

# Barberry Woods Drainage Project

Charleston, South Carolina



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*A holistic, nature-based solution protects two flood-prone, coastal communities while enhancing regional ecology and climate resilience.*

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## **SERVICES**

Climate Adaptation & Resilience  
Conservation Planning  
Ecological Restoration  
Water Strategies

**S**ince 2005, the neighborhoods of Barberry Woods and The Cottages at Johns Island had experienced flooding during significant storms. Undersized infrastructure was unable to handle runoff from the 574-acre watershed. Seeking a solution that would not only alleviate flooding, but also confront the impending impacts of climate change and enhance community protection and connectivity, the City of Charleston turned to a team led by WK Dickson including Biohabitats.

Biohabitats began by delineating wetlands, conducting a tree survey, characterizing vegetation, installing groundwater monitoring wells, and consulting on soil parameters. Based on this ecological assessment, and applying the principles of the Dutch Dialogues™, Biohabitats helped develop a strategy to transform poorly functioning stormwater infrastructure into a braided channel system. Complete with infiltration wetlands and bio-terraces, the design helps slow down, spread out, and filter stormwater while enhancing habitat. It emphasizes connections among marshes and freshwater, and groundwater and surface water.

After supporting the client's pursuit and attainment of a NFWF grant by providing editing and QA/QC of the grant application, Biohabitats helped craft final designs. The restoration transformed the stormwater infrastructure into a functioning ecosystem and helped set the stage for a future linear park. It also advanced one of the City's primary project goals: to model a paradigm shift away from grey infrastructure to an approach that prioritizes nature-based strategies to mitigate flooding while providing multiple ecological and community benefits.