Sea Grant
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Mapping eastern black rail habitat to aid coastal conservation and climate resiliency planning

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A growing number of species that inhabit tidal salt marshes are imperiled due to pressures associated with sea level rise and other aspects of climate change. Bird species that nest in these habitats are especially vulnerable, including the Black Rail (*Laterallus jamaicensis jamaicensis*), a secretive nocturnal marsh bird recently listed as threatened under the US Endangered Species Act. As efforts to enhance the resiliency of coastal communities continue apace to counteract rising seas, there is increasing potential for such projects to conflict with, or to enhance, efforts to protect habitat for the rails and similar species. Maps predicting fine-grained habitat suitability of these species in New Jersey's marshes are needed to help reconcile these goals.

New Jersey Sea Grant funding has allowed Rutgers University scientists Dr. Julie Lockwood and Dr. Michael Allen, along with their collaborators, to construct a detailed habitat suitability map for the Black Rail within New Jersey's salt marshes. The map, created using state-of-the-art statistical techniques coupled with field data collected by citizen scientists and state biologists, can now be used to facilitate spatial planning of restoration activities and encouraging synergy among projects designed for endangered species protection and those intended to improve resiliency of coastal communities. To that end, the researchers plan to integrate the habitat map with existing spatial planning tools

Occupancy prob. (survey & eBird)
0.01
0.08
0.14
0.21
0.28
NJ Counties
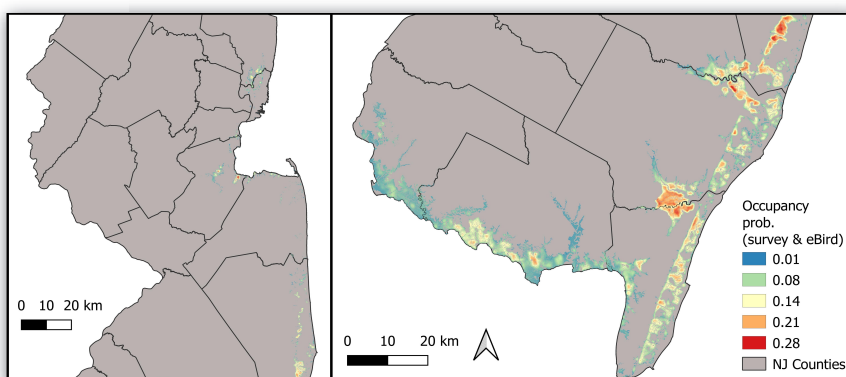
Habitat suitability map for Black Rail in New Jersey

for New Jersey's coastal environment. They have also begun to explore how the habitat map matches up with ownership patterns of marshes to provide information on the range of stakeholders that will be involved in protecting this species.

Tuckahoe WMA salt marshes