



Restoration Activities Planned for Mesophotic and Deep Benthic Communities Impacted by the Deepwater Horizon Oil Spill in the Northern Gulf of Mexico

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Deepwater Horizon Incident



Source: U.S. Coast Guard.

- Tragic loss of 11 workers and largest marine oil spill in U.S. history.
- 3.19 million barrels (134 million gallons) of oil released into the ocean over 87 days.
- 43,300 square miles: Cumulative extent of surface slick during the spill—an area almost the size of Virginia.

Natural Resources Damage Assessment (NRDA)

- Legal process guided by the Oil Pollution Act (OPA), to make the public whole for injuries to natural resources and services
- 2016 Settlement: \$8.8 billion
 - Restore and Conserve Habitat: \$4.7 B
 - Replenish and Protect Living Coastal and Marine Resources: \$1.8 B
 - Restore Water Quality: \$400 M
 - Provide and Enhance Recreational Opportunities: \$400 M
 - Monitoring, Adaptive Management, Administrative Oversight: \$1.5 B



NRDA Trustees' Governance Structure

Trustee Implementation Groups (TIGs)

Texas

*Trustees for Texas
Federal Trustees*

Louisiana

*Trustees for Louisiana
Federal Trustees*

Mississippi

*Trustees for Mississippi
Federal Trustees*

Alabama

*Trustees for Alabama
Federal Trustees*

Florida

*Trustees for Florida
Federal Trustees*

Regionwide

All Trustees

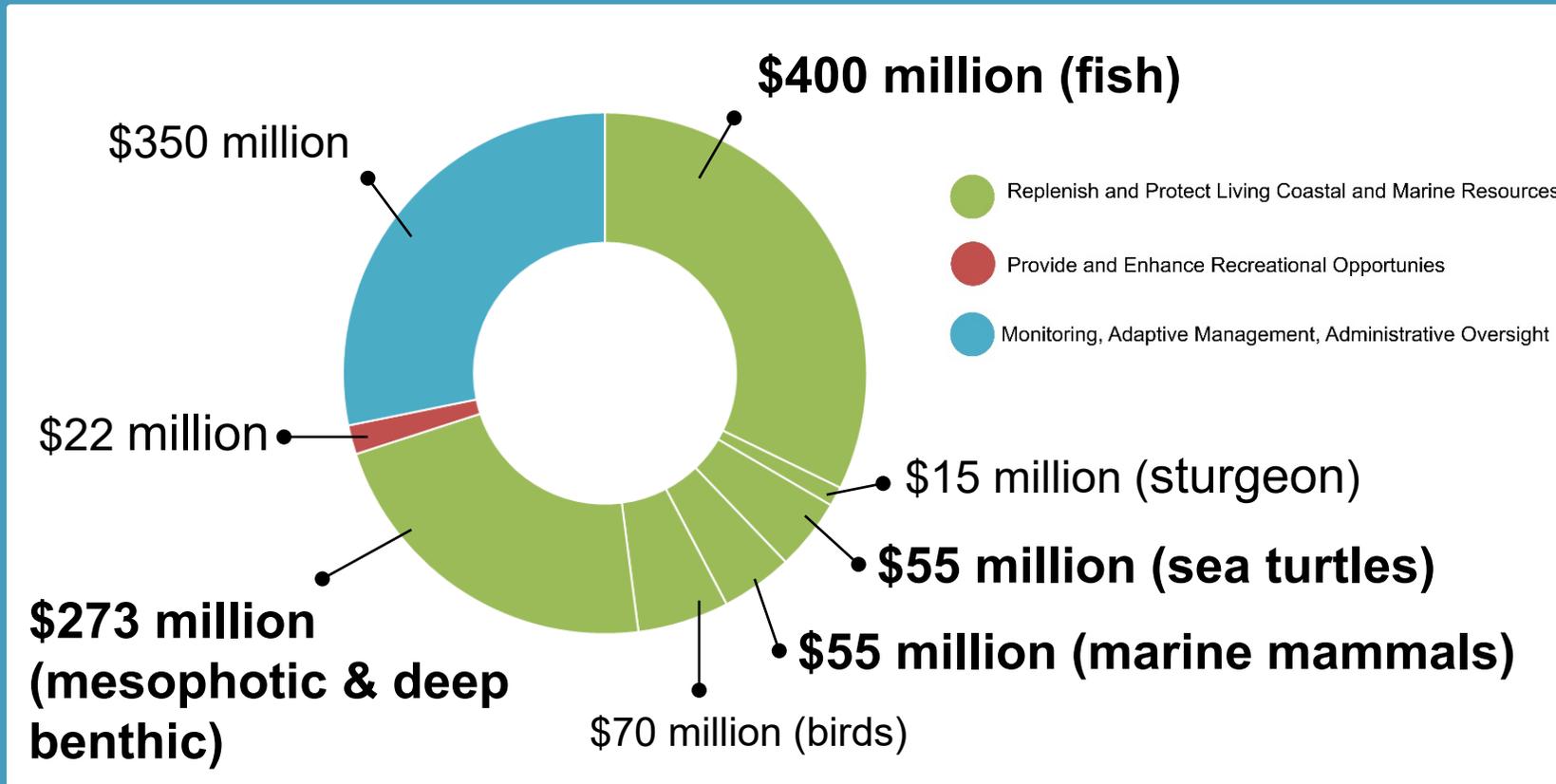
Open Ocean

Federal Trustees

Unknown Conditions and Adaptive Management

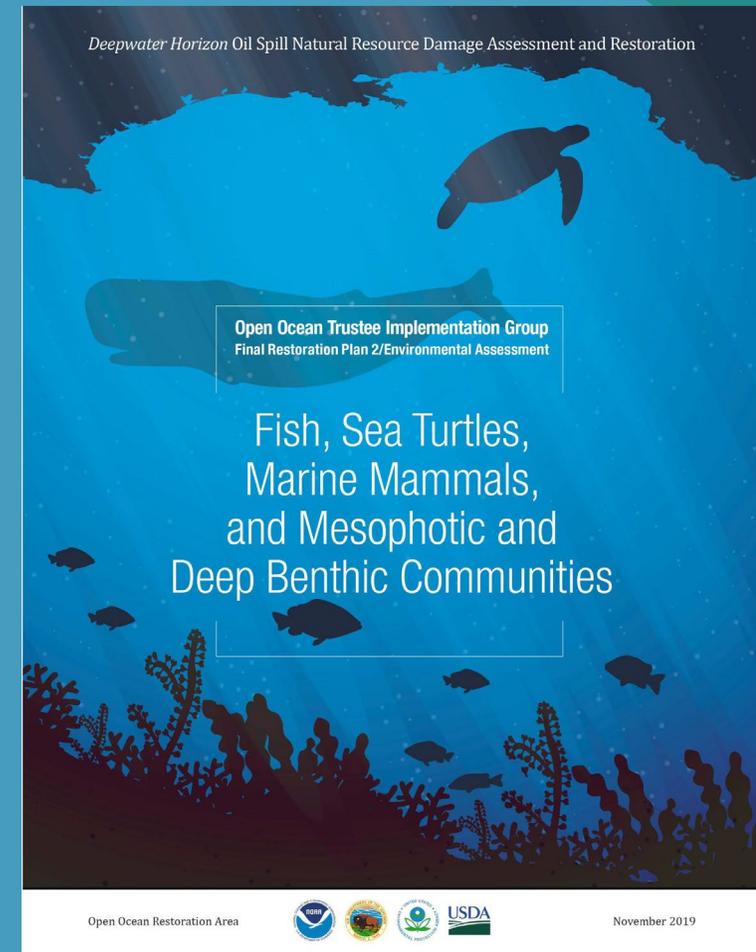
All Trustees

Open Ocean Funding Allocation



Open Ocean Restoration Plan 2 Overview

- Selected projects to restore Fish, Sea Turtles, Marine Mammals, and Mesophotic & Deep Benthic Communities
- Evaluated 23 restoration projects identified through robust screening
- Selected projects for funding at an estimated cost of \$225,776,700
- Public comments were considered and incorporated in plan/projects finalized November 2019

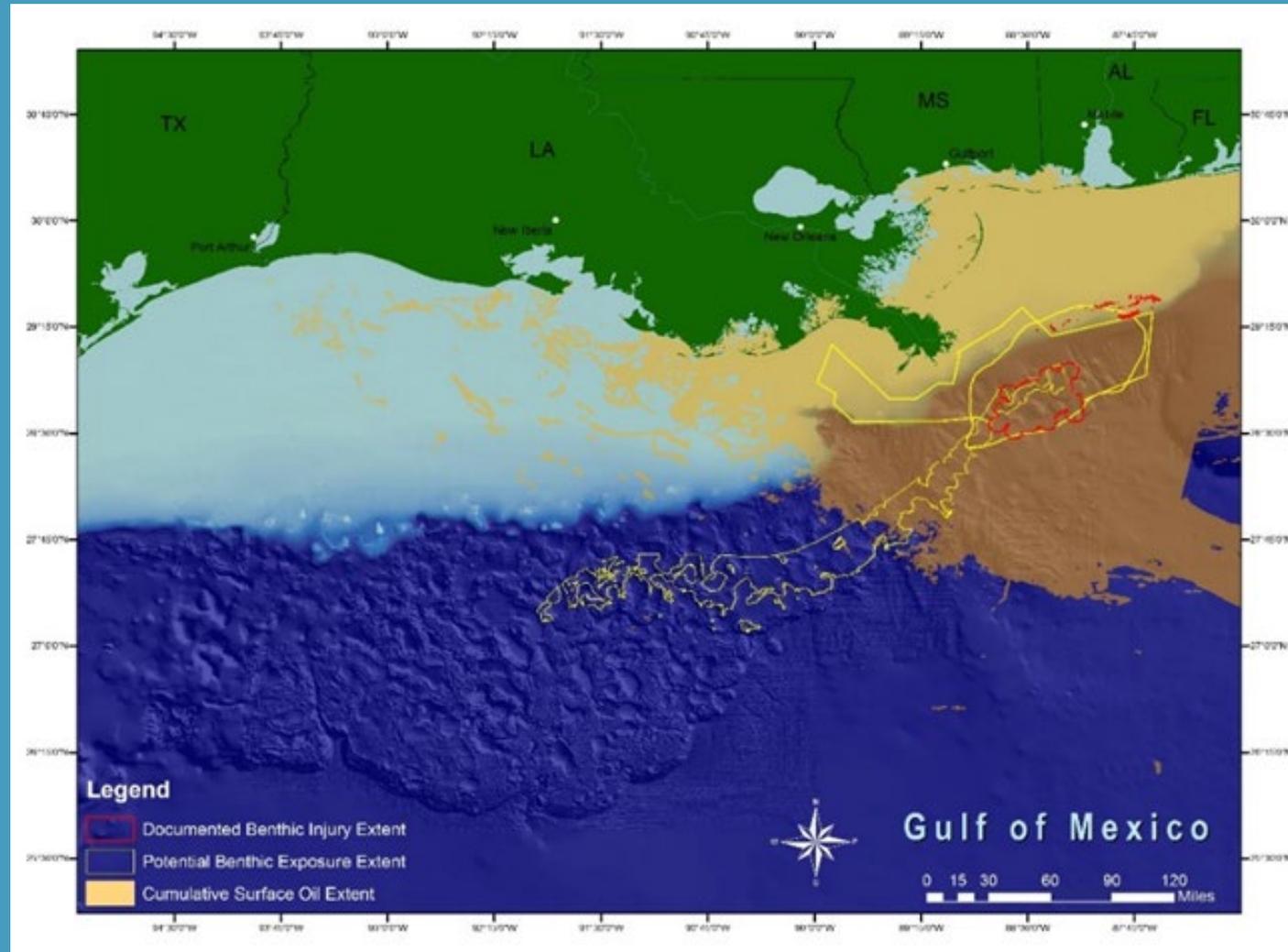


Project Screening Process

Stage of Screening	Criteria Considered
Initial Screening	<p>Project ideas removed that:</p> <ul style="list-style-type: none"> • Had insufficient information for evaluation. • Were already required under local, state or federal law. • Had already been funded. • Duplicated other project ideas.
Consistency Screening	<p>Project ideas moved forward if consistent with:</p> <ul style="list-style-type: none"> • One or more PDARP Programmatic Goals. • One or more restoration type goals. • Sea Turtle or Marine Mammal Strategic Framework.
Additional Open Ocean TIG Criteria	<ul style="list-style-type: none"> • Consistent with priorities identified in the public notice. • Meets the PDARP/PEIS goals with an innovative approach or technique. • Complies with applicable laws and regulations. • Supports existing long-term management objectives or species management plans.
Oil Pollution Act Screening Criteria	<ul style="list-style-type: none"> • Cost. • Meets Trustees' goals and objectives of returning injured natural resources and services to baseline and/or compensating for interim losses. • Likelihood of success. • Prevents future injury and avoids collateral injury. • Benefits more than one natural resource and/or service. • Effect on public health and safety.

102 MDBC projects → 5 MDBC alternatives → 4 MDBC preferred alternatives

Injury to Mesophotic & Deep Benthic Communities



Restoration Goals for Mesophotic & Deep Benthic Communities

- Restore mesophotic and deep benthic invertebrate and fish abundance and biomass.
- Actively manage these communities to protect against threats.
- Improve understanding to better inform management and ensure resiliency.



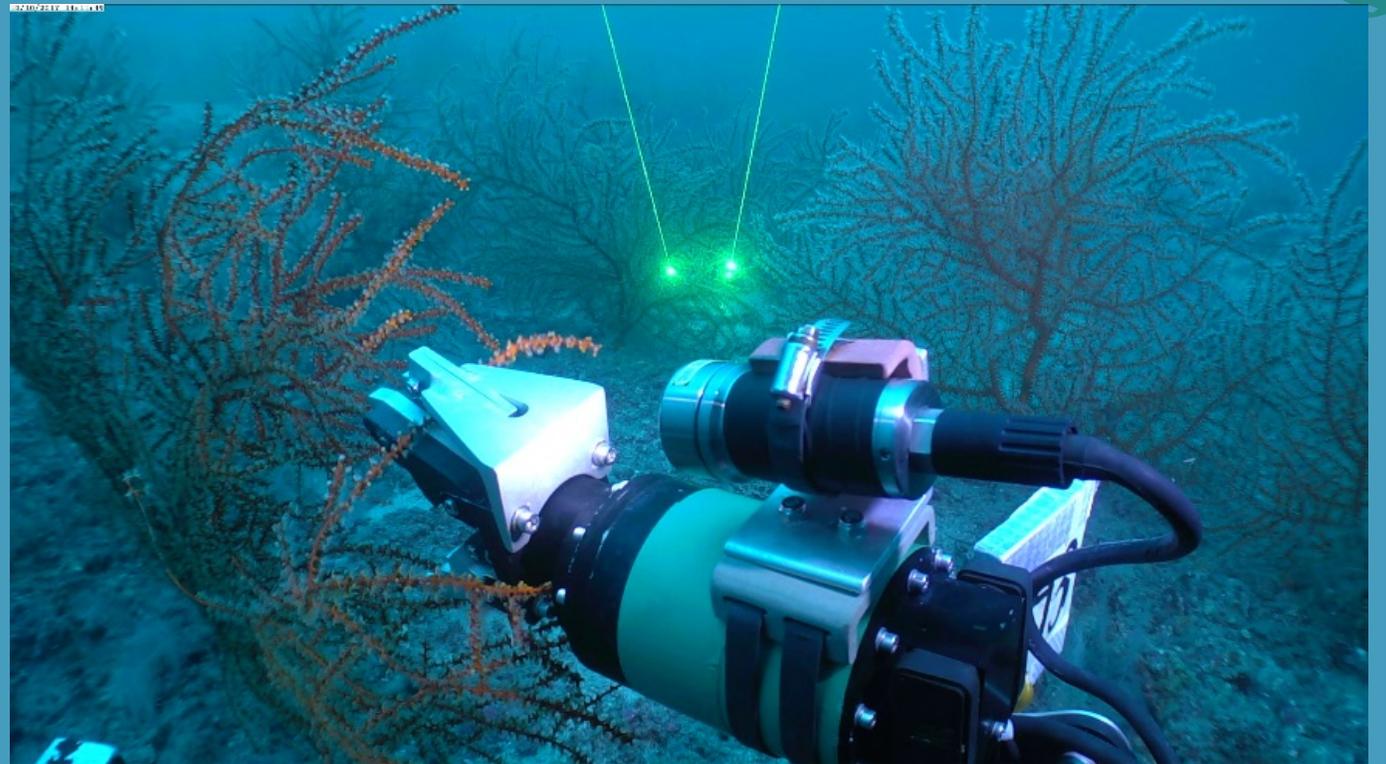
Selected MDBC Project Portfolio



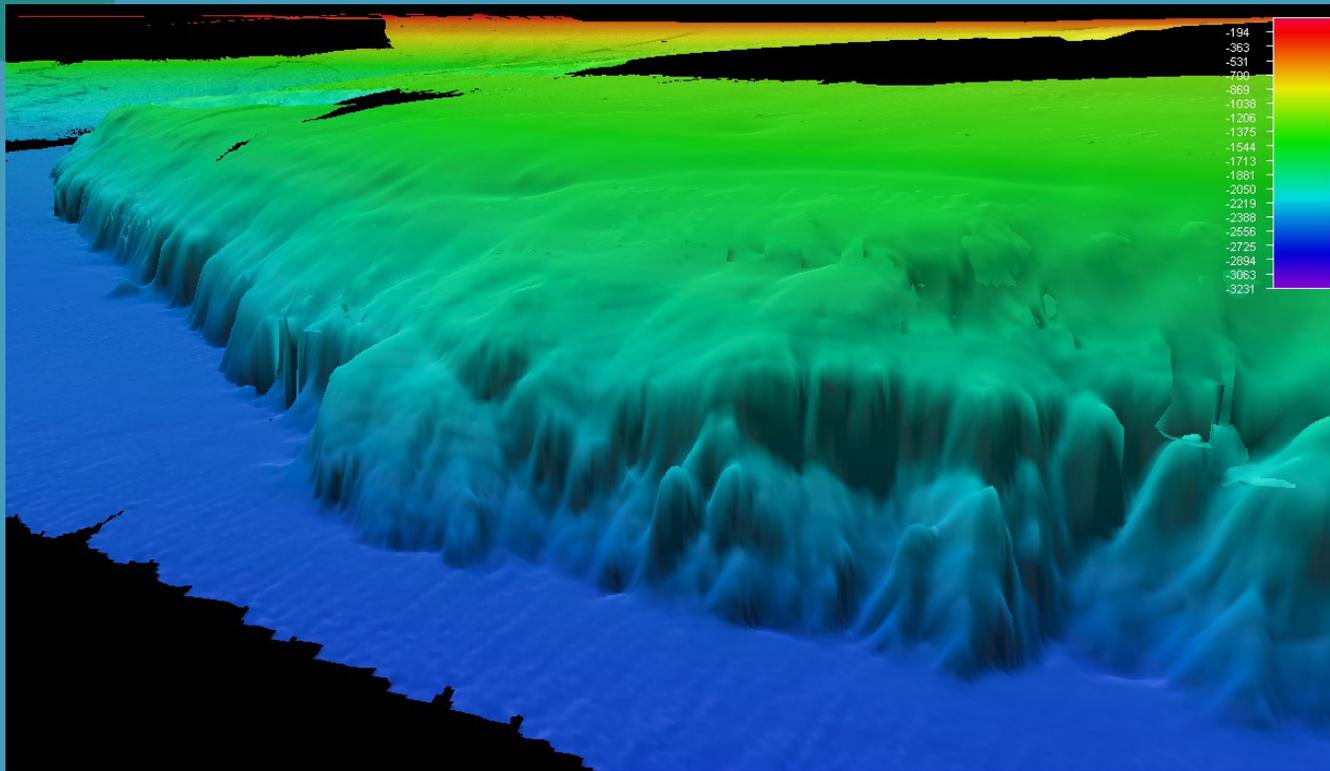
- Mapping, ground-truthing, and predictive habitat modeling
- Habitat assessment and evaluation
- Active protection and management
- Coral propagation technique development
- Estimated Budget: \$126.2M
- Estimated Duration: 7-8 Years

MDBC Portfolio Phasing Approach

- Initial 1-2 year implementation planning period
 - Strategic Planning
 - Adaptive Management Plan
 - Coordinated management of cross-cutting project requirements
 - Public Engagement Plan
- 5 year implementation
- Final year reporting



Mapping, Ground-Truthing, and Predictive Habitat Modeling



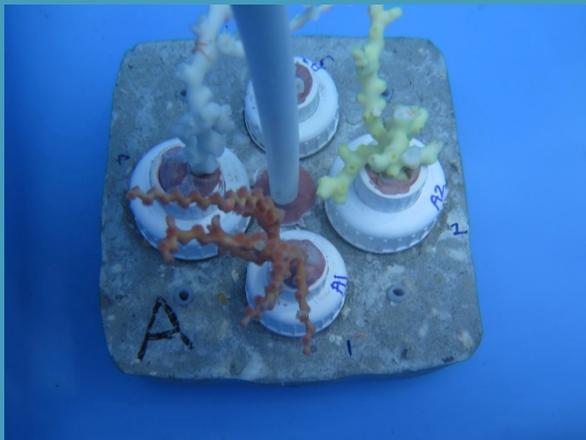
- Documents abundance and distribution of deep benthic communities
- Provides fundamental information to prioritize and support protection and management activities and to target locations for direct restoration
- Estimated Duration: 7-8 years
- Estimated Budget: \$35,909,000

Habitat Assessment and Evaluation



- Fills critical data gaps and evaluates sites for potential direct restoration and protection activities, at both injured and reference sites
- Documents ongoing injury to MDBC's from natural and anthropogenic threats
- Provides background data needed to detect and quantify potential future impacts in other locations and to assess success of restoration efforts with respect to recovery, natural mortality and growth rates
- Establishes a baseline for health and condition to guide direct restoration and protection
- Estimated Duration: 7-8 years
- Estimated Budget: \$52,639,000

Coral Propagation Technique Development



- Pilot project
- Develops methods and techniques for effective enhancement of coral recruitment and growth and the application of successful methods at a large scale for restoration
- Directly compensates the loss of MDBC corals and associated benthic and water column communities injured by the DWH oil spill
- Estimated Duration: 7-8 years
- Estimated Budget: \$16,951,000

Active Management and Protection

- Manages and protects MDBC's from known threats
- Contributes to management activities to achieve restoration goals identified in the DWH PDARP to maintain ecological integrity and increase ecosystem resilience
 - Outreach, education, engagement
 - Threat reduction (e.g., mooring buoy installations, lionfish removal)
- Provides information to management entities (e.g., GMFMC, ONMS, BOEM)
- Estimated Duration: 7-8 years
- Estimated Budget: \$20,689,000





GULF SPILL RESTORATION

Website maintained by NOAA on behalf of the Deepwater Horizon Natural Resource Damage Assessment Trustees

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Open Ocean Restoration Area

The federal trustees will work together on restoration for wide-ranging and migratory species. They will coordinate with appropriate state trustees when proposed projects overlap their jurisdictions. This will include water column and ocean bottom fish and invertebrates, sea turtles, birds, marine mammals, sturgeon, and deep-sea coral reefs.

Many species that spend part of their lives in the Gulf of Mexico also migrate to other places—as far away as Canada and the Mediterranean Sea. The Open Ocean Restoration Area will address species throughout their life stages and throughout their geographic range by reducing bycatch, restoring habitat, and other activities. The Trustees may use some of the Open Ocean Restoration Area funds for restoration outside of the Gulf of Mexico. For example, to restore migratory fish populations, we might work to reduce bycatch in the Caribbean Sea or North Atlantic Ocean.



Together, we will develop project-specific restoration plans that are consistent with the **programmatic restoration plan** (see chart below). As part of the restoration planning process, we will accept restoration project ideas from the public. The public will also have the opportunity to review and comment proposed project-specific restoration plans for the Open Ocean Restoration Area. Once approved, we will begin implementation and monitoring of the selected projects.

We have developed a set of **Frequently Asked Questions**, which will be updated over time.

For more information: www.gulfspillrestoration.noaa.gov

Thank you!

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