Coastal Habitat Restoration Projects to Build Resilience

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National Fish and Wildlife Foundation’s Coastal Watershed Resilience Assessments
COASTAL WATERSHED RESILIENCE ASSESSMENTS

- Cape Fear
- Charleston
- Savannah
- St. Johns
- Mid-coast Maine
- Narragansett Bay
- Delaware Bay
- San Francisco
Assessment Process

- Engage stakeholders, managers, and researchers
- Gather and assess geospatial data on species, habitats, and natural features in the watershed
  - Determine areas of importance for fish and wildlife habitat AND community assets
  - Model vulnerability by overlaying the community assets and climate threats
  - GIS analysis presentation on Wednesday 7D: “A Coastal Resilience Assessment for the United States” by Greg Dobson
- Compile resilience project portfolios*
Seeking Resilience Projects

Projects that:

• Reduce threats to communities from flooding and other climate-related hazards, AND
• Benefit fish and wildlife and their habitat

Example: restoring salt marsh to protect the community from floods AND expand juvenile fish nursery habitat.
62 Cape Fear Projects

- 32 Habitat restoration
- 12 Habitat conservation
- 13 Gray infrastructure
- 5 Resilience planning
30 Charleston Projects

- 22 Habitat restoration
- 2 Gray infrastructure
- 2 Resilience planning
Carolina Climate Threats and Impacts

**THREATS**
- Heavy rains
- Sea level rise
- More hurricanes and storms

**IMPACTS**
- Flooding
- Erosion
- Water quality degradation
- Habitat and natural infrastructure loss
- Loss of ecosystem services
- Losses to agriculture, fisheries, and forestry
Project Types

- Living shoreline installation
- Dune revegetation
- Eroding island restoration
- Salt marsh restoration
- Wetland and floodplain restoration
- Hydrologic barrier removal
- Riparian corridor revegetation and restoration
- Habitat preservation

Source: North Carolina Coastal Federation
Living Shorelines

- Oyster bags
- Coir logs
- Salt marsh plugs
- Oyster castles (concrete)
- Fossil shell
- Granite/other rock

- Other materials
  - Crab traps
  - Branches/stakes

Source: Delaware Wetlands
Oyster Shell Bags and Marsh Planting

- 5 in Cape Fear
- 13 in Charleston

Source: North Carolina Coastal Federation
Innovative Techniques

Recycling crab traps into oyster substrate living shoreline in Charleston

Source: South Carolina Department of Natural Resources
Dune Planting and Restoration

- 1 in Charleston
- 4 in Cape Fear

Source: SCDNR
Island Restoration

- 4 in Charleston
- 4 in Cape Fear

Source: SC Coastal Conservation League
Restoration Using Dredged Material at Crab Bank Bird Nesting Sanctuary
Salt Marsh Restoration

Long Branch Creek

- Charleston: 5 projects
- Cape Fear: 3 projects
Wetland and Floodplain Restoration

Sea Island Wetland Restoration

- Charleston: 2 projects
- Cape Fear: 4 projects
Hydrologic Connection Restoration

Example: Removing two dams on the Little River on Fort Bragg to open up 134 miles of river habitat

Cape Fear: 4 projects
Riparian Corridor Restoration

Cape Fear: 4 projects
Charleston: 1 project
Open Space Preservation

13 projects in Cape Fear

Example: Whitehall Game Plantation Expansion includes acquisition of 225 acres of bottomland hardwood forest.
Promote Restoration Projects for Resilience

- Spread the word and build partnerships
- Find funding and implement projects
- NOAA funding announcements via Habitat News
- NFWF Resilience Grants
- NC Coastal Federation
- Audubon
- The Nature Conservancy
- DOT, FEMA, and many more
THANK YOU VERY MUCH!

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## Restoration Projects to Address Climate Threats

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