

Deepwater Horizon Natural Resource and Damage Assessment Background

On April 20, 2010, an explosion of the Deepwater Horizon drill rig caused the largest offshore oil spill in U.S. history. The well spewed oil for 87 days and released millions of barrels of oil into the Gulf of Mexico. NOAA Fisheries and other State and Federal Natural Resource Damage Assessment Trustees responded quickly to the disaster, saving wildlife, documenting injury, and helping with the cleanup.

In accordance with the Oil Pollution Act of 1990, the Trustees assessed injuries to natural resources and the lost use of those resources caused by the Deepwater Horizon oil spill. We found that the spill injured a wide range of wildlife, habitats, and ecological functions. It also negatively impacted recreational opportunities, like fishing, boating, and beach going. The injuries to the Gulf were ecosystem-wide.

NOAA is now actively involved in the ongoing restoration phase, which will last many years. Many of the Trustees restoration projects support healthier wildlife and habitats, better water quality, and recreational access to the Gulf. Also, NOAA has projects that are being planned or are ongoing that work with members of the Gulf Shrimping community. Here are an overview of those projects:

Project Overviews

- [Better BRD Project](#) - To get better bycatch reduction devices in broad use within the federal shrimp trawl fleet
- [DWH Hotspots Mapping Initiative](#) - to evaluate the feasibility of fisheries hotspot communication networks to improve fishing in and around the Gulf of Mexico
- [Narrow-bar Spacing TED Project](#) - Identify tools for sea turtle restoration through work with shrimpers to identify new turtle-excluder device designs that are more effective at excluding small-bodied turtles than current TED designs
- [AIS Pilot Project](#) - Enhance the understanding of Gulf of Mexico state permitted shrimp fishing effort
- [Mississippi Skimmer Trawl Modifications Project](#) - Decrease the number of entanglements and associated mortality of dolphins in commercial shrimp trawls in Mississippi state waters while maintaining catch efficiency and fishing performance/usability
- [Region Wide Commercial Lazy Line Modifications](#) - Decrease the number of entanglements and associated mortality of dolphins in the lazy lines of commercial shrimp trawl vessels (both otter and skimmer) operating within state inshore and coastal waters

Better BRD Project

Project Status - Ongoing

Purpose of Update - Information and Awareness

The Better BRD Project is an industry-led, volunteer-based effort that aims to find better methods to reduce fish bycatch while also maintaining catch. The project team is active in identifying, testing, and increasing the use of more efficient bycatch reduction devices. The team, consisting of specialists from Louisiana Sea Grant, Texas Sea Grant, and NOAA Restoration, has been working with Gulf shrimp industry members to identify and test new innovations in bycatch reduction devices (BRDs) technology for broader use. If these innovations are successful in reducing both bycatch and shrimp loss, they could be added to the list of certified BRD designs available for Gulf shrimpers.

From Fall 2021 to Summer 2022, dockside outreach to identify BRD technology in use in the Gulf shrimp fleet, i.e. the “BRD Hunt”, occurred. 308 boats in 32 ports across Alabama, Florida, Mississippi, Louisiana, and Texas were engaged, exceeding the goal of reaching 20% of the federally permitted Gulf of Mexico shrimp fleet. New BRD technology with the potential to successfully reduce bycatch by at least 10% more than existing devices were identified through this project and will be candidates for gear testing to become certified for use by the fleet.

The Stakeholder Working Group (SWG), a group of industry stakeholders that will be providing feedback on the project, met in Baton Rouge, LA in April 2022 to provide feedback on the BRD being considered for testing. The SWG reviewed devices identified and provided feedback for devices to move forward to testing. Out of the 6 designs reviewed, the SWG recommended 4 to move forward to testing: the Chauvin and Drury Flapless TEDs, Tom Vu’s Large Mesh Section bag, Tom’s Fisheye- from Australia, and modifications to the existing Composite panel BRD. The next step is to evaluate the feedback from the SWG and incorporate it as the BRD candidates move forward to testing.

In Summer & Fall 2022, the first phases of new BRD testing took place. Phase one involved dive testing to determine how the devices perform on a standard Gulf shrimp trawl. Phase two is the ‘Proof of Concept’ Testing, occurring July -October 2022, and involves testing of devices on NOAA’s RV Caretta to evaluate catch characterization (shrimp retention and bycatch reduction).

The project team will meet with the SWG again in October 2022 to review the results of the NOAA testing phases and provide feedback on alterations, installations, and recommendations for best use for devices to move into commercial industry trials.

DWH Hotspots Mapping Initiative

Project Status - Ongoing

Purpose of Update - Awareness and Request for Input

The National Fish and Wildlife Foundation (NFWF), in cooperation with the National Oceanic and Atmospheric Administration, is managing a new project—the Hotspots Mapping Initiative—to evaluate the feasibility of fisheries hotspot communication networks to improve fishing in and around the Gulf of Mexico. Over the next two to three years of this voluntary project, NFWF will

work with fishing fleets and groups to determine where hotspot mapping networks could be beneficial and how they might be implemented.

The goal of the project is to examine the feasibility of hotspot mapping networks to support the sharing of fishing information, develop communication and mapping tools to avoid unwanted fishing interactions, and improve fishing experiences. For the initial phase of the project, we are working to identify and engage with stakeholders from fisheries, fleets, and fishing organizations that may benefit from a hotspot management system and would be willing to discuss coordination, logistics, and data needs.

This project is completely voluntary and will not be implemented through regulations. Also, information shared through this project will not be used to inform management measures such as closed areas. Rather, this voluntary information will be combined with other environmental and species distribution data to create real-time, regularly updated maps that will support the avoidance of areas with unwanted species interactions.

NFWF is asking interested fishermen and anglers to fill out a brief online form, which includes prompts to submit your contact information as well as information on your fleet's current communications, technology, and data needs. The form should take around 15 minutes to complete. NFWF requests responses by Thursday, Dec. 15, 2022. If you have questions about this project or questionnaire, please contact Cheryl Hennessy at Cheryl.Hennessy@cardno.com or (815) 814-4357.

Narrow-bar Spacing TED project

Project Status - Ongoing

Purpose of Update - Information and Awareness

The goal of the Narrow-bar Spacing Turtle Excluder Device (TED) project, funded through the DWH Open Ocean Trustee Implementation Group, is to identify tools for sea turtle restoration through work with shrimpers to identify new TED designs that are more effective at excluding small-bodied turtles than current TED designs, while ensuring minimal impact on shrimp harvest. In the first round of testing, the project team tested a total of seven TED prototypes with 2.5-inch (narrow-bar) spacing, along with trials of the industry standard TED with 4-inch bar spacing.

Initial field testing of the prototypes, which took place earlier in summer 2022, yielded promising results. Compared with the 4-inch configuration, which excludes only 26% of juvenile sea turtles, the 2.5-inch prototypes exhibited turtle exclusion rates ranging from 77 to 100%. In July, NOAA discussed the TED testing results with the project's stakeholder workgroup.

Of the three most promising narrow-bar TED prototypes, two were tested for performance and catch retention in 2022:

- Top opening 2.5-inch bar spacing grid TED installed at 53° with double cover flap, which caught 3.3% less shrimp by weight
- Bottom opening 2.5-inch bar spacing grid TED installed at 45° with double cover flap, which caught 0.6% more shrimp by weight

The results of 2022 testing were communicated to the project's stakeholder workgroup in October 2022. Information about upcoming testing on commercial vessels was discussed with potential options for most likely TED's, as well as additional designs to target problem areas in the current TED design.

Loggerhead sea turtle hatchlings continue to undergo rearing for TED testing scheduled for June 2023.

AIS Pilot Project

Project Status - Initiating

Purpose of Update - Awareness

The goal of the AIS Pilot project, funded by the DWH Regionwide Trustee Implementation Group, is to enhance the understanding of Gulf of Mexico state permitted shrimp fishing effort. These data will assist restoration managers in understanding the overlap of fishing effort, sea turtle distribution, and sea turtle mortality, eventually leading to the potential for better informed sea turtle restoration efforts.

The AIS project is in the early stages of implementation. This project will span 3 years. It will have a ramp up period of one year and will collect 2 years of fishing effort data. The AIS project will rely on the voluntary participation of state-permitted shrimp fishers. Early stages of implementation for the AIS project involve reaching out to state Trustees to garnish partnership, establishing the best mechanism to inquire levels of participation, and determining incentives for willing participants. The AIS project team met with the Gulf States Marine Fisheries Commission (recommended by multiple state Trustees) as an avenue of partnership for outreach efforts as well as handling the distribution and installation efforts for the AIS equipment. This collaboration and partnership is promising and efforts are moving forward to work together. The project team is currently aiming to begin data collection Fall 2023

Mississippi Skimmer Trawl Modifications project

Project Status - Not started

Purpose of Update - Awareness

The goal of the Skimmer Trawl Modifications project, funded through the DWH Mississippi Trustee Implementation Group, is to decrease the number of entanglements and associated

mortality of dolphins in commercial shrimp trawls in Mississippi state waters while maintaining catch efficiency and fishing performance/usability. This project is scheduled to begin implementation efforts during the summer of 2023. The project is intended to span 5 years and is estimated at approximately \$3M dollars.

This project will be conducted collaboratively with researchers and the fishing community to evaluate the performance and usability of both trawl covers and trawls constructed of alternative materials. Commercial fishermen have been proactive in their efforts to modify gear to prevent interactions with dolphins, and NOAA will work with fishermen to test modifications and optimal trawl materials/configurations that reduce these interactions while maintaining fishing performance.

Region Wide Commercial Lazy Line Modifications

Project Status - Not started

Purpose of Update - Awareness

The goal of the Commercial Lazy Line Modifications project, funded through the DWH Regionwide Trustee Implementation Group, is to decrease the number of entanglements and associated mortality of dolphins in the lazy lines of commercial shrimp trawl vessels (both otter and skimmer) operating within state inshore and coastal waters. This project is not scheduled to begin implementation efforts until 2024, but will span 7 years and is estimated at approximately \$3.2M.

The project will involve 2 initial phases, with the first phase including 4-5 years of planning, collaborative in-water gear testing with researchers and industry members, and developing a plan for enacting voluntary gear modification throughout the Gulf of Mexico shrimp fleet. The second phase would follow, spanning 2-3 years, and include working collaboratively with stakeholders and interested members of the shrimp trawl fleet to determine a voluntary or incentive use program to adopt broader use of alternative lazy line material.