Building Resilience into Gulf Restoration

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• Highlight efforts that incorporate resilience into gulf restoration
• Projects that restore marsh, wetland, oyster habitat, AND also make upland communities more resilient to climate change impacts.
• Inland communities also play a role; protect economies and ecologies
Opportunities to Address Resilience in Gulf Restoration

• 2010 Gulf Oil Spill was terrible ecological and economic disaster, but funds from fines presents unprecedented restoration opportunity

• Multiple Sources of Funding:
  • Natural Resource Damage Assessment (NRDA)
  • NFWF Gulf Environmental Benefit Fund (GEBF)
  • RESTORE Act:
    • Federal Council, State Plans, County Plans
GOALS

- Restore and Conserve Habitat
- Restore Water Quality and Quantity
- Replenish and Protect Living Coastal and Marine Resources
- Restore and Revitalize the Gulf Economy
- Enhance Community Resilience
RESTORE Council Goals

**Restore and Conserve Habitat:** Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats.

**Restore Water Quality and Quantity:** Restore and protect the water quality and quantity of the Gulf Coast region’s fresh, estuarine, and marine waters.

**Replenish and Protect Living Coastal and Marine Resources:** Restore and protect healthy, diverse, and sustainable coastal and marine resources.

**Enhance Community Resilience:** Build upon and sustain communities with capacity to adapt to short- and long-term changes.

**Restore and Revitalize the Gulf Economy:** Enhance the sustainability and resiliency of the Gulf economy.
RESTORE Council Objectives

**Restore, Enhance, and Protect Habitats:** Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannas, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals.

**Restore, Improve, and Protect Water Resources:** Restore, improve, and protect the Gulf Coast region’s fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to, and withdrawals from critical systems.

**Protect and Restore Living Coastal and Marine Resources:** Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities.

**Restore and Enhance Natural Processes and Shorelines:** Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines.

**Promote Community Resilience:** Build and sustain Gulf Coast communities’ capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.

**Promote Natural Resource Stewardship and Environmental Education:** Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and other actions for all ages.
Economic Value of Risk Reduction from NNBI Projects along the Gulf

Value of Wetlands and Forests

Wetlands:
- Sequester Carbon
- Hold Floodwaters
- Recharge Groundwater

Forests:
- Sequester Carbon
- Reduce CO2 Emissions
Investments in Resilience

Oil Spill Funds Invested in Several Types of Resilience Projects:

- Community Resilience
- Vulnerability Assessments
- Stormwater Improvements; Hydrologic
- Grey Infrastructure
  - Breakwaters
- Natural and Nature-Based Infrastructure
  - Land Acquisition/Floodplain Restoration
  - Dune Restoration
  - Living Shorelines & Oyster Reefs
  - Marsh Creation with BU Dredge Material
Natural Resource Damages
The image displays a map titled "DWH Funded Project Story Map (2019)" with various project locations marked on it. The map provides additional information, and the email contact is provided: deepwaterhorizon@dep.state.fl.us. The project details are too small to read clearly, but they appear to include various coastal and marine conservation efforts.
RESTORE: County-Level Projects

- Living Shoreline
- Oyster Restoration
- Breakwaters
- Hydrologic Restoration
- Shoreline Restoration
- Land Acquisition (SRL)
- Vulnerability Assessment
- Beneficial Reuse
Example Projects
Alafia Banks Breakwater
Pensacola Bay Living Shoreline and Oyster Restoration Projects

Photo Credit DevinFord Photography
East Bay Oyster Restoration

Legend:
- Proposed Restoration Area
- Military Ownership
- State Protected Lands
- US Forest Service

Map: Kathy Freeman, 6/10/15; Data Sources: FMA fma201412; Restoration area derived from NOAA (Pensacola Bay, FL G130) Bathymetric Digital Elevation Model
NAS Pensacola/White Island
St. George Sound Living Shoreline

• Proposed: 6-12 mi along US 98 Franklin County
• Oyster Reefs & Salt Marsh
• Initial Phase: 1 mi along Tate’s Hell State Forest

• Partnership:
  • Ecology & Environment
  • Apalachee Regional Planning Council
  • NERR
  • FDOT
  • FDEP/FWC
Watershed Approach to Resilience Planning

- Governance at Watershed Level
- Upstream Community Actions Benefit Coastal Areas
- Estuary Programs as Resources
Thank you

Questions?
I'll meet you at high tide.

Shore!
RESTORE: County-Level Projects