

Reducing Juvenile Sea Turtle Bycatch through Development of Reduced Bar Spacing in Turtle Excluder Devices

Sea Turtles Restoration Type



This proposed project would develop new turtle excluder device (TED) prototypes to reduce the incidental capture of small juvenile sea turtles in the shrimp trawl fishery and inform future restoration projects to restore sea turtles.

Estimated Cost and Timeframe

\$2,153,000 • 4 years

A turtle excluder device is a specialized metal grid that is installed in the trawl net and allows sea turtles to escape through an opening.



Adjusting the dimensions or configuration of turtle excluder devices may improve their effectiveness for small sea turtles.

Project Objectives

- Develop and evaluate reduced bar spacing TEDs designed to exclude small sea turtles in the shrimp otter trawl fishery.
- Test and certify small bar spacing TED prototypes through the NMFS small turtle testing protocol.
- Conduct independent and dependent bycatch reduction and target-catch retention testing.
- Determine bycatch reduction rates and corresponding restoration potential for sea turtles for each TED prototype produced.

Although otter trawls (a type of net) used for shrimping are currently required to use TEDs, small juvenile turtles are still vulnerable to capture because their small size allows them to slip through the TED bar spaces into the net or inhibits them from pushing through the TED opening to escape. By adjusting the dimensions and/or configuration of TEDs, there may be improved escapement of small turtles and a decrease in sea turtle mortality.

Results of this project are intended to inform future restoration projects including voluntary incentivized use activities and foreign technology transfer to countries with shrimp fisheries that encounter early life stages of sea turtles.

The project supports the Trustees' goal to restore sea turtles injured by the *Deepwater Horizon* oil spill by addressing primary threats to sea turtles in the marine environment such as bycatch in commercial fisheries.

Components

Initial project activities include the collection and captive rearing of loggerhead hatchlings to a size appropriate for TED prototype testing. Turtles would be released upon completion of TED prototype testing.

Industry engagement meetings would be conducted in each Gulf state in years 1 and 4 to inform the shrimp fishermen about the project and request input during project planning.

A stakeholder workgroup with at least one member from each Gulf state, along with NOAA staff, would also be formed in the first year. The stakeholder workgroup would meet in years 2 and 3 to provide input into TED prototype development and commercial testing in the field.

This project involves testing for each TED prototype, including testing the exclusion of small turtles, and target catch retention along with industry engagement throughout the project.

Catch retention testing would be implemented after turtle exclusion testing is complete. Prototype TEDs that meet minimum shrimp loss criteria would be recommended for dependent commercial trials aboard contracted commercial vessels. The data collected would be used to assess the restoration potential of each TED design.

This is one of 18 Open Ocean Final Restoration Plan 2 projects selected to restore for injuries from the *Deepwater Horizon* oil spill. Based on public input, this is one of several projects revised to increase opportunities for the fishing industry to engage in restoration efforts.