Open Ocean Restoration Area
Monitoring and Adaptive Management (MAM)
Stakeholder Engagement Workshop

February 4, 2019
Today’s Agenda

• Introduction
• Question and Answer Session
• Resource Type Breakout Groups and Discussion
• Break
• Ecosystem Breakout Groups and Discussion
• Wrap-up
Introduction
11 workers killed, 17 injured
Over 3 million barrels of oil released
Nearly 2 million gallons of dispersant used
Oil slicks observed across 43,300 square mile area
At least 1,300 miles of shoreline oiled
Natural Resource Damage Assessment (NRDA) is a legal process under the Oil Pollution Act and implementing NRDA regulations (15 CFR 990)

The goal of NRDA is to compensate the public for injuries to natural resources

How?

- Determine injuries to, or lost use of, the public’s natural resources
- Determine the appropriate amount & type of restoration needed
- Implement and monitor projects to restore injured natural resources
Programmatic Restoration Plan

- **Damage assessment:** Injuries to natural resources and services
- **Restoration:** Integrated, ecosystem approach and science-based adaptive management
- **Governance:** Framework for future decision-making, including selection & implementation of projects
Overview of Programmatic Restoration Plan

Comprehensive Restoration Plan

Trustees' Restoration Goals

- Provide for Monitoring, Adaptive Management, and Administrative Oversight to Support Restoration Implementation
- Restore and Conserve Habitat
- Restore Water Quality
- Replenish and Protect Living Coastal and Marine Resources
- Provide and Enhance Recreational Opportunities

Restoration Types

- Wetlands, Coastal, and Nearshore Habitats
- Habitat Projects on Federally Managed Lands
- Nutrient Reduction
- Water Quality
- Fish and Water Column Invertebrates
- Sturgeon
- Submerged Aquatic Vegetation
- Oysters
- Sea Turtles
- Marine Mammals
- Birds
- Mesophotic and Deep Benthic Communities
- Provide and Enhance Recreational Opportunities
The Trustee Implementation Groups (TIGs) each have their own restoration categories and funding breakdowns.
Focus on coastal and nearshore habitat restoration, including water quality in priority watersheds.

Invest in resource-specific restoration to address all injured species, life stages, and/or services.

Implement restoration at a broad, regional level to restore key linkages.

Consider ecological factors such as: connectivity, size, and distance between projects; resiliency and sustainability.
**Deepwater Horizon NRDA:**

- Dynamic, changing environment
- Unprecedented scale of the injury and required restoration
- Lengthy timeline of restoration implementation
- Matrix of restoration efforts in the Gulf of Mexico
- Currently unknown conditions may influence restoration outcomes
The Adaptive Management Process

Applies at multiple levels:
Restoration Projects, Restoration Types (habitats and resources), Programmatic (e.g., across resources and areas).
Open Ocean Trustee Implementation Group: Overview
<table>
<thead>
<tr>
<th></th>
<th>NOAA</th>
<th>USDA</th>
<th>EPA</th>
<th>DOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chris Doley</td>
<td>Ron Howard</td>
<td>Gale Bonanno</td>
<td>Kevin Reynolds</td>
<td></td>
</tr>
<tr>
<td>Laurie Rounds</td>
<td>Mark Defley</td>
<td>Treda Grayson</td>
<td>Ashley Mills</td>
<td></td>
</tr>
</tbody>
</table>
Resources Covered by the OO TIG

- $150 million (administrative oversight)
- $22 million
- $15 million (sturgeon)
- $70 million (birds)
- $400 million (fish)
- $55 million (sea turtles)
- $55 million (marine mammals)
- $273 million (mesophotic and deep benthic)
- $200 million (monitoring and adaptive management)
- $200 million (monitoring and adaptive management)
- $273 million (mesophotic and deep benthic)
- $200 million (monitoring and adaptive management)
- $273 million (mesophotic and deep benthic)

- Replenish and Protect Living Coastal and Marine Resources
- Provide and Enhance Recreational Opportunities
- Monitoring, Adaptive Management, Administrative Oversight
CURRENT RESTORATION PLANNING

- 2017 - Requested project ideas from the public and completed screening.
- Winter 2018 - Began drafting two restoration plans.
- October 2018 - Released Draft Restoration Plan 1/EA: Birds and Sturgeon. Final to be released soon.
- 2019 – Anticipate release of Draft Restoration Plan 2/EA.
Initial Restoration Plan Priorities

**Birds:** Restoring lost birds by facilitating additional production and/or reduced mortality of injured bird species, and Restoring or protecting habitats on which injured birds rely.

**Sturgeon:** Characterizing Gulf Sturgeon spawning habitat, habitat Use, and origins of juvenile sturgeon.

**Fish & Water Column Invertebrates:** Reducing mortality of coastal pelagic, reef & highly migratory species by improving bycatch reduction devices, enhancing fishing practices and tools for fishermen, and reducing barotrauma in reef fish.
Mesophotic and Deep Benthic Communities: Mapping and assessment, developing innovative restoration techniques, and reducing threats.

Sea Turtles: Reducing bycatch in commercial & recreational fishing; conserve nesting beaches, collecting and integrating sea turtle restoration data.

Marine Mammals: Reducing risk of vessel collisions; reducing impacts from human-made noise; increasing capacity to respond to disasters; and collecting and integrating marine mammal restoration data.
Open Ocean MAM Strategy

• Processes to identify MAM priorities
• Priority MAM needs for restoration planning and evaluation
• Strategy documents will be released over time

MAM Activities

• Activities for data collection to inform restoration planning and evaluation
• Describe the goals for Open Ocean MAM
• Develop a strategy for:
  o identifying and prioritizing MAM needs
  o developing and releasing MAM activities
  o MAM coordination with other TIGs and external restoration programs
  o Describe initial set of Open Ocean TIG MAM priorities
  o Open Ocean MAM Strategy will be a living document
Identification of Data Gaps

- Information needed to plan and implement effective restoration for injured Open Ocean resources and services
- Data and/or applied science needed to develop future restoration projects or suites of projects
Evaluation of OO TIG Restoration Outcomes

- Evaluation of progress towards the restoration goals in the PDARP/PEIS
- Inform adaptive management decision-making over 15+ years of restoration implementation
- Contribute to reporting to the public on NRDA restoration progress and outcomes
Purpose and Goals

• To seek input from stakeholders on data needs to best inform planning, implementation, and evaluation of Open Ocean TIG restoration.

• To seek input from stakeholders on potential MAM priorities to facilitate restoration of injured resources within the Open Ocean restoration area.

Not a solicitation of restoration project ideas or research ideas for funding.
Workshop Format

• **Questions & Answers** (background information, workshop purpose and format)

• **Breakout Groups - Resource Type Data Needs** (45 minutes)
  o Resource Type Report outs (30 minutes)

• **Break** (2:45 - 3:00)

• **Breakout Groups – Ecosystem Discussion** (30 minutes)
  o Ecosystem Report outs (20 minutes)
  o Importance Exercise (20 minutes)

• **Wrap-up**
Questions?
Restoration Type
Break-out Groups
Identify data needs that will facilitate resource specific:

- Planning/implementation
- Evaluation
- Adaptive management

Based on discussion of topics above, identify potential monitoring and adaptive management priorities
Fish and Water Column Invertebrates

Sea Turtles

Sturgeon

Marine Mammals

Birds

Mesophotic and Deep Benthic Communities

Restoration Type Report-Outs

Intro

Resource Breakout

Break

Ecosystem Breakout

Importance Exercise

Wrap-Up
Fish and Water Column Invertebrates
Sea Turtles
Sturgeon
Marine Mammals
Birds
Mesophotic and Deep Benthic Communities

Restoration Type Report-Outs

Intro
Resource Breakout
Break
Ecosystem Breakout
Importance Exercise
Wrap-Up
Restoration Type Report-Outs

- Fish and Water Column Invertebrates
- Sea Turtles
- Sturgeon
- Marine Mammals
- Birds
- Mesophotic and Deep Benthic Communities
Restoration Type Report-Outs

- Fish and Water Column Invertebrates
- Sea Turtles
- Sturgeon
- Marine Mammals
- Birds
- Mesophotic and Deep Benthic Communities

Intro | Resource Breakout | Break | Ecosystem Breakout | Importance Exercise | Wrap-Up
Restoration Type Report-Outs

Fish and Water Column Invertebrates
Sea Turtles
Sturgeon
Marine Mammals
Birds

Mesophotic and Deep Benthic Communities
15-Minute Break
Cross Resource and Ecosystem Break-out Groups
• What data are most useful for measuring the TIG’s ecosystem-level outcomes?
  • Open Ocean TIG restoration contribution to the “Integrated, Ecosystem Approach”
  • Other TIGs benefits to Open Ocean TIG resources/services and vice versa
  • Synergies among resources in the Open Ocean TIG

• Are there important cross-resource data gaps for Open Ocean resources?
• Discuss ecosystem approach to restoration
• Discuss and **identify data needs** to facilitate:
  • Planning for integrated ecosystem restoration in the Open Ocean restoration area
  • Evaluation of ecosystem-level outcomes across Open Ocean projects
  • Addressing cross-cutting data gaps or uncertainties related to Open Ocean restoration
• Based on discussion of topics above, **identify potential monitoring and adaptive management priorities**
• Conduct group exercise to **identify priorities and importance** of data needs identified.
Importance Exercise Charge

Group exercise to discuss results of workshop and identify relative importance, for participants, of the data needs identified.

• Discuss compiled list of data needs identified through breakout groups.
• Each participant receives three sticker dots.
• Place a dot beside the data need you feel is a priority.
Wrap-Up
**Expected next steps**

- Open Ocean TIG to review input obtained today along with any future input received as we develop the MAM Strategy.
- Feedback and stakeholder input to be incorporated, as appropriate, into MAM Strategy.
- Open Ocean TIG to revisit MAM priorities as needed.
- There will be other opportunities for the public to engage in the Open Ocean TIG restoration and monitoring and adaptive management planning efforts.
Thank you

Get the latest news updates from the Deepwater Horizon Trustees

Sign Up Now

www.gulfspillrestoration.noaa.gov