

Deepwater Corals:

What are they?

Deepwater and shallow water coral reef communities are rich in diversity and provide habitat for many species. Shallow water coral reef systems have been well-studied partly due to their accessibility. Deepwater corals and associated habitats can only be studied with technologically advanced methods such as manned submersibles, remotely operated vehicles (ROV) and autonomous underwater vehicles (AUV). Only a small percentage of deepwater reefs have been described.

The South Atlantic region is home to what may be the largest contiguous distribution of deepwater coral reefs in the world. The South Atlantic Fishery Management Council has focused on deepwater coral conservation by designating over 23,000 square miles of deepwater habitat as Coral Habitat Areas of Particular Concern, thus extending protection from potentially damaging fishing activities.

Unlike reef-building tropical corals, deepwater corals are found beyond the reach of sunlight and are adapted to the dark environment. Their distribution in the South Atlantic begins at approximately 400 meters. Deepwater coral polyps do not contain the symbiotic algae that provide their tropical cousins with energy via photosynthesis. Instead, deepwater corals rely on catching passing food in the water column. As a result, deepwater corals grow very slowly, from less than one centimeter to up to two centimeters per year.

Deepwater coral colonies tend to be found in areas where there are strong water currents, such as the Florida Current and the Gulf Stream, which supply food and remove sediments that would otherwise smother the coral polyps. They are also typically found along rocky ledges or in narrow regions such as the Miami Terrace (see map on back).

The South Atlantic Council manages shallow and deepwater corals

through the Coral, Coral Reefs and Live/Hard Bottom Habitat Fishery Management Plan.

Designation of Deepwater Coral Habitat Areas of Particular Concern

Based on recommendations from its Coral Advisory Panel and Habitat Advisory Panel, the Council designated five deepwater coral areas as Coral Habitat Areas of Particular Concern, (CHAPC) to protect these habitats against potential impacts from bottom-tending fishing gear. The designation also creates the largest deepwater coral protected area off the Atlantic coast, encompassing over 23,000 square miles.

In addition, Comprehensive Ecosystem-Based Management Amendment 1 establishes “allowable gear areas” in the region to focus potentially damaging fishing activities away from known areas of deepwater coral systems. The Comprehensive Ecosystem-Based Amendment 1 was approved by the Council in September 2009 for submission to the Secretary of Commerce. The Council received

notice the amendment had been approved in early June 2010 and regulations are effective as of July 22, 2010.

Potential Threats

Potential threats to the deep ocean include damage from fishing gear and energy exploration/development, creating a time-sensitive need to map and characterize these habitats. Continued pressure for extraction of fossil fuels and liquefied natural gas and their associated pipelines and offshore facilities could directly impact local deepwater coral ecosystems. With respect to fishing, deepwater coral ecosystems worldwide have been seriously impacted by bottom trawls. The Council has worked closely with its Golden Crab Advisory Panel and Deepwater Shrimp Advisory Panel to establish options for fishing areas that will minimize impacts to both habitat and fisheries.

Revealing the Deep - Award Winning Film Available on DVD

The Council supported the production of a DVD that introduces the subject of deepwater coral habitats and reviews the

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research conducted to date.

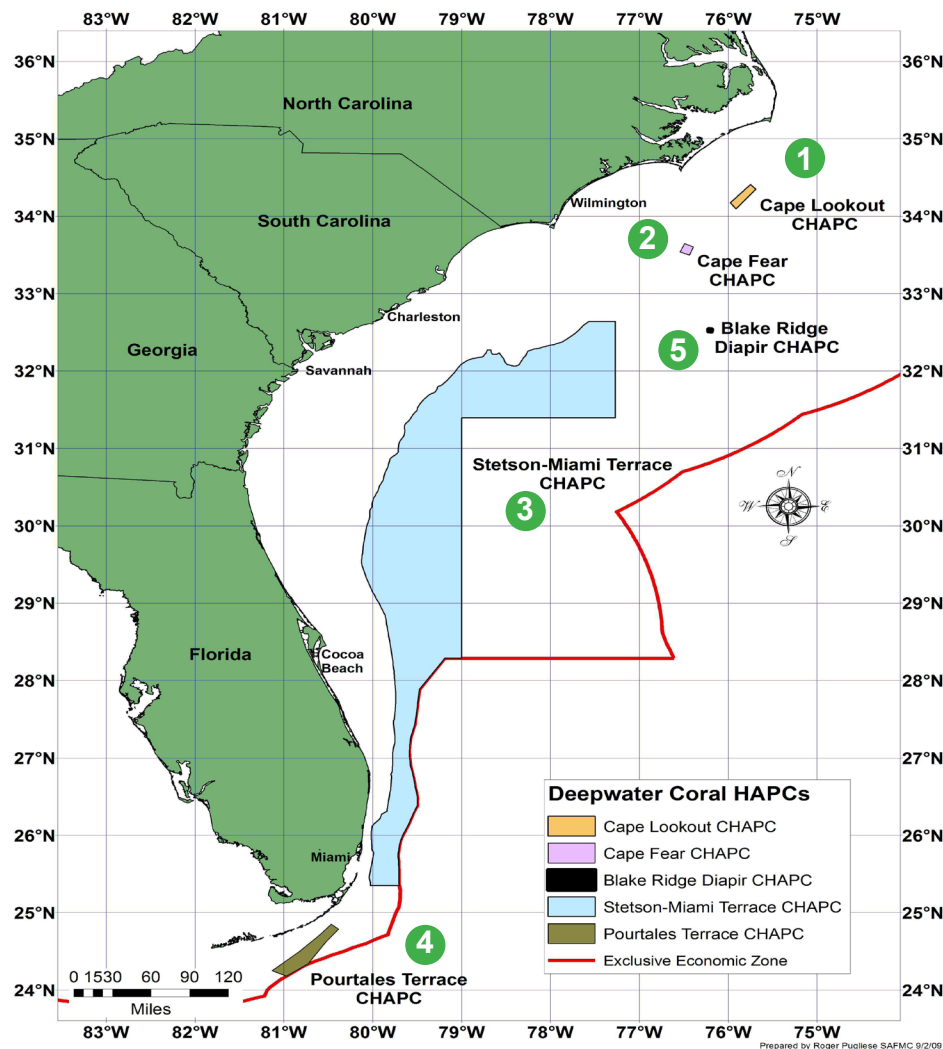
The film *Revealing the Deep* includes stunning imagery of deepwater coral areas off the South Atlantic coast never before released to the public. The main sources of data/video are from the Ross et al. 2004 research cruise and research efforts by John Reed and colleagues of the Harbor Branch Oceanographic Institution as well as interviews with other regional researchers, managers and conservation organization representatives. The DVD also highlights regional management efforts to ensure the continued existence of these unique ecosystems. Copies are available through the Council office.

Deepwater Coral Research and Monitoring Plan

To help guide conservation and management of deepwater coral ecosystems in the South Atlantic region, the Council approved a Deepwater Coral Research and Monitoring Plan in March 2007. The Research and Monitoring Plan also addresses mandates pertaining to deepwater corals outlined in the 2006 Reauthorized Magnuson-Stevens Act.

The Plan was crafted by a team of regional coral scientists, most of whom also serve on the Council's Coral

Advisory Panel. It comprises two phases, the first of which focuses on completing mapping and describing areas harboring deepwater corals in the region. Phase 2 includes objectives aimed at better understanding the ecological role of these unique systems and the biology of the structure-forming organisms themselves. Additional information about the Research and Monitoring Plan and deepwater corals is available on the Council's web site at www.safmc.net.



CORAL HABITAT AREAS OF PARTICULAR CONCERN

- 1 Cape Lookout Lophelia Banks
- 2 Cape Fear Lophelia Banks
- 3 Stetson Reefs, Savannah and East Florida Lithoherms and Miami Terrace
- 4 Pourtales Terrace
- 5 Blake Ridge Diapir (methane seep)

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