Sand Dunes as Natural Systems

Hampton Seabrook Estuary Sand Dune Restoration Project

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Protection from flooding Protection from coastal erosion Plant growth to support food webs Plant structure to provide habitat Support of biodiversity Tourism Education Self-sustaining ecosystem

Dune Systems are among our most valuable storm protection and tourism assets

The Historic Extent of Sand Dunes in the Hampton-Seabrook Estuary



How Do Sand Dunes Work?

Provide sand for beaches

Protect landward properties and infrastructure during storms

Site of sand capture and storage for next storm Dunes are sacrificial



Dune-adapted plants recolonize by seed & runners



Why are Sand Dunes Important?



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BIGGER DUNES ARE BETTER!



A portion of Seaside Park shoreline in early spring 2012 (left) and after Sandy in November 2012 (right). To the north, a much smaller dune allowed storm waves and surge to push sand several blocks inland. To the south, a wider dune buffer provided better overwash protection. Images courtesy of the New Jersey Office of Information Technology, Office of GIS and the USGS Hazards Data Distribution System (HDDS).

Why are we here today?



Remnant dunes Sand removal Periodic storms