CAPE ST. CLAIRE COMMUNITY ASSOCIATION AND ALLIANCE FOR THE CHESAPEAKE BAY

Cape St. Claire Shoreline Stabilization

Annapolis, Maryland

Excavators building headland breakwater from barges.

A waterfront community turns to nature-based solutions to replenish and protect eroding beaches.

SERVICES

Ecological Restoration
Conservation
Climate Change
Coastal
Water
Community
Design & Build

Located on the shore of the Magothy River, the waterfront community of Cape St. Claire had experienced historic and ongoing shoreline erosion. With the future impacts of climate change in mind, the community sought to replenish and protect its beachfront. Biohabitats was brought in to review all natural resources of the 1500-acre community's landholdings and prioritize restoration opportunities. After conducting topographic and bathymetric surveys, assessing the site's ecological and physical features, and analyzing shoreline recession and engineering, Biohabitats developed several conceptual, and ultimately final restoration designs for two high priority sites.

At Site 1, at the confluence of the Magothy and Little Magothy Rivers and adjacent to the community park and beach, the design aimed to stop shoreline erosion and restore processes that would allow beach accretion. This was accomplished by coupling a headland breakwater with a small groin. At Site 2, 40 reef balls and large trees with intact roots will be placed near the outlet from a 4-acre still pond dominated by stormwater runoff. This element will create a complex shallow water environment ideal for fish and waterbirds. A battenboard face will be constructed along an existing community pier to act as a groin to retain sand entrained in longshore drift to build the adjacent beach and reduce maintenance dredging of the marina on the other side of the pier. Both site designs integrated the removal and management of invasive Phragmites and the installation of native species.