A Future Gulf – What can we do now to make a large-scale difference?

December , 2018
A massive spill, a massive response
Unprecedented Opportunities...

- Total: up to ~$16 billion available for ecosystem restoration – An unprecedented level of funding...
  - Criminal Penalties: ~$2.5 billion: National Fish and Wildlife Foundation Gulf Ecosystem Benefit Fund
  - From April 2016 Settlement over next 15 years:
    - Civil Settlements: RESTORE Act: ~$5.3 billion
    - Natural Resource Damages: ~$8.1 billion Trustee Council
- Building on a strong sense of collaboration among and between funding streams and membership
- People are (still) paying attention
Challenges...

- **Decision-Making:**
  - **Funding is fractionated:** NRDA, NFWF, RESTORE; Various guiding regulations – OPA 1990, RESTORE Act
  - **Political considerations:** focus at local/state scale
  - **Prioritization:** Diverse ecosystem and many problems to solve with mixture of state and federal decision-makers
  - **Putting science** into a context understandable to decision makers

- **Sustainability of Projects** in light of climate change (SLR, increased storm frequency, etc) exacerbated by subsidence (parts of Texas, Louisiana)

- **Nowhere near the funding needed to restore the Gulf in toto** (e.g., hypoxic zone)
So, what can we do?

- Be ok with:
  - The future Gulf will not mean a restoration back to some time in the past.
  - There are not enough funds to restore the entire Gulf
  - Science alone will not drive all decisions
  - Likelihood of natural disasters (e.g., hurricanes) undoing some of the restoration work
So, what can we do…?

- Focus on OUTCOMES rather than OUTPUTS
- At-scale monitoring – beyond temporal and spatial scale of individual projects (over the 20+ years of DWH projects)
- Project Sustainability – climate change impacts are happening now
- Connectivity of projects between funding streams and over 15 year funding horizon – watershed approaches
- Addressing environmental stressors in light of ecosystem functionality
- Applying adaptive management principles
- Social and economic factors
Random/Oppportunistic Restoration Strategy

Random Acts of Restoration??

Individual pieces of glass
(our individual projects)
Using a “Stained Glass Window”
Approach to Ecosystem Restoration

Building a Watershed/Estuary Approach
Starts with Collaboration on Watershed/Estuary Scale
Fitting the Pieces Together...

Watershed/Estuary 1

Watershed/Estuary 2

Heron

Gulf-wide Program 1

Watershed/Estuary 4
Apalachicola Bay Watershed Example

- Oyster Reef Restoration/Living Shorelines
- Hydrologic Restoration, Riparian Restoration, Sediment Reduction
- Long Leaf Pine Restoration/Conservation
Apalachicola Bay Watershed Example

DWH Funded Project Story Map (2018)

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Source: Deepwater Horizon Program (DWH)

[Map of Apalachicola Bay Watershed with project markers]

- Enhanced Management of Avian Breeding
- Bay County Stormwater Project
- Panama City Stormwater Project
- Seven Run Creek Land Acquisition
- Comprehensive Panhandle Coastal Bl... (Image)
- Apalachicola Bay Oyster Restoration
- Cat Point Living Shoreline
- Oyster Cultch Placement
- Seagrass Recovery

[Map credits: Esri, HERE, Garmin, FAO, USGS, NGA, EPA, NPS]