



# Resilience for Florida's Beach-Dependent Species

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# Topics

- Beach-dependent species most at risk from climate change
  - Potential impacts to these species
  - Importance of these species
- Strategies to increase resiliency of beach-dependent species
- How the Coastal Wildlife Conservation Initiative can help



# Marine and Estuarine Turtles



Green: Federally Threatened



Loggerhead: Federally Threatened



Diamondback Terrapin: SGCN



Hawksbill: Federally Endangered



Leatherback: Federally Endangered



Kemp's Ridley: Federally Endangered

# Climate Threats and Impacts to Turtles

- Overall vulnerability: High
- Threats:
  - SLR → shoreline hardening
  - Increased temperature
  - Increased HABs
- Impacts:
  - Decreased nesting habitat
  - Imbalanced sex ratios
  - HAB-associated mortality



# Shorebirds and Seabirds



American Oystercatcher:  
State Threatened



Black Skimmer: State Threatened



Least Tern: State Threatened



Piping Plover: Federally Threatened



Snowy Plover: State Threatened



# Climate Threats and Impacts to Shorebirds

- Overall vulnerability: Moderate to High
- Threats:
  - Increased storms/hurricanes
  - Increased temperature
  - Increased HABs
- Impacts:
  - Changes in nesting habitat
  - Harm to chicks from storm surges
  - Heat stress for eggs and young
  - HAB-associated mortality



# Mammals



Anastasia Island B.M.  
Federally Endangered



Choctawhatchee B.M.  
Federally Endangered



Perdido Key B.M.  
Federally Endangered



St. Andrew B.M.  
Federally Endangered



Southeastern B.M.  
Federally Threatened



Florida Salt Marsh Vole  
Federally Endangered



# Climate Threats and Impacts to Mammals

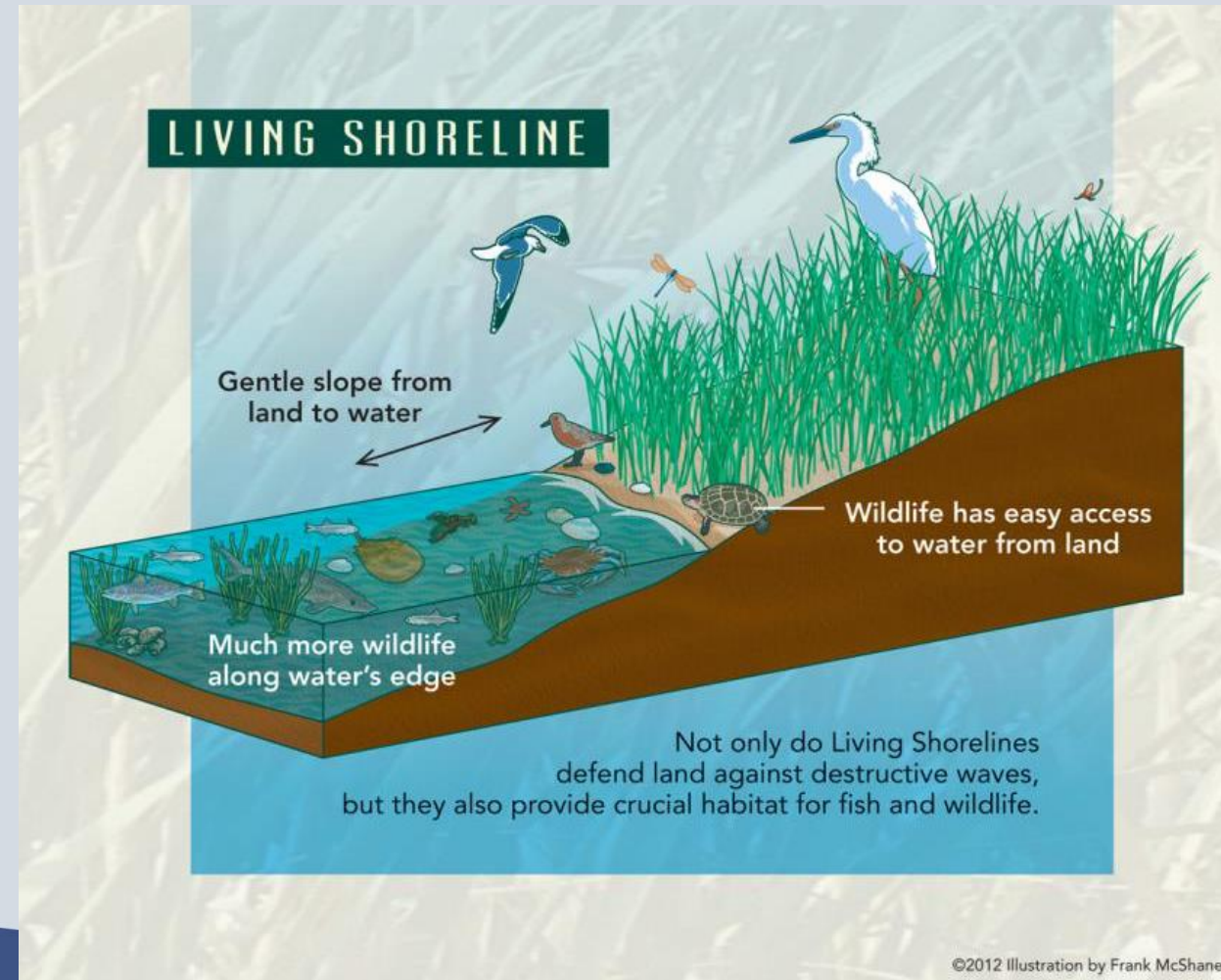
- Overall vulnerability: Moderate to Very High
- Threats:
  - SLR
  - Increased storms/hurricanes
  - Increased non-native predators
- Impacts:
  - Loss of habitat
  - Mortality from predation





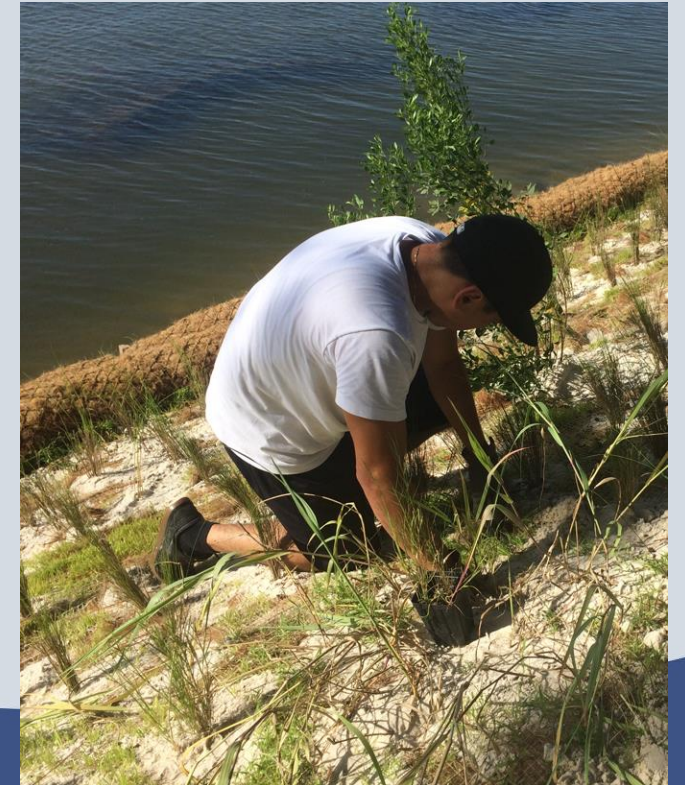
# Resiliency Strategies

- Increase available habitat
  - Living shorelines
  - Dune restoration
  - Reduce beach raking
  - Reduce coastal development
  - Easement acquisition of areas serving as storm buffers.
- Biological intervention
  - Assisted migration for some species
  - Provide shade structures for nests
  - Control of non-native predators



# How CWCI Can Help

- Train contractors to install living shorelines
- Research methods of shoreline stabilization
- Provide guidance on alternatives to coastal development and beach raking
- Assist local governments with biological intervention
- Provide outreach to the public



# Questions?

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