

# ESV and NOAA's RESTORE Program: Developing actionable information for local decision-making



Tracy Rouleau  
NOAA Deputy Chief Economist  
Office of Program Planning and  
Integration



[tracy.rouleau@noaa.gov](mailto:tracy.rouleau@noaa.gov)  
2014 ACES Conference

# NOAA RESTORE Act Science Program

## Mission

*“...to carry out research, observation, and monitoring to support...the long-term sustainability of the ecosystem, fish stocks, fish habitat, and the recreational, commercial, and charter fishing industry in the Gulf of Mexico.”*

The NOAA RESTORE Act  
Science Program *Draft Science  
Plan* is available for comment  
through December 15, 2015



# Presentation Objectives

1. Present Ecosystem Service Valuation (ESV) projects that can be applied to RESTORE management challenges
2. Highlight elements of the projects that offer lessons learned for the Gulf
3. Highlight Gulf ESV projects that can inform management efforts around the country

# **NOAA's ESV work around the U.S.**

- 1. Evaluates the relationship between management actions & ecosystem services**
- 2. Values impacts on ocean uses**
- 3. Provides decision-support for coastal and marine planning**
- 4. Supports environmental markets**
- 5. Increases public support for conservation/restoration**



# 1. Evaluates the relationship between management actions & ecosystem services

- Approach: end-to-end ESV w/ stakeholder engagement early & often
- Local Application: develop consensus around sustainable land management
- Application to Gulf: develop restoration plans informed by prioritized stakeholder values

**Integrating Ecological and Economic Data for ESV: The Wells NERR Riparian Land Project, ME**



## 2. Values impacts on ocean uses

- Approach: Value co-benefits of habitat restoration (recreational fishing & drinking water)
- Local Application: prioritize restoration projects that address multiple benefits
- Application to Gulf: Identify priority locations for habitat restoration

**Linking Improvements in Water Quality and Migratory Fish Passage to Economic Benefits of Fisheries and Water Use in the Cape Fear River, NC**



### 3. Provides decision-support for coastal and marine planning

- Approach: Applies ES trade-off analysis tools for marine planning
- Local Application: Support estuarine planning that maximizes stakeholder values
- Application to Gulf: Prioritizes restoration sites; identifies areas of potential conflict

**Development of an Estuarine Spatial Planning Framework for New Hampshire's Estuaries and Application of the InVEST Tool to Restoration Challenges in the Great Bay Estuary, NH**



## 4. Supports environmental markets

- Approach: Quantify bio-physical relationships impacting potential ES benefits
- Local Application: Carbon offset protocol to support wetland conservation and carbon markets
- Application to Gulf: Support mitigation banks

### Waquoit Bay NERR: Bringing Wetlands to Market, MA





## 5. Increases public support for conservation/restoration

- Approach: engage business sectors to demonstrate natural capital values
- Local Application: guide businesses' use of natural capital data and tools
- Application to Gulf: roundtable in Gulf to be held early-2015

**Natural Capital Business Roundtables: public-private partnership for more innovative, resilient, and sustainable business practices, select U.S. regions**



# ESV Work in the Gulf

- Understanding and integrating social values of ES
- Utilizing socio-economic indicators to assess ES
- Value ES benefits of conservation/restoration

# 1. Understanding and Integrating Social Values of ES

- Approach: estimate social values associated with marine resources
- Gulf Application: manage areas to maximize benefits to stakeholders
- Wider Application: ability to measure change over time and analyze across sites/regions

**Using Social Valuation to Assess and Protect Ecosystem Services in the Mission-Aransas NERR, TX**



## 2. Utilizing indicators to assess a region's ES over time

- Approach: Use indicators to monitor ES
- Gulf Application: guide management of marine managed areas
- Wider Application: evaluate use of ES indicators to inform management decisions

**Developing Economic Indices to Assess the Human Dimensions of the South Florida Coastal Marine Ecosystem Services, Dry Tortugas, FL**





### 3. Value ES benefits of habitat conservation/restoration

- Approach: Value multiple benefits of restoration investments
- Gulf Application: develop values associated with oyster reef restoration
- Wider Application: assess transferability of values; identify pilot sites across U.S.

**The Economics of Oyster Reef Restoration in the Gulf of Mexico: A Case Study in Mobile Bay, AL**



# Conclusion

- Need to transfer, test, & scale up individual projects
- Demonstrate proof of concept for ES approaches through RESTORE
- Tailor Gulf approaches to other ecosystems and decision contexts
- Crucial to connect to management applications

Thank you!

Tracy Rouleau

Tracy.Rouleau@NOAA.gov