



SNAPSHOT

Marsh Elevation at Blackwater National Wildlife Refuge

Challenges

CHALLENGES

Only 500 of the present 9,200 acres of high tidal marsh in the refuge are projected to remain by the end of the century.

The population of Salt Marsh Sparrows could plummet from 53,000 to less than 5,000 over the next 25 years.

Rising sea levels threaten the vibrant and vital marsh ecosystem at the Blackwater National Wildlife Refuge (NWR). The tidal marsh is an ecological treasure, home to migratory birds and iconic bird species, including the American Bald Eagle. The refuge has suffered a net loss of over 5,000 acres of marsh since 1930 due to human and natural degradation. Recently, it has become clear that the sea level is rising faster than the natural landscape can accommodate, especially in the high tidal marsh—a critical bird habitat.



PRIZE FOR
PROGRESS

-2017-

LEAD ORGANIZATION

**The Conservation
Fund**

PARTNERS

**U.S. Fish and Wildlife
Service and Audubon
Maryland-DC**

STATE

Maryland

TYPE OF ADAPTATION

**Natural Coastal
Protections**

IMPACT AREAS

**Natural Systems, Coastal,
Built Environment,
Land Use, Governance,
Conservation, Water**

Solutions

The Marsh Elevation at Blackwater project is a major element of a comprehensive adaptation plan to guide southern Dorchester County's tidal marsh ecosystem through landscape transitions caused by the expected sea level rise of a meter or more in the next 80-100 years.

The comprehensive adaptation and resiliency strategy for Blackwater NWR's tidal marshes, developed by The Conservation Fund, Audubon Maryland-DC and the U.S. Fish and Wildlife Service, has three major components.

1. Slow the rate of marsh loss to rising sea levels with targeted marsh enhancement and restoration efforts in the Marsh Conservation Zone.
2. Enhance the emergence of high-quality native vegetation in upland habitats that are currently transitioning to tidal marsh to ensure they are good habitats for target salt marsh bird species.
3. Conserve undeveloped uplands and riparian zones in mapped marsh migration corridors.

SOLUTIONS

6,000 cubic yards of eroding marsh sediments moved from Blackwater River bottom to raise adjacent tidal marsh

40 acres of tidal marsh pilot area

OPPORTUNITY

200,000+ visitors annually to the 25,000 acre refuge

Results

Major Project in Marsh Conservation Zone

Support from the U.S. Department of Interior through the National Fish and Wildlife Foundation's Hurricane Sandy Competitive Coastal Resiliency Grants program resulted in a significant, at-scale marsh resiliency project on 40 acres of declining marsh land. The project team sprayed a thin layer of organic and mineral sediments from the adjacent Blackwater River across the marsh surface to raise the native marsh plants to an ideal level in the local tidal range and stimulate the growth of these plants above and below ground. By raising the surface level of priority marsh habitat, marsh grasses can grow more robustly and keep better pace with rising water levels over additional decades, ultimately slowing the loss rate of these target habitats. This enhanced marsh, visible to refuge visitors, will provide a hospitable habitat for at-risk, specialized bird species and extend the effective marsh habitat "lease" for resident and migratory salt-marsh dependent birds.



Photo courtesy of the Conservation Fund

Bridging Natural & Human History

The new 20,000 acre Harriet Tubman Underground Railroad National Historical Park underscores the importance of the marsh landscape as a key part of our national and cultural history. Harriet Tubman lived near the refuge as a slave before escaping to freedom, and she returned repeatedly to guide many others through this Eastern Shore landscape. The marsh and nearby forest provide the park's visitor center its historic context and allow visitors to better appreciate the arduous journey many Americans were forced to take to achieve freedom in their own country.

Upcoming Projects

Conserve Uplands & Enhance Native Species

Introducing native grasses from the marsh to upland areas is a critical step to ensure the long-term survival of specialized and migratory birds, as well as conserve the legacy of the region. Taking actions in current upland habitat that is transitioning to tidal marsh will enhance the emergence of marsh dominated by high-quality native vegetation that is good habitat for target salt marsh bird species.

A Living Laboratory

Research on the Blackwater NWR by scientists from national, regional and local research centers has contributed significantly to the body of knowledge on the tidal wetlands and estuarine systems. The scientific community's involvement is key for project monitoring in the years ahead. Data from Blackwater will be included in the Salt Marsh Habitat and Avian Research Program, a project at the forefront of examining the impact of feasible adaptation action on declining and at-risk bird species.

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