



# Science Opportunities in the Gulf of Mexico

A Presentation to the  
NOAA Science Advisory Board

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Director  
National Centers for Coastal Ocean Science

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# Outline



- Purpose – Engage in discussion
- Issue – Future opportunities for the NOAA RESTORE Act Science Program



# Program Overview



**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



**Key Attributes:**

- Focused on an applied holistic understanding of the ecosystem
- Push-pull dynamic between the research and resource management communities
- Partnership is necessary to accomplish our Program's outcomes – coordination is key
- Total funding = \$133M + 25% of Trust Fund interest

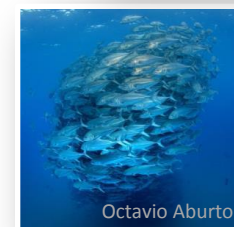
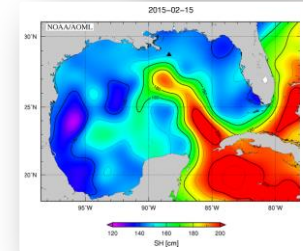




# Federal Funding Opportunity - 2015

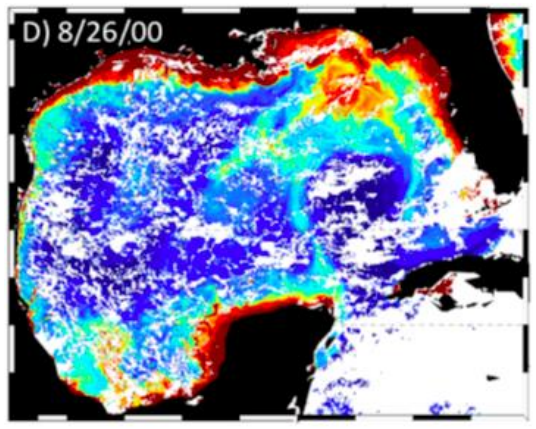


Short Title	Lead Investigator (Institution)
Indicators and Assessment Framework for Ecosystem Services	Larry McKinney (Harte Institute)
Inventory of Ecosystem Indicators	Kathy Goodin (NatureServe)
Observing Systems and Ecosystem Management	Mathieu Le Hénaff (U. Miami)
Assessing Ecosystem Modeling	Jim Simons (Texas A&M C. Christi)
Identifying Ecological Hotspots	Bob Arnone (U. Southern Miss.)
Cooperative Monitoring Program for Spawning Aggregations	Brad Erisman (U. Texas at Austin)
Impact of Mississippi River on Oceanography and Ecology	Alex Kolker (LUMCON)





# Federal Funding Opportunity - 2015

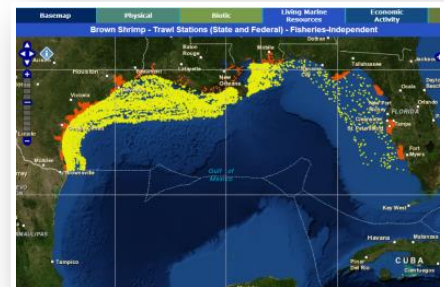




# Federal Funding Opportunity - 2017



- What do we expect to learn?
  - Movement of organisms between habitats and their use of habitat (quantification of rates)
  - Factors governing recruitment
  - Trophic linkages and how stressors alter them
  - Links between restored and adjacent habitats





# Future Opportunities

- Questions
  - How do climate variability and climate regime shifts impact the ecosystem?
  - Can we predict surface/ground water inputs into the ecosystem and their impacts?
  - What is the connection between deepwater habitat and the rest of the ecosystem?
  - What are the downstream impacts of interactions between Mississippi River outflow and the Loop Current?
- Approaches
  - Long-term ecological research site
  - Synthesis center
  - Testbeds





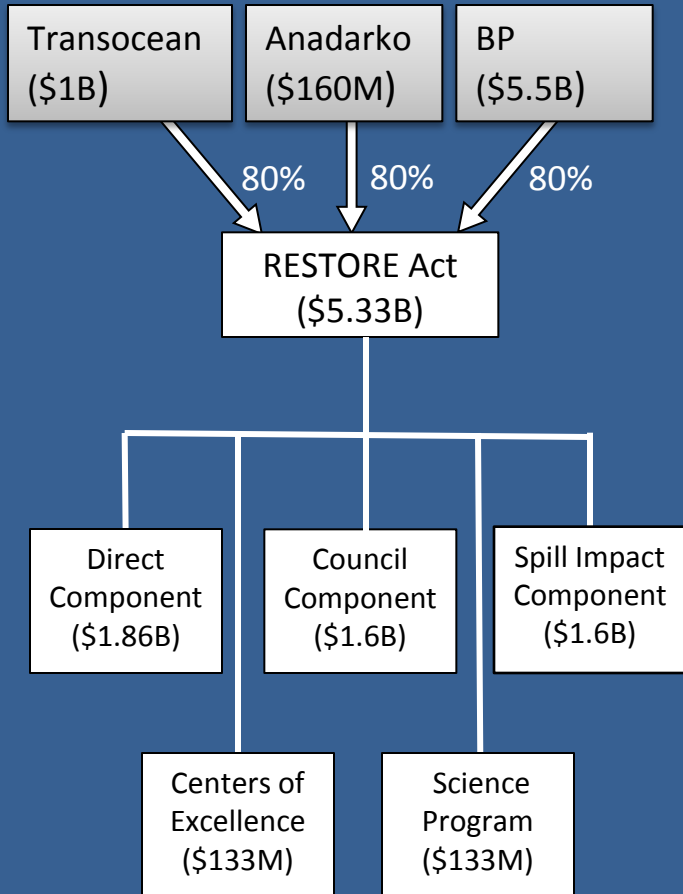
# Backup Slides



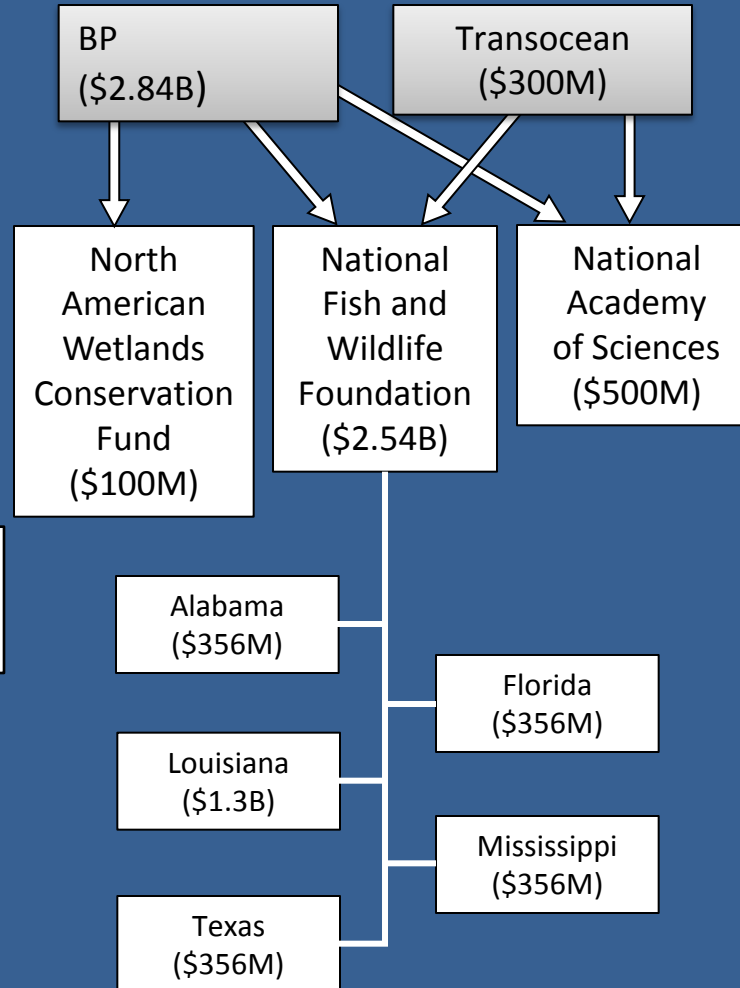


# Deepwater Horizon Gulf Science and Restoration Initiatives

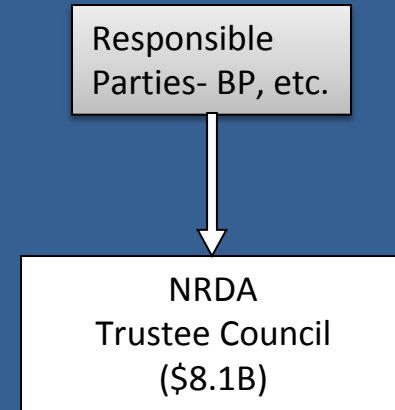
## Civil Penalties



## Criminal Penalties



## Natural Resource Damages



## Others

