

Synthesis of Sea Level Rise and Coastal Storm Thresholds for 45 Coastal Species of Conservation Concern

Overview: A compilation and synthesis of sea level rise and coastal storm data for 45 fish, wildlife, and plant species and four coastal habitats (tidal marshes, beaches, shellfish beds, and mangroves) of conservation concern along the Gulf and Atlantic Coasts.

How to use it: Search for a species or habitat of interest to see what threshold data, qualitative assessments, and/or research exist related to the threats from sea level rise and storms, as well as responses to various types of management approaches.

Who it's for: Stakeholders who can benefit from having access to a synthesis of species and habitat information to guide, inform, and make decisions or tradeoffs regarding the management of coastal habitats and resources. The product is formatted into an easy-to-use spreadsheet and all information is referenced with a full list of citations on separate tabs.

Download the table at: <http://northatlanticlcc.org/products/thresholds-for-coastal-species-and-habitats/>

Geography + Scale: U.S. Gulf and Atlantic Coasts, from Texas to Maine, and including the Caribbean; information ranges from local-level data (e.g. basin level) to state specific and regional data (e.g. across entire species' range)

Species selection: This list of species draws from existing conservation efforts, state wildlife action plans, and expert elicitation through the project core team (6 LCCs + 3 CSCs in project geography). The following criteria were used for final selection: 1) strongly affected by SLR/storms, 2) representative or foundational species, 3) species' federal status re: the Endangered Species Act, 4) listed in state wildlife action plans, and 5) a mix of species with large and narrow distributions with representation across a range of taxonomic groups. The 45 species include birds, fish, plants, reptiles, and other taxonomic groups. *See the reverse side for a list of all 45 species.*

Project PIs: Emily Powell (North Atlantic LCC), Megan Tyrrell (Waquoit Bay National Estuarine Research Reserve), Andrew Milliken (FWS), John Tirpak (Gulf Restoration Program), and Michelle Staudinger (Northeast CSC)

Contacts:

- Emily Powell, North Atlantic LCC: Emily_Powell@fws.gov
- Megan Tyrrell, Waquoit Bay National Estuarine Research Reserve: megan.tyrrell@state.ma.us

This tool was created as part of a larger multi-LCC coastal resilience project led by the North Atlantic LCC, titled *Delivering information and tools for increasing resilience and adaptation of communities and priority coastal resources across the network of coastal LCCs, Activity Area 2: Atlantic and Gulf Coasts.*

Learn more:

- Atlantic and Gulf Coast Resiliency Project: <http://northatlanticlcc.org/groups/coastal-resiliency/topics/atlantic-gulf-coast-resiliency>

List of 45 Species Included in the Species Threshold Tool

Common Name	Scientific Name	Common Name	Scientific Name
Fish		Reptiles	
Common Snook	<i>Centropomus undecimalis</i>	Diamondback Terrapin	<i>Malaclemys terrapin</i>
Diamond Killifish	<i>Adinia xenica</i>	Green Sea Turtle	<i>Chelonia mydas</i>
Gulf Sturgeon	<i>Acipenser oxyrinchus desotoi</i>	Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>
Rainwater Killifish	<i>Lucania parva</i>	Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>
Birds		Leatherback Sea Turtle <i>Dermochelys coriacea</i>	
American Black Duck	<i>Anas rubripes</i>	Loggerhead Sea Turtle	<i>Caretta caretta</i>
American Oystercatcher	<i>Haematopus palliatus</i>	Amphibian	
Black Rail	<i>Laterallus jamaicensis</i>	Eastern Spadefoot Toad	<i>Scaphiopus holbrookii</i>
Black Skimmer	<i>Rynchops niger</i>	Chelicerata	
Brown Pelican	<i>Pelecanus occidentalis</i>	Horseshoe Crab	<i>Limulus polyphemus</i>
Clapper Rail	<i>Rallus longirostris</i>	Invertebrate/Insect	
Gull-billed Tern	<i>Gelochelidon nilotica</i>	Eastern Beach Tiger Beetle	<i>Cicindela dorsalis dorsalis</i>
King Rail	<i>Rallus elegans</i>	Mammal	
Least Tern	<i>Sternula antillarum</i>	Perdido Key Beach Mouse	<i>Peromyscus polionotus trissyllepsis</i>
Mangrove Cuckoo	<i>Coccyzus minor</i>	Alabama Beach Mouse	<i>Peromyscus polionotus ammobates</i>
Mottled Duck	<i>Anas fulvigula</i>	Mollusk	
Nelson's Sparrow	<i>Ammodramus nelsoni</i>	Eastern Oyster	<i>Crassostrea virginica</i>
Piping Plover	<i>Charadrius melodus</i>	Plants	
Red Knot	<i>Calidris canutus</i>	Blackgrass	<i>Juncus gerardii</i>
Roseate Tern	<i>Sterna dougallii</i>	Black Mangrove	<i>Avicennia germinans</i>
Saltmarsh Sparrow	<i>Ammodramus caudacutus</i>	Red Mangrove	<i>Rhizophora mangle</i>
Seaside Sparrow	<i>Ammodramus maritimus</i>	Saltmeadow Cordgrass	<i>Spartina patens</i>
Snowy Plover	<i>Charadrius alexandrinus nivosus</i>	Sea Oats	<i>Uniola paniculata</i>
Whooping Crane	<i>Grus americana</i>	Smooth Cordgrass	<i>Spartina alterniflora</i>
Willet	<i>Tringa semipalmata</i>	Spikegrass	<i>Distichlis spicata</i>
Wilson's Plover	<i>Charadrius wilsonia</i>	White Mangrove	<i>Laguncularia racemosa</i>

