

Swan Harbor Farm

Havre De Grace, Maryland



From left: Before and after construction

Located where the Susquehanna River meets the Chesapeake Bay, Swan Harbor Farm is a beautiful outdoor recreational space and event venue. Featuring rolling farmlands, undeveloped woodlands, wetlands, and hiking trails, the farm was purchased by Harford County Parks and Recreation in 1994, as part of a State of Maryland initiative to support the acquisition of recreation land and open space.

Because of the farm's location at the mouth of the Susquehanna River, regular dredging is required to prevent sediment build up and allow continued boat travel. The sediment is removed hydraulically, and as a result, the dredging process takes in a lot of water. Transferred to a nearby dredge material placement facility (DMCF), the water is separated from the sediment before it is returned to the Bay.

Constructed stream channel reduces nutrients in water and prevents erosion, while also adding to the aesthetics of a popular public outdoor space and event venue.

Unwilling to disturb the farm's landscape and vistas, the County buried a pipe to transfer the water from the DMCF back to the shore. This return flow had to then descend a steep embankment without causing erosion or sedimentation along the shoreline. The County needed a channel that was aesthetically pleasing to all the farm's visitors, did not look like an engineered structure, and still functioned and prevented erosion. The Department of Planning turned to Biohabitats for the design and construction oversight of the return flow channel.

Biohabitats' design not only met all of the County's needs, but blended seamlessly into the landscape. The channel used a series of riffles, as well as vegetation, to allow the water travelling down the steep

embankment to pool and slow, resulting in non-erosive water by the time it reached the shoreline. The use of sand and wood chips in the channel created biologically active soil that supported bacterial and fungal growth and reduced the amount of nutrients returning to the Bay. The process of conveying return flow is intermittent, and the channel is used for runoff in the interim.

Since construction, the aesthetically pleasing channel has become part of the surrounding environment and regularly conveys runoff from the farm to the Bay, without erosion and with reduced nutrients.

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