



OPEN OCEAN RESTORATION AREA  
Reduction of Diverse Threats to Fish and Water Column  
Invertebrates (*preferred*)



Lionfish  
Photo by NOAA Fisheries

**RESTORATION TYPE:** Fish and Water Column Invertebrates

**PROJECT DESCRIPTION**

This project would restore fish and water column invertebrates by implementing a range of activities to address environmental threats and improve environmental conditions. Activities would include developing partnerships with Gulf of Mexico communities, resource managers, and experts to design and implement conservation actions such as marine debris prevention and removal, invasive species prevention and removal, addressing changes in water quality, and developing voluntary conservation practices for energy development and production activities.

This project, estimated to cost \$14.3 million, would be implemented over approximately 10 years.



**PROJECT BENEFITS**

- Reduces diverse threats such as marine debris, invasive species, changes in water quality, and impacts from energy development to improve environmental conditions and reduce mortality of fish and invertebrates
- Activities would benefit injured species such as reef fish, drums, sea trout, highly migratory species, forage fish, crabs, lobsters, and water column invertebrates





## Reduction of Diverse Threats to Fish and Water Column Invertebrates (*preferred*)

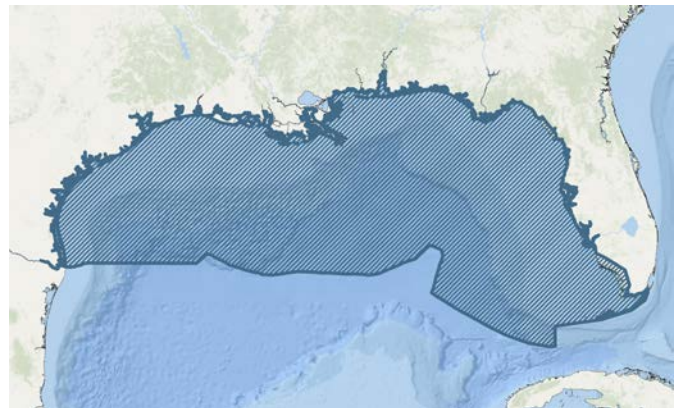
This project would implement a range of activities to improve environmental conditions and benefit fish and water column invertebrates, among other marine resources. The environmental threats that would be targeted include marine debris, invasive species, changes in water quality, and potential impacts to fish and water column invertebrate resources associated with energy development and production.

Conservation strategies and activities would be developed through project planning, including collaboration with interested parties and subject matter experts. Specific geographic locations for implementation would be selected to provide long-lasting benefits for priority fish and water column invertebrate species.

Following initial project planning, it is anticipated that the following types of activities would be implemented: Marine debris, including abandoned and derelict fishing gear, may be removed or intercepted before it enters the marine environment. Invasive species, such as lionfish, may also be removed. Changes in water quality may be evaluated to characterize impacts to priority fish and invertebrate species and identify potential conservation strategies. To reduce the negative effects of energy production on fish and invertebrates, impacts would be evaluated, and conservation best practices may be implemented. Overall, these activities would reduce fish and invertebrate mortality.

Outreach activities would be conducted to educate the public on the threat of marine debris; methods to prevent, remove, and minimize impacts of invasive species; and the sources of pollution and strategies to reduce threats to water quality and impacts on fish and invertebrates.

Project activities would occur in the U.S. Gulf of Mexico.



### ADDITIONAL INFORMATION

[www.gulfspillrestoration.noaa.gov/restoration-areas/open-ocean](http://www.gulfspillrestoration.noaa.gov/restoration-areas/open-ocean)



Threats such as marine debris, invasive species, changes in water quality, and energy-related development activities may place additional pressure on fish and water column invertebrate populations injured by the DWH oil spill.