

SPA CREEK CONSERVANCY

# Spa Creek Headwaters Retrofit & Stream Restoration Design-Build

Annapolis, Maryland



From top: Initial conditions; Sampling macroinvertebrate population

The headwaters of the Spa Creek watershed flow through Annapolis, MD and ultimately into the Chesapeake Bay at the mouth of the Severn River. The creek is a treasured natural and recreational resource, and it provides habitat for many species

native to the Chesapeake Bay. In recent decades, however, development and population growth in the area have put pressure on Spa Creek’s headwaters, causing many of them to become eroded sluiceways through which stormwater swiftly carries sediments and pollutants downstream. To address these problems, the Spa Creek Conservancy, a volunteer organization dedicated to the stewardship of this important tributary, initiated restoration efforts in the watershed’s upper reaches.

With assistance from Biohabitats, the Conservancy applied for and received grant funding from the Maryland Department

*Restoring a headwater stream enhances a natural and recreational resource while also helping a Chesapeake Bay community meet its pollution reduction goals.*

of Natural Resources’ Chesapeake and Atlantic Coastal Bay Trust Fund.

The project includes the restoration of 5,000 linear feet of stream, beginning at an outfall that had been lined with gabions years earlier and ending at a stand of *Phragmites* established on a sediment deposit formed as a result of channel erosion and upland sediment transport into tidewater. After assessing the site and conducting H&H analyses, Biohabitats crafted a design to establish long-term, stable channel geometry, increase nutrient uptake and other water quality improvements, and enhance aquatic, wetland, and riparian habitat. The design involves removing gabions, creating step pools to slow flows, and raising the channel bed to reconnect the stream to its floodplain. The floodplain reconnection allows

stormwater to rehydrate non-tidal wetlands. The design also incorporates the excavation of two acres of *Phragmites* and restoration of emergent tidal wetlands.

Biohabitats design-build capability facilitates the ability of the Spa Creek Conservancy to implement a project of this scale. Biohabitats and our sub-contractors executed all elements of the project, including topographic survey, resource mapping, public engagement, permitting services, construction, and planting.

### SERVICES

- Inventory & Assessments
- Design-Build
- Permitting
- Construction Procurement
- Construction Management
- Post-construction Monitoring Management
- Public Outreach

conservation planning  
ecological restoration  
regenerative design



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