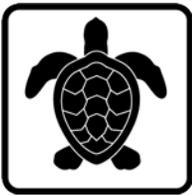


Sea Turtles

Open Ocean MAM Strategy Workshop



Sea turtles 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 injured all five species of sea turtles that inhabit the Gulf of Mexico (loggerhead, Kemp's ridley, green, hawksbill, and leatherback sea turtles). 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 address all injured life stages (hatchling, juvenile, and adult) and species of sea turtles.
- Restore injuries by addressing primary threats to sea turtles in the marine and terrestrial environment such as bycatch in commercial and recreational fisheries, acute environmental changes (e.g., cold water temperatures), loss or degradation of nesting beach habitat (e.g., coastal armoring and artificial lighting), and other anthropogenic threats.
- Restore sea turtles in the various geographic and temporal areas within the Gulf of Mexico and Atlantic Ocean that are relevant to injured species and life stages.



- Support existing conservation efforts by ensuring consistency with recovery plans and recovery goals for each sea turtle species.

Restoration Approaches and Techniques

The restoration approaches and potential restoration techniques associated with sea turtle restoration include:

1. Reduce sea turtle bycatch in commercial fisheries through identification and implementation of conservation measures

This restoration approach focuses on reducing the bycatch and mortality of sea turtles in Gulf of Mexico commercial fisheries by identifying, developing, and implementing sea turtle bycatch reduction measures. This approach could identify measures such as:

- Gear modifications (For example: hook size and type)
- Changes in fishing practices (For example: reduced soak times)
- Temporal and spatial fishery management to reduce sea turtle bycatch in GOM commercial fisheries.

2. Reduce sea turtle bycatch in commercial fisheries through enhanced training and outreach to the fishing community

This approach could expand the successful National Oceanic and Atmospheric Administration (NOAA) Gear Monitoring Team (GMT) program, which operates in the Gulf States out of the National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center's Pascagoula Lab. This expansion could allow similar programs to be implemented at the state level.

3. Enhance sea turtle hatchling productivity and restore and conserve nesting beach habitat

This approach could employ the following techniques:

- Reduce artificial lighting visible from nesting beaches
- Enhance protection of nests by addressing anthropogenic threats
- Reduce nesting beach barriers
- Acquire lands for conservation of nesting beach habitat
- Beach user outreach and education.

4. Reduce sea turtle bycatch in recreational fisheries through development and implementation of conservation measures

This approach would first focus on improving the understanding of bycatch in recreational fisheries in the GOM (For example: characterization of sea turtle bycatch on hook-and-line gear). Once identified, potential bycatch reduction measures could be experimentally implemented to determine their effectiveness.

5. Reduce sea turtle bycatch in commercial fisheries through enhanced state enforcement effort to improve compliance with existing sea turtle conservation requirements

This approach could include two primary techniques:

- Provide training for and outreach to state fishery enforcement personnel
- Increase state fishery enforcement resources (For example: additional personnel and necessary equipment and vessels).

6. Increase sea turtle survival through enhanced mortality investigation and early detection of and response to anthropogenic threats and emergency events

This approach could include:

- Enhanced network response and coordination
- Enhanced preparedness and response capacity for emergency events
- Enhanced investigation of mortality sources
- Enhanced data access and analysis
- Enhanced rehabilitation capability where necessary
- Improved coordination and communication among and between rehabilitation facilities, state coordinators, the U.S. Fish and Wildlife Service, and NOAA.

7. Reduce injury and mortality of sea turtles from vessel strikes

This approach could include:

- Public outreach and education
- Enhanced understanding of the temporal and spatial distribution of vessel strikes
- Enhanced understanding of additional cofactors that may influence the frequency of vessel strikes (For example: water depth, vessel speed, vessel size)
- Development of potential mechanisms to reduce the frequency of vessel strikes (for example: voluntary speed restrictions or vessel exclusion areas in highest-risk locations).

For additional information on sea turtle restoration approaches and techniques, see Chapter 5, Appendix D.4, in the Final PDARP/PEIS.



Breakout Group Guiding Questions

There are a number of unknowns in sea turtles 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 data are needed to inform restoration planning, project selection, and implementation?

- Considering all restoration needs for sea turtles
- Considering specific approaches and techniques

What data are needed to evaluate restoration projects, and better understand restoration success across all sea turtle restoration efforts?

- How to evaluate restoration success across multiple approaches?
- What data are critical to determine if restoration goals were met?

What are the key takeaways and priorities from our discussion today?