

Prime Hook National Wildlife Refuge *Spartina alterniflora* Planting

Sussex County, Delaware



from top: Initial conditions; Red knots and other endangered species will benefit from the restoration.

The 10,144-acre Prime Hook National Wildlife Refuge, located on the western shore of the Delaware Bay, is an important stopover site for migratory birds as they travel up and down the Atlantic Flyway and provides protected breeding habitat for federally and State-listed threatened and endangered species, as well as many neo-tropical migrating

bird species. Hundreds of native plant and animal species thrive in its mosaic of salt marsh, freshwater marsh, ponds and impoundments, wooded swamps and upland grasslands and forest.

The Refuge was severely impacted by Superstorm Sandy in 2012. Coastal dunes were significantly eroded and large dune breaches and severe flooding converted the refuge's freshwater marsh system into an altered open tidal saltwater habitat. With emergency funding provided by the Disaster Relief Appropriations Act of 2013, USFWS initiated the restoration of a healthy and resilient salt marsh that would be able to handle more intense and frequent coastal storms.

*conservation planning
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 Biohabitats

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*The restoration of *Spartina alterniflora* in a National Wildlife Refuge impacted by Superstorm Sandy will regenerate important wildlife habitat as well as coastal resilience.*

Using a National Park Service Revegetation Services contract, the USFWS hired Biohabitats to implement one phase of the restoration. Partnering with the firm's sister company, Ecological Restoration and Management, Biohabitats will work to re-establish *Spartina alterniflora* in a low marsh zone. To accomplish this, the team will plant a 13.5-acre section of the breached impoundment with more than a quarter of a million plugs. The road adjacent to the planting area provides the only access to and from the refuge, as well as the beach community of Prime Hook. So to avoid obstructing traffic along this narrow road, the team is establishing a temporary nursery on site. The nursery will be placed within the upper intertidal zone, which, during normal tidal conditions, will expose the plants to inundation twice daily. This will keep them

protected and properly watered, and allow them to better acclimate to actual site conditions. To safely and easily transport plugs from the nursery to their planting locations in a site covered with 1-2' of organic and fine sand muck, the team will use heavy-duty sleds.

Biohabitats will also install goose exclusion fencing to protect the *Spartina* plugs from herbivory while they become established. The Biohabitats team will monitor and maintain the fencing and plant installation over the course of the six-month growing season. The site will serve as a pilot test for potential replication throughout the refuge.

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