

Bonnie Branch Stream Restoration

Ellicott City, Maryland



In helping Howard County, Maryland's Stormwater Management Division improve water quality in the Patapsco River, a major tributary to the Chesapeake Bay, Biohabitats assessed a half-mile segment of Bonnie Branch, a degraded stream that winds through a residential area on the outskirts of Ellicott City and portions of Patapsco State Park, to explore opportunities for restoration.

Historic landscape modifications had caused the stream to become disconnected from its

Stream restoration improves water quality, enhances local ecology, and protects a region prone to flash floods.

floodplain, with banks in one area measuring as high as 10 feet. Similar conditions were observed in a tributary draining to the project reach. With funding through the County's Watershed Protection and Restoration Fund and a Chesapeake Bay Trust Fund, the County initiated the restoration of 700 linear feet of Bonnie Branch and 300 linear feet of the nearby tributary.

Biohabitats worked with the County and their construction contractor Angler Environmental, to design and construct solutions that restored floodplain connectivity to Bonnie Branch and channel stability to its eroded tributary.

For Bonnie Branch, a low-impact approach was taken to grade

the banks, forming a bench that allows the stream to flow onto the floodplain and deposit sediment and nutrients. The tributary stabilization involved a similar approach, creating an inset floodplain. Fill material and woody debris removed from Bonnie Branch was harvested and reserved for use in future restoration projects.

Months after the project was completed, the restored stream survived an historic, 1000-year storm, which caused severe and devastating flash floods in the region.

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