Marine Mammals

Open Ocean MAM Strategy Workshop

Marine mammals are one of the six restoration types assigned to the Open Ocean Restoration Area as part of the *Deepwater Horizon* settlement and Consent Decree. The *Deepwater Horizon* oil spill resulted in the contamination of prime marine mammal habitat in the nearshore and offshore waters of the northern Gulf of Mexico. The purpose of this workshop is to obtain input on data needed for restoration planning, implementation, and evaluation given the established goals and approaches noted below.

RESTORATION GOALS

- Implement an integrated portfolio of restoration approaches to restore injured BSE, coastal, shelf, and oceanic marine mammals across the diverse habitats and geographic ranges they occupy.
- Identify and implement restoration activities that mitigate key stressors in order to support resilient populations. Collect and use monitoring information, such as population and health assessments and spatiotemporal distribution information.
- Identify and implement actions that support ecological needs of the stocks; improve resilience to natural stressors; and address direct human-caused threats such as bycatch in commercial fisheries, vessel collisions, noise, industrial activities, illegal feeding and harassment, and hook-and-line fishery interactions.

Restoration Approaches and Techniques

The restoration approaches and potential restoration techniques associated with marine mammal restoration include:

1. Reduce commercial fishery bycatch through collaborative partnerships

This restoration approach focuses on reducing direct interactions between bottlenose dolphins and fisheries through partnerships to identify, test, and implement solutions. Potential techniques include:

- Developing collaborative partnerships and convening workshops with the commercial fishing industry, gear experts, observer programs, academic institutions and researchers, and state and federal agencies to determine actions that would help reduce bycatch in each fishery or for specific gear types (e.g., research regarding potential gear modifications)
- Testing, implementing, and evaluating potential bycatch reduction actions including gear modifications, fishery best-practice modifications, and outreach programs to promote effective strategies
- Monitoring and adaptively managing bycatch reduction solutions by expanding and enhancing both the fishery observer and Marine Mammal Stranding Network (MMSN) programs.

2. Reduce injury and mortality of bottlenose dolphins from hook-and-line fishing gear

This restoration approach focuses on reducing the harmful impacts of hook-and-line fishing gear on bottlenose dolphins. Hook-and-line gear is used by recreational anglers and for-hire fishing vessels (e.g., charter boats and headboats). Potential techniques include:

- Conducting systematic surveys of fishers and evaluating stranding data to understand the scale, scope, and frequency of hook-and-line fishing interactions with dolphins
- Developing collaborative partnerships and convening workshops with stakeholders to identify, test, and implement ways to reduce interactions
- Systematically repeating surveys and stranding data evaluations to measure success.

3. Increase marine mammal survival through better understanding of causes of illness and death as well as early detection and intervention of anthropogenic and natural threats

This restoration approach focuses on increasing marine mammal survival through improving understanding of key causes of morbidity and mortality, and also on the early detection and mitigation of anthropogenic or natural threats. Potential techniques include:

- Expanding the MMSN's capabilities along the GOM coast
- Enhancing capabilities to rapidly diagnose causes of marine mammal morbidity and mortality to identify threats and mitigate impacts (e.g., conservation medicine)
- Improving the ability to detect and rescue free-swimming dolphins that are entangled, entrapped, or out of their habitat
- Developing and increasing the technical and infrastructure capabilities to respond to major stranding events or disasters.

4. Measure noise to improve knowledge and reduce impacts of anthropogenic noise on marine mammals

This approach uses passive acoustics and other technologies to evaluate and address noise impacts on marine mammals. Potential techniques include:

- Collecting and using data from calibrated passive acoustic and complementary marine mammal survey techniques to characterize the spectral, temporal, and spatial qualities of noise throughout the GOM and determine areas of overlap between high noise levels and marine mammal stocks
- Prioritizing noise reduction in areas where high noise levels and high densities of marine mammals overlap
- Developing collaborative partnerships to identify, test, and implement strategies and technologies to reduce noise impacts on marine mammals using outcomes from the characterization and prioritization steps.

5. Reduce injury, harm, and mortality to bottlenose dolphins by reducing illegal feeding and harassment activities

This restoration approach focuses on reducing harmful impacts on marine mammals from illegal feeding and harassment activities by people. Potential techniques include:

- Conducting social science studies – such as surveys, focus groups, and interviews – to identify and characterize the attitudes, knowledge, perceptions, and motivations of user groups interacting with dolphins to design outreach tools
- Developing educational campaigns (such as public service announcements, social media campaigns, print products and advertisements) for specific target audiences
- Partnering with stakeholders to widely distribute and communicate tools to effectively reach targeted user groups throughout the GOM.

6. Reduce marine mammal takes through enhanced state enforcement related to the MMPA

This restoration approach builds capacity and training for state enforcement agencies to implement the MMPA in their state waters. Potential techniques include:

- Working with Gulf states to identify training needs and the most appropriate venue and format for the delivery of MMPA-related training
- Developing and distributing outreach products or techniques targeted specifically to enforcement officers (e.g., fact sheets or stickers that summarize why enforcing key MMPA provisions is important)
- Increasing funding to state enforcement agencies to increase the percentage of time that officers and equipment (e.g., vessels) are dedicated to MMPA enforcement activities.

7. Reduce injury and mortality of marine mammals from vessel collisions

This restoration approach focuses on reducing vessel collisions with marine mammal species in the GOM by developing and implementing a comprehensive mitigation strategy. Potential techniques include:

- Adjusting time/area-sensitive vessel routes and speeds, mariner training, and mariner and recreational boater outreach and education
- Collecting and analyzing data from passive acoustics, tagging, and predictive modeling to help inform effective mitigation to reduce vessel collisions with marine mammals in the GOM.

8. Protect and conserve marine, coastal, estuarine, and riparian habitats

This restoration approach supports, protects, and restores a wide variety of marine, coastal, estuarine, and riparian habitats and the ecosystem services they provide, through the identification, protection, management, and restoration of important marine habitat areas or land parcels. Potential techniques include:

- Acquire lands for conservation
- Develop and implement management actions in conservation areas and/or restoration projects
- Establish or expand protections for marine areas.

For additional information on marine mammal restoration approaches and techniques, see Section 5.5.11.2 and Appendix 5.D in the Final PDARP/PEIS.

Breakout Group Guiding Questions

There are a number of unknowns in marine mammal restoration; however, the workshop's goal is to focus on what science and monitoring needs may be most helpful to inform restoration planning, implementation, and understanding restoration outcomes.

What are the most important data needed to inform planning/implementation?

- Taking into consideration restoration needs and priorities for marine mammals

What are the most important data needed to evaluate restoration for marine mammals?

- Taking into consideration project level, resource level (e.g., marine mammals), and across resources.

What are the most important data needed to inform adaptive management?

What are the key takeaways from our discussion today?