

# Delaware National Estuarine Research Reserve— Climate Change Adaptation Plan

New Castle County and Kent County, Delaware



from top: St. Jones salt marsh and boardwalk; Mapping of habitat vulnerability to climate change (orange—high, gold—medium, green—low) at St. Jones Reserve

The Delaware National Estuarine Research Reserve (DNERR), one of 28 National Estuarine Research Reserves in the U.S., aims to establish, protect, and manage natural estuarine habitats for research, education, and coastal stewardship. The Reserve consists of freshwater wetlands, ponds, forest lands in Blackbird Creek; and salt marsh and open water habitats on the St. Jones River on Delaware Bay.

Climate change will have impacts of varying degrees on the DNERR's natural resources and infrastructure. Changes

*A climate change adaptation plan, one of the first of its kind at the site reserve/facility scale, guides land use resilience planning while helping to protect natural systems and infrastructure.*

in temperature will affect seasonal duration and intensity of precipitation, extreme storm events, and available moisture. Climate change will likely continue to negatively affect the reserve through sea level rise and increasing incidence and intensity of damaging storms. These negative feedbacks will have influence on the DNERR, Delaware Fish and Wildlife lands, and locally contiguous land uses, ecosystems, wildlife, and infrastructure in ways and to a degree that are difficult to predict.

Working with DNERR and the Delaware Coastal Management Program, Biohabitats is crafting a Climate Change Adaptation Plan to help plan for and provide guidance related to

impending changes to the Reserve lands and the ecosystems in which they are located. This plan is needed to address very real threats that climate change is currently posing and will increasingly present in the future. An initial guidance document to begin addressing climate change resiliency and adaptive management for the Reserve in the context of its ecosystem setting and associated land uses, the plan will help DNERR continue to fulfill its mission of estuarine resource conservation and applied research.

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