

An underwater photograph of a coral reef. In the foreground, there are large, rounded coral structures covered in small, light-colored polyps. Several bright orange fish are swimming around the coral. In the background, two divers in blue wetsuits and black gear are swimming horizontally. The water is clear and blue. A white, wave-like graphic element is at the top of the image.

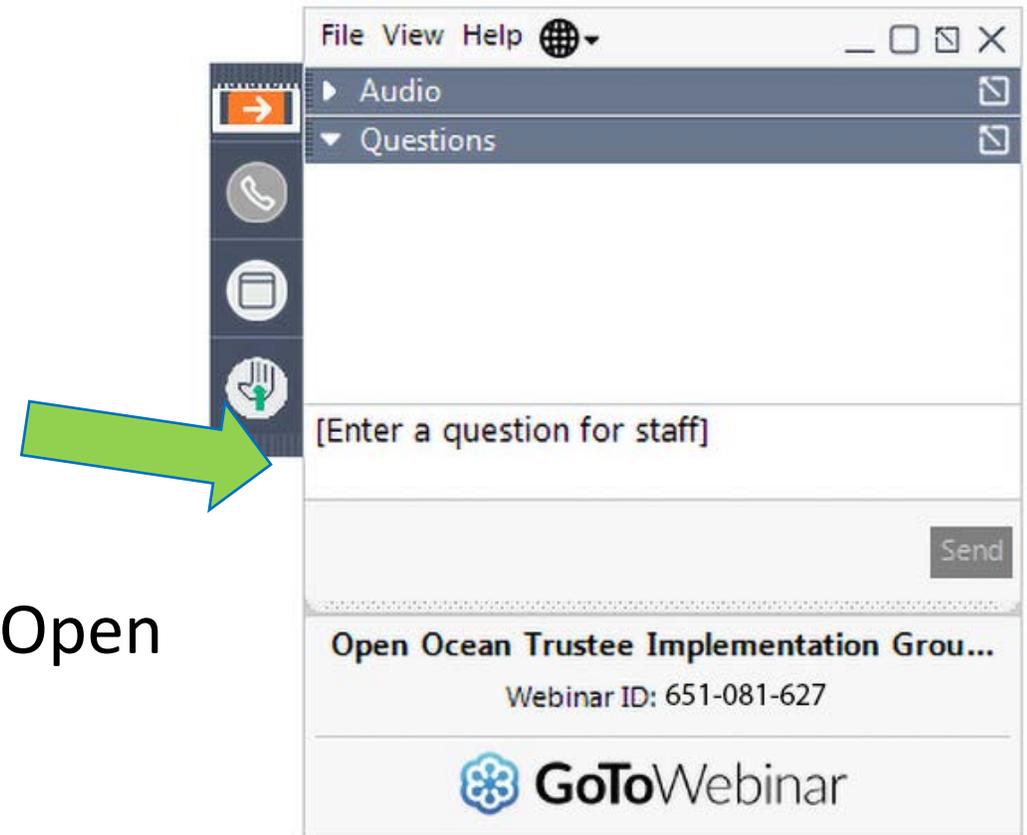
Open Ocean Restoration Area Spring Meeting

April 12, 2022

Webinar Participation



- If you're using a phone, turn off your computer's microphone and speakers
- Please use the "Questions" box to type questions for the Q&A session
- Presentation will be posted on www.gulfspillrestoration.noaa.gov
- Please see the chat box for a link to the Open Ocean Restoration Area webpage



Webinar Overview



- Open Ocean Restoration Area Updates
- Draft Restoration Plan 3
- Fish and Water Column Invertebrates Strategic Plan
- Question and Answer Session
- More Information and Upcoming Meetings



Open Ocean Trustee Representatives



NOAA	USDA	EPA	DOI
Chris Doley	Ron Howard	Gale Bonanno	Mary Josie Blanchard
Laurie Rounds	Ben Battle	Treda Grayson	Ashley Mills

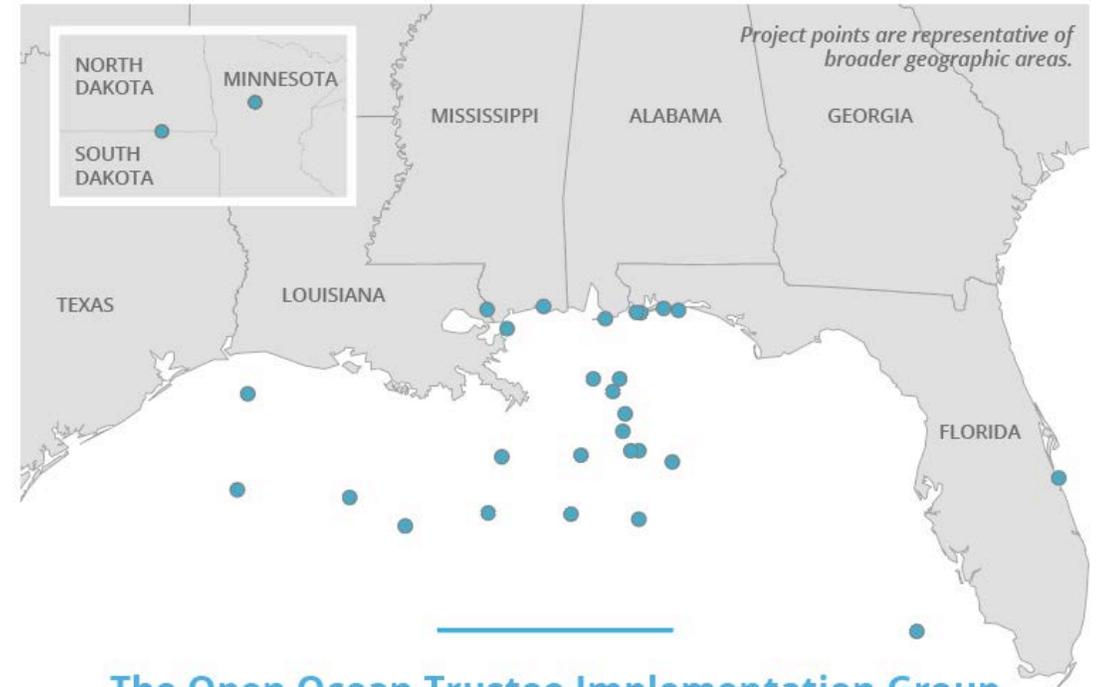
Open Ocean Restoration



29

RESTORATION PROJECTS IN THE OPEN OCEAN RESTORATION AREA

- 5 Fish and Water Column Invertebrates
- 1 Sturgeon
- 6 Sea turtles
- 4 Marine Mammals
- 2 Birds
- 4 Mesophotic and Deep Benthic Communities
- 4 Provide and Enhance Recreational Opportunities
- 3 Monitoring and Adaptive Management



The Open Ocean Trustee Implementation Group restores wide-ranging and migratory species that were injured by the spill throughout their geographic range, including some areas outside the Gulf of Mexico.

Open Ocean Restoration Highlights



In its Final Year, Early Project Data Show Fishermen Are Contributing to Healthier Gulf Fisheries



Upcoming Expeditions will Support Deep-sea Habitat Restoration

Open Ocean Restoration Highlights



Updates on the Open Ocean Sea Turtle Project Working with Menhaden Purse Seine Fishery

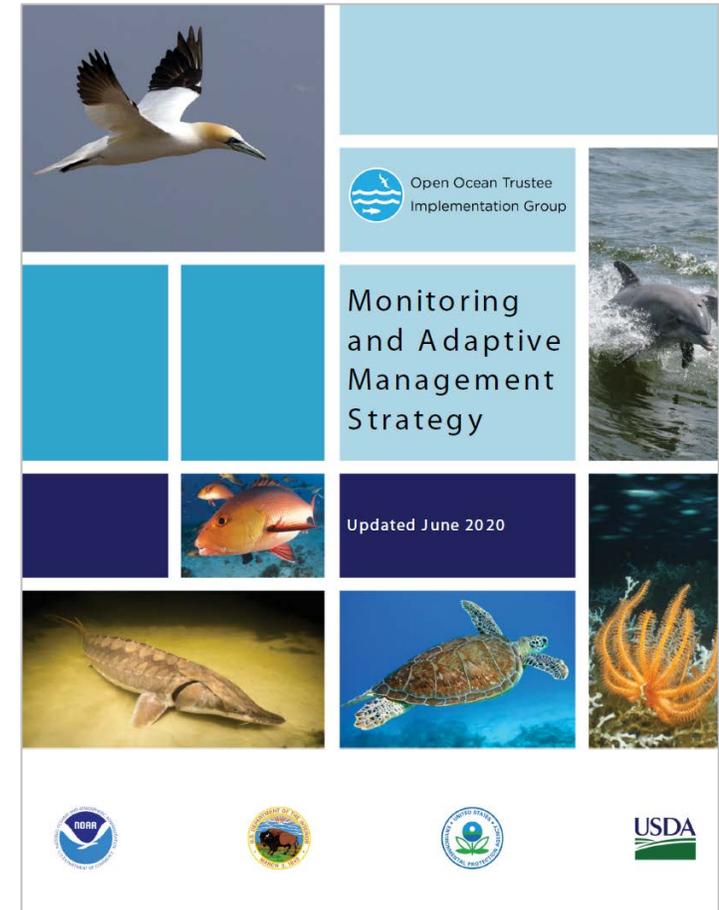


Adaptively Managing Gulf Sturgeon Restoration Activities in the Pearl and Pascagoula Rivers

Monitoring & Adaptive Management



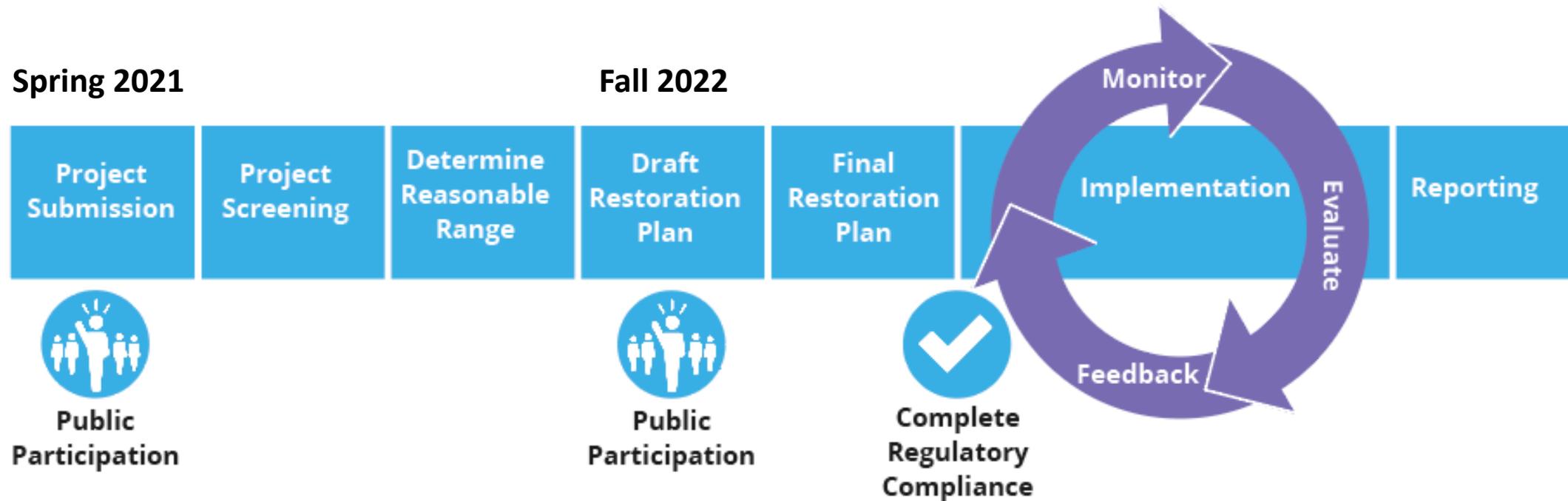
- Restoration objectives and indicators
- Monitoring and adaptive management activities
 - Gulf sturgeon population status and trends
 - Juvenile Gulf sturgeon habitat use
 - Effects of stressors on whales and dolphins
- Data management plan





Restoration Plan 3

Restoration Plan 3



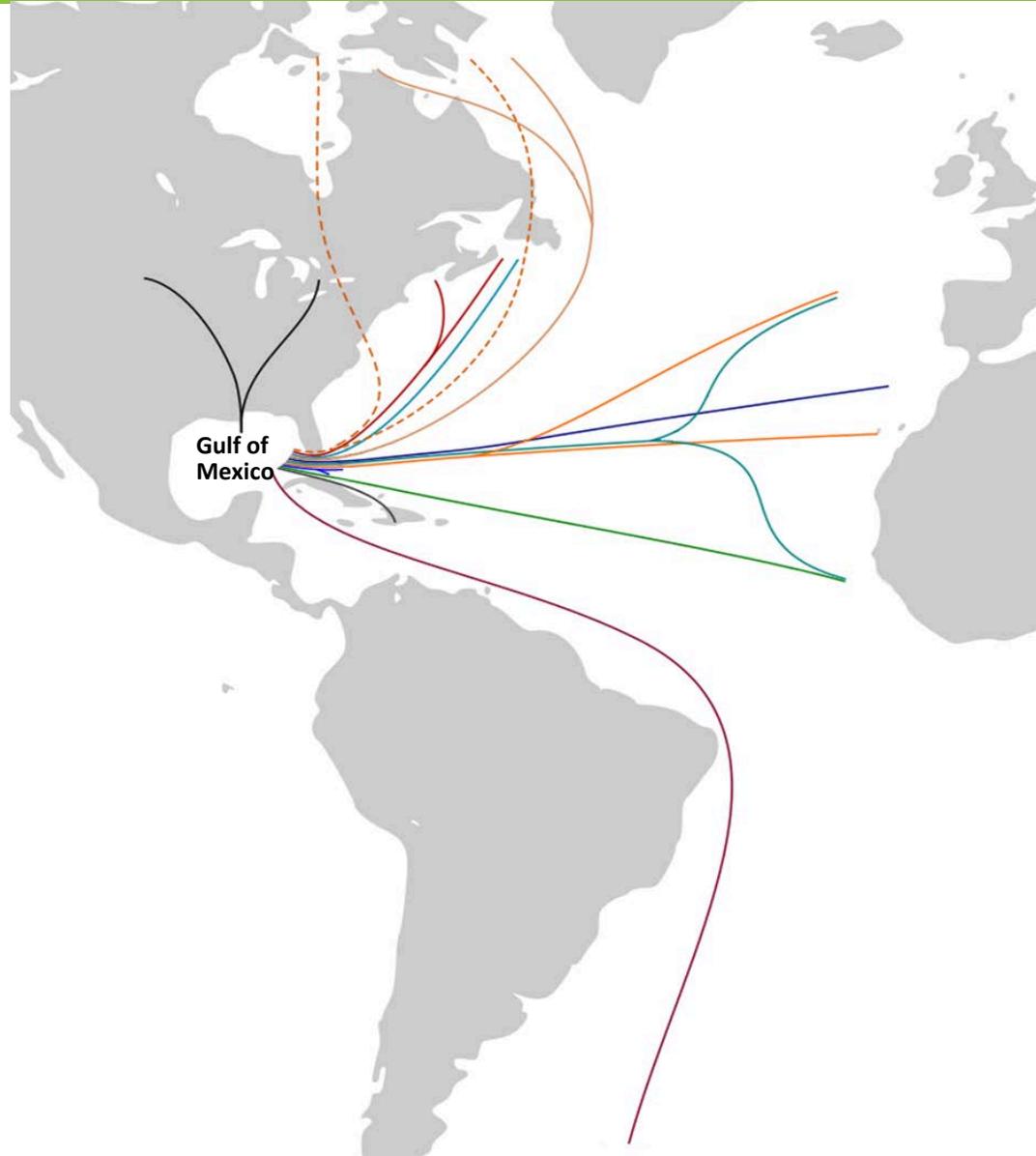
Restoration Plan 3 Next Steps



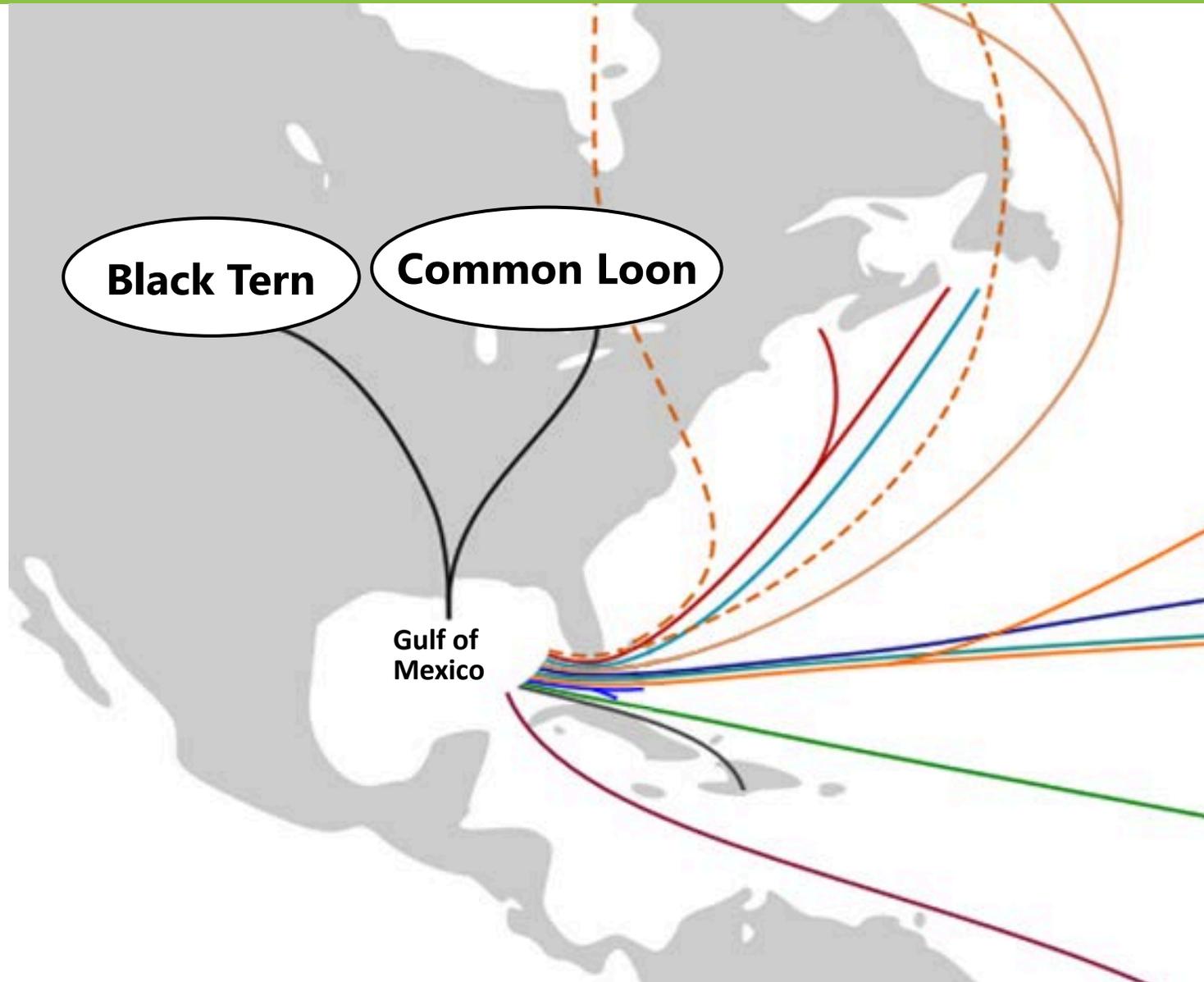
- Develop the Draft Restoration Plan
- Release the Draft Restoration Plan for public review and comments
- Hold a public meeting
- Consider public comments to finalize the restoration plan
- Implement selected projects



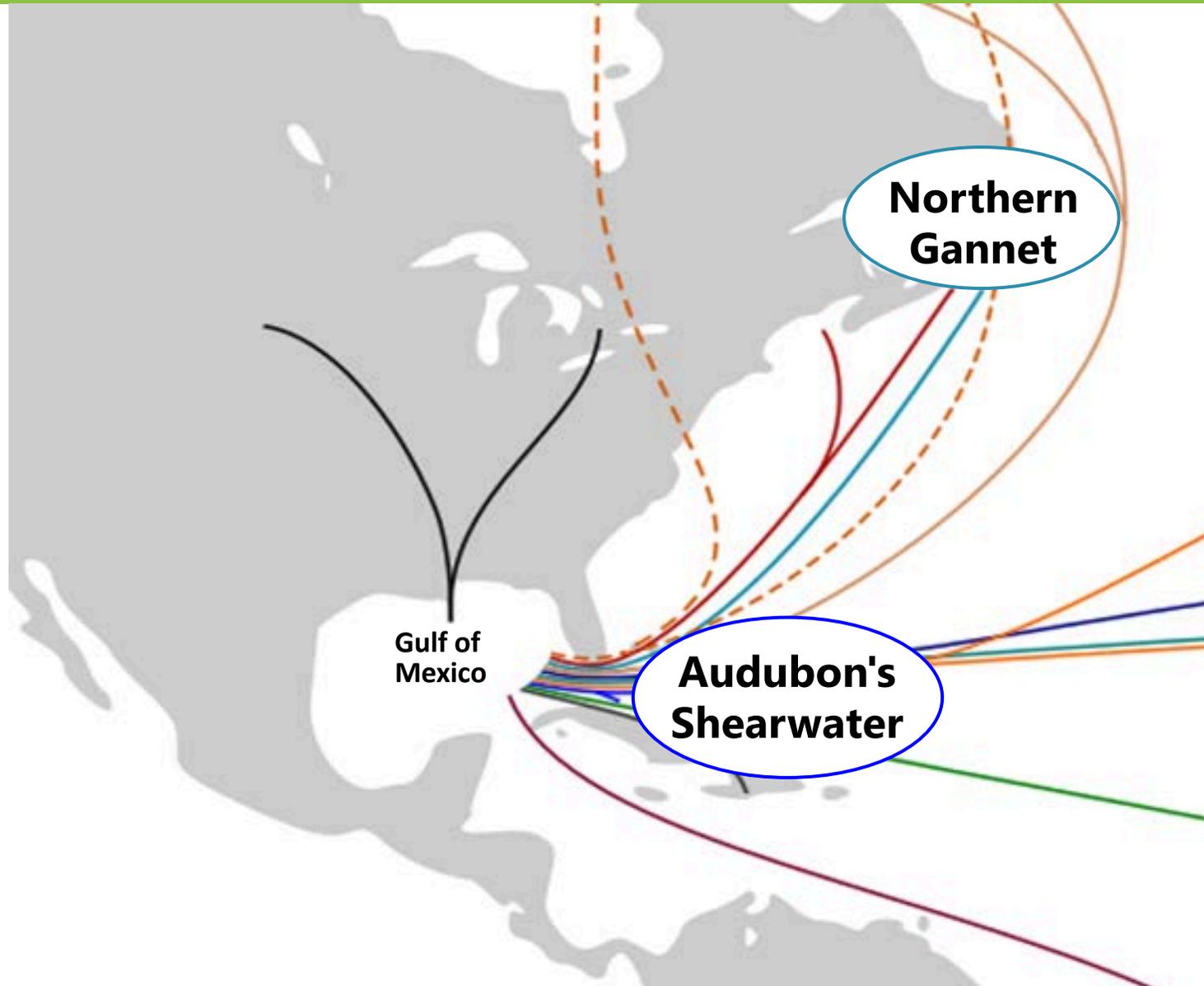
Bird Connections to Gulf Habitats



Bird Connections to Gulf Habitats



Bird Connections to Gulf Habitats



Restoration Plan 3



Bill Montevecchi, Memorial University of Newfoundland



Restoration Plan 3



A large, detailed underwater photograph of a fish, possibly a tuna, swimming towards the left. The fish is silver with a dark stripe along its side and is positioned in the center of the frame. The water is a deep, clear blue, and the surface of the water is visible at the top, showing ripples and reflections. The overall scene is serene and captures the natural habitat of the fish.

Fish and Water Column Invertebrates Strategic Plan

Fish and Water Column Invertebrates Strategic Plan



Open Ocean Fish and Water Column Invertebrates Strategic Plan

Deepwater Horizon Open Ocean Trustee Implementation Group
MARCH 2022



Overview of the Strategic Plan

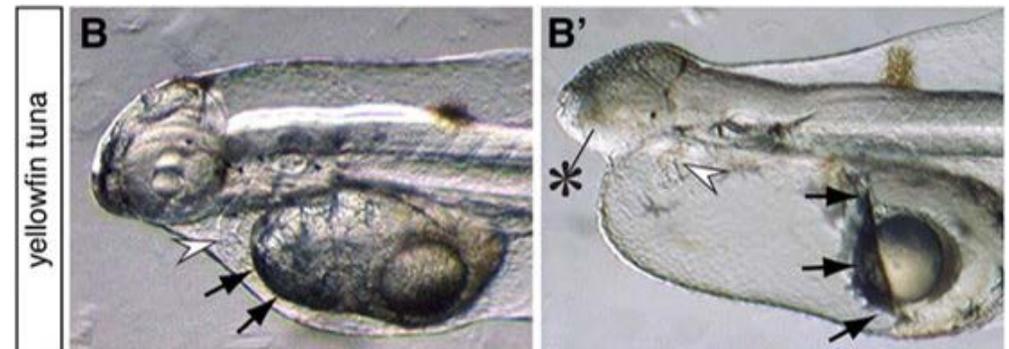
- Background
 - Injury, Goals, Projects
- Purpose of the Plan
- Approach to the Strategy
 - Engagement
 - Prioritization
 - Threats
 - Objectives



Fish and Water Column Injury



- Hundreds of species were exposed to oil
- Trillions of larval fish and invertebrates
- Fish suffered many negative effects from the oil
- Reef fish communities were also impacted



Restoration Goals



- The goals for Fish and Water Column Invertebrates are to restore for injuries from the spill by:
 - Reducing direct sources of mortality, and
 - Increase the health of fisheries by providing fishing communities with methodologies and incentives to reduce impacts to fishery resources



Open Ocean Restoration Projects



- Oceanic Fish Restoration Project
- Restoring for Bluefin Tuna via Fishing Depth Optimization
- Better Bycatch Reduction Devices
- Return 'Em Right - Reduction of Post-release Mortality from Barotrauma
- Communication Networks and Mapping Tools to Reduce Bycatch—Phase 1



Other Restoration Types to Address Water Column Injury



- Wetlands, Coastal, and Nearshore Habitats
- Mesophotic and Deep Benthic Communities
- Water Quality – Nutrient Reduction and Water Quality
- Monitoring and others (SAVs, Oysters, Fed Lands)



Overview and Purpose



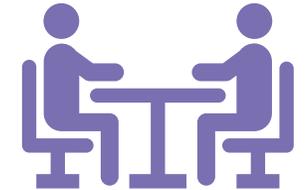
- Guide restoration planning for FWCI
 - Establishing a species prioritization process
 - Identifying threats to injured species and associated restoration opportunities
 - Setting objectives for those species and/or species groups
 - Data gaps



Engagement



- Four sessions with external stakeholder groups in winter/spring 2021
 - Two invited roundtables
 - Two public meetings coordinated with the Gulf Commission and Gulf Council
 - Numerous internal meetings
- Received input on
 - Threats
 - Prioritization criteria – important species
 - Communications
 - Opportunities for collaboration



Steps in Species Prioritization Process



1

Determine species groups representing ecosystem components

2

Determine criteria to evaluate restoration priorities

3

Collect data that serve as criteria proxies

4

Select priority species by group based on evaluation of criteria



Priority Species Selections by Group



FWCI Species Group	Priority Species
Billfish*	Blue marlin (<i>Makaira nigricans</i>)
Drums and seatrout*	Spotted seatrout (<i>Cynoscion nebulosus</i>)
Flatfishes	Southern flounder (<i>Paralichthys lethostigma</i>)
Jacks*	Greater amberjack (<i>Seriola dumerili</i>)
Forage fish*	Mullets (<i>Mugil cephalus</i> and <i>curema</i>) Gulf menhaden (<i>Brevoortia patronus</i>)
Sea basses/Groupers*	Red grouper (<i>Epinephelus morio</i>)
Snappers*	Red snapper (<i>Lutjanus campechanus</i>) Vermilion snapper (<i>Rhomboplites aurorubens</i>)
Tunas/mackerels*	Yellowfin tuna (<i>Thunnus albacares</i>) King mackerel (<i>Scomberomorus cavalla</i>)
Other demersal	American eel (<i>Anguilla rostrata</i>)
Other reef-associated	Golden tilefish (<i>Lopholatilus chamaeleonticeps</i>)
Crabs and Lobsters	Blue crab (<i>Callinectes sapidus</i>)
Shrimp	Royal red shrimp (<i>Pleoticus robustus</i>)

* Indicates high priority groups

Threats



	Blue marlin	Greater amberjack
Fishing		
Overfishing	X	X
Illegal fishing		
Bycatch	X	X
Data limitations	X	X
Marine debris		
Plastic/Microplastic	X	X
Derelict gear		
Ecological		
Invasive species		
Climate change	X	X
Water quality		
HABs (red tide)		



Restoration Objectives



- Reduce negative effects or risks of:
 - **bycatch**
 - **illegal, unregulated, and unreported fishing**
 - **marine debris to FWCI resources**
 - **post-release mortality**
 - **invasive species**
 - **marine pollution**
 - **energy production**
 - **harmful algal blooms (HABs)**
- **Develop tools and techniques to reduce uncertainty in restoration and provide best practices to stakeholders and fishing communities**
- Improve pelagic and sargassum habitat

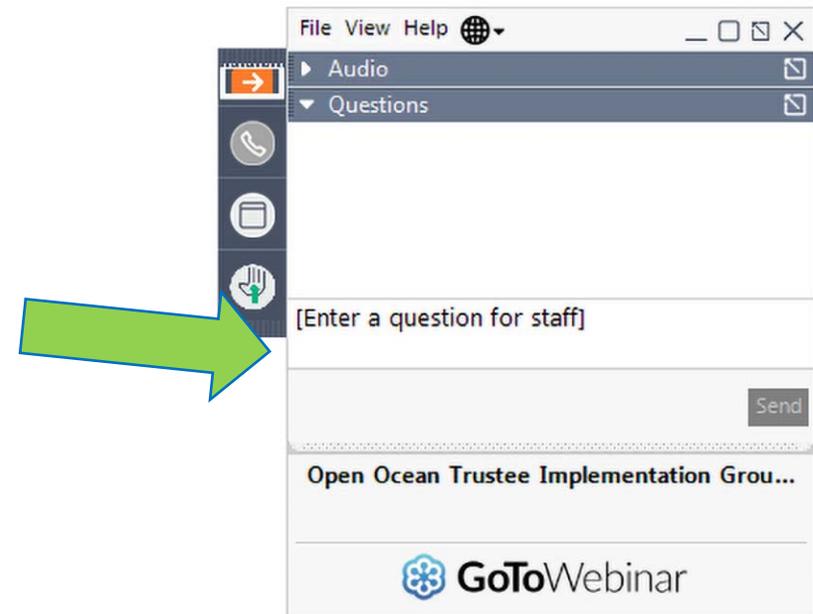


Questions

Questions



- Please type your questions in the “Questions” box.
- We’ll do our best to get to as many as possible.
- Remember to take a look at the Open Ocean webpage linked in the chat.



Upcoming Open Ocean Public Meetings



Trustee Council
Annual Meeting

Early Summer

Restoration Plan 3
Public Meeting

Fall-following
the release of
Draft Plan

Open Ocean
Annual Meeting

October-
December

How to Access Open Ocean Project Information



Explore our **interactive map** to see details on restoration projects.

[VIEW PROJECT DETAILS](#)

Projects Near You

Gulf Spill Early Restoration Projects

Restoration projects in the Gulf States approved by the Deepwater Horizon NRDA Trustees

FL AL MS LA TX

Get the latest **news updates** from the Deepwater Horizon Trustees

[SIGN UP NOW](#)

Suggest a **restoration project** for consideration

[SHARE YOUR IDEA](#)

View **projects submitted** for Trustee consideration

[VIEW SUBMISSIONS](#)

Gulf Spill Restoration Projects

Restoration projects in the Gulf States approved by the Deepwater Horizon NRDA Trustees

All Projects FL LA AL MS TX Regionwide Open Ocean

15 Remove asphalt scattered on beaches by storms - Florida

32 Passenger ferry to Gulf Islands National Seashore

53 Bike and Pedestrian Enhancements

56 Trail Enhancement

58 Reducing bycatch to restore sperm whale fish

182 Gulf Sturgeon Spawning Habitat Characterization

186 Restoration of Common Loons in Minnesota

188 Restoration of Black Terns in North and South Dakota

203 Gulf Sturgeon Population Status and Trends

206 Juvenile Gulf Sturgeon Gulf-Wide Population Dynamics and Habitat Use

217 Evaluating the Cumulative Effects of Multiple Stressors on Oceanic Cetaceans

www.gulfspillrestoration.noaa.gov

A group of dolphins is shown leaping from the water in a clear blue ocean. The dolphins are captured in mid-air, with white water splashing around them. The background is a deep blue sky and water. The text 'Thank You' is overlaid in the center of the image.

Thank You

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