

Bacon Ridge Branch Stream Restoration at Elks Camp Barrett

Annapolis, Maryland



from top: existing degraded stream channel with severe bank erosion; existing riparian wetland; existing stream disconnected from floodplain

Nestled in 140 wooded acres near Annapolis, MD, Camp Barrett is a youth camp designed to help young people of all backgrounds to grow and develop by experiencing outdoor adventure and fun. Operated by the Elks Association of Maryland, Delaware, and the District of Columbia, the camp features multiple recreational fields and facilities, a swimming pool, hiking trails, and a running stream known as Bacon Ridge Branch.

Over time, Bacon Ridge Branch suffered sedimentation and erosion as a result of regional deforestation and agricultural land use practices. Severely incised, with little in-stream habitat and no connection to its floodplain,

Use of on-site woody material in a three-mile stream restoration yields improved ecological function and habitat for a youth camp and TMDL credits for a state agency.

the stream had become so degraded it blew out a culvert crossing on camp property. The restoration of Bacon Ridge presented an ideal opportunity for the Maryland State Highway Administration to initiate--through a full-service delivery contract with mitigation banking company Greenvest—a project that would yield benefits for the community while helping the agency achieve its TMDL goals.

As a subcontractor to Greenvest, Biohabitats led the restoration of more than three miles of Bacon Ridge. The project, which had to be designed and fully constructed within an accelerated schedule of two years, also involved the restoration of two smaller, headwater tributaries.

Biohabitats' approach to the restoration was to use on-site woody materials to raise the

normal baseflow water surface to an elevation just below the floodplain in this Coastal Plain, wood-dominated stream system. Maximizing the use of downed trees and ash trees already vulnerable to the destructive emerald ash borer, the design involved the use of engineered log jams, naturally-appearing wood structures that slow down the flow of water, help protect streambanks, and provide aquatic habitat. On the smaller, headwater tributary sites, wooden post-and-wattle structures placed in a repetitive fashion also help to modify flow in a way that augments existing headwater wetlands.

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