
Anne Arundel County

Beards Creek (Annapolis Landing) Stream Restoration

Riva, Maryland



The 1,700-linear-foot wetland and stream restoration improved habitat and function using only wood structures.

SERVICES

Ecological Restoration
Climate Change Adaptation
Infrastructure
Urban Ecology

Home to more than half a million people, Anne Arundel County, Maryland, is bordered to the east by the Chesapeake Bay. Requirements for the County's National Pollutant Discharge Elimination System Municipal Separate Storm Sewer System permit are stringent. To help the County comply with those requirements, Biohabitats designed and constructed the restoration of Beards Creek, a degraded tributary to the South River and ultimately the Bay. Working with the County and the nonprofit Arundel Rivers Federation, Biohabitats reconnected the stream to its floodplain to halt active headcutting and incision in the forested floodplain.

Channel-spanning engineered log jams, constructed with a combination of on-site woody material and imported trees, hold the normal baseflow water surface just below the floodplain. The use of wood, the dominant form of natural grade control in the Coastal Plain, results in a resilient, nature-based solution for restoring stream and wetland health using construction methods that lower the carbon footprint of the project. Beaver dam analog structures made of willow wattles were also installed across the floodplain to trap out-of-bank flows and further improve valley bottom habitat.

The Beards Creek Stream Restoration modified the hydraulics of 1,700 LF of stream channel and valley to optimize floodplain reconnection of stormflows and improve stream geomorphology to ensure long-term bed and bank stability. The restoration also helps detain and slow stormwater flows throughout the full width of the valley bottom and restores ecological function to non-tidal wetlands.