

Bird River Dredged Material Placement Mitigation

Whitemarsh, Maryland



From top: Before and after mitigation; an American green tree frog (*Dryophytes cinereus*) enjoying the habitat of Bird River.

For decades, Maryland's Bird River has suffered from excess sedimentation. Since the river is used by commercial and recreational boaters, it now must be routinely dredged. The dredged sediment is delivered through pipes to a nearby Dredge Material Containment Facility (DMCF). When Baltimore County needed to enlarge the

Bird River DMCF, they were required to create and restore a minimum of 70,566 square feet of forested, non-tidal wetlands to mitigate the associated negative impacts.

Working closely with the County, Biohabitats created a wetland mitigation design to restore more than 86,600 square feet of forested wetland and

Wetland mitigation allows recreational activities and habitat to continue to flourish on Bird River.

preserve nearly 38,000 square feet of recently developing wetlands on a site near both the Bird River and the DMCF.

The design, which created three wetland "cells" of varying size, included a series of carbon-rich sand berms (terraces of sand that are above water level) and riffle grade controls (shallow landforms in flowing water). These features work to control the maximum pooling depth, increase water contact with soil and vegetation, and allow the water to spread across the wetlands and slowly seep through the sand berms. The vegetation strategy included retaining and making use of as many hydrophytic plants (plants that grow in saturated soil) within the project footprint as possible. This included preserving areas of developing wetlands and allowing succeeding areas of wet-adapted tree saplings. Native seed mixes, ecologically appropriate to the region and compatible with existing vegetation, were planted to enhance diversity and allow the wetlands to self-organize.

Though Biohabitats' design provided the County with a cost-effective solution that exceeded mitigation requirements, outside construction implementation did not comply with Biohabitats' plans, and the constructed mitigation site was deemed too small.

Biohabitats was brought back in to oversee and recommend construction modifications. Biohabitats retained a surveyor to perform an as-built survey, allowing all involved to understand where the construction diverged from the design. Biohabitats then developed a set of recommendations, which were approved by the County and implemented. Once requirements were met, Biohabitats monitored wetland vegetation establishment, groundwater conditions, and hydric soil development.

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