

Baltimore County, Maryland



from top: After restoration; Before restoration—looking upstream at piped portion of first-order tributary before "daylighting," relocating, and restoring the channel

Restoring two streams regenerates aquatic habitat, protects sanitary sewer infrastructure and reduces sediment yield to a stream system in a highly urbanized watershed.

Gwynns Falls, a 25-mile long stream that empties into the Patapsco River in Baltimore City, was identified by the state as impaired by nutrients, sediments, bacteria, and impacts to biological communities. In an effort to mitigate erosion, reduce sediment yield, protect sanitary lines, and reduce bacteria loads, the Baltimore County Department of Environmental Protection and Sustainability (DEPS) undertook efforts to improve the quality of the stream system.

Chronically eroding stream banks, an exposed sanitary sewer line and manholes, and a piped section of channel along two Gwynns Falls tributaries made the site a prime candidate for restoration. Operating under an EPA consent decree, DEPS turned to Biohabitats for help in restorating these first-order tributaries

Biohabitats began by conducting a fluvial geomorphologic assessment, hydrologic and hydraulic analyses, sediment transport analysis, geotechnical investigations, water quality analysis, and ecological assessments. Informed by the studies, the team then applied a natural channel design approach to return stability, habitat, and ecological function to the degraded tributaries. To inform the community, seek input, and garner support for the project, Biohabitats met with the residential property owners at the site to discuss findings and the restoration design approach.

The restoration construction, which was supervised by Biohabitats, was completed in 2010. Subsequently, Biohabitats was contracted to evaluate the site and develop additional bank stabilization measures and channel cross section modification along one residential property to mitigate bank retreat.

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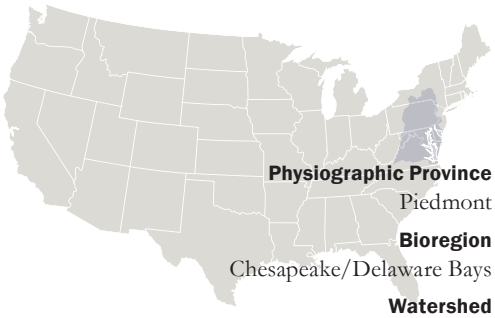

Physiographic Province
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Watershed
Gwynns Falls