

A Call to Action

Crystal Clear

National Park Service
U.S. Department of the Interior

Assateague Island National Seashore



Restoring the Salt Marsh at Assateague Island



Horses on the beach at sunrise at Assateague Island National Seashore (Virginia and Maryland) NPS PHOTO

Assateague Island National Seashore is a quiet place on the Maryland and Virginia coast where visitors can enjoy undeveloped barrier island beaches, coastal bays, salt marsh, and maritime forests. Salt marsh contributes critical functions to the bay ecosystem by recycling nutrient pollutants, stabilizing fragile shoreline areas, and providing habitat to wildlife including rare and endangered species. Over 87 miles of ditches created during a 1930s-era effort to control mosquitoes have damaged the island's salt marsh. The National Park Service is restoring the natural wetlands function of the salt marsh by filling the ditches with sand and replanting with native vegetation. Five hundred thirty acres are targeted for additional restoration adjacent to the only old-growth forest on the island, an area identified by the park as a priority zone for a proposed wilderness area.

Background

An estimated 90 percent of salt marshes from Maine to Virginia contain similar systems of mosquito ditches. These ditches at Assateague Island appear as scars on the landscape today despite not having been maintained or cleared since 1939. The original intent of ditching was to lower marsh water-table levels and drain mosquito breeding areas. However, lowered water-table levels and drained marsh pools have degraded wetlands and reduced the ecosystem services they provide. Mosquito ditching can change native vegetation and impact wildlife habitat. Ditches also reduce the capacity of wetlands to store floodwaters and recycle nutrients, a critical ecosystem service

that maintains water quality. Adding to these concerns of degraded ecosystem conditions is that 55 percent of the impacted salt marsh is within a proposed wilderness area.

During a 2008 pilot project, the NPS determined the most effective and lowest impact method of naturally restoring marsh functions is to refill ditches and replant them with native plants. Preliminary results from the pilot project indicate that sheet flow has been restored to the project area, and that the speed and elevations of fluctuations in groundwater levels have been moderated.

Status

The NPS has successfully restored over 400 acres of marsh at Assateague using the low-impact technique pioneered by the NPS. Restoration work will continue into 2014 and perhaps through 2016 depending on funding. Volunteers, including students from local schools, are providing thousands of hours of labor to restoring the seashore and learning environmental restoration by working alongside NPS staff.

Monitoring plans are in place to scientifically evaluate marsh conditions prior to and subsequent to ditch restoration, using protocols established by the NPS Northeast Coastal and

Barrier Network Inventory and Monitoring Program. These efforts are part of a long-term program to monitor ecosystem condition at the seashore and enable NPS scientists to evaluate how restoration is affecting salt marsh function. The program includes monitoring water levels through established tidal stations; monthly monitoring of groundwater level and water quality; and annual surveys of vegetation (marsh and seagrass), nekton (estuarine fish), and animal use. Results will inform adaptive management of the project and enable managers to adjust and improve restoration techniques.

Filling a ditch as part of marsh restoration on Assateague Island. NPS PHOTO



More Information

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