

Regulations for Deepwater Marine Protected Areas

in the South Atlantic



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in the South Atlantic

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Cover – snowy grouper, photo: Andrew David, NOAA/NMFS/SEFSC, Panama City; L. Horn, UNCW/NURG; Florida Fish and Wildlife Conservation Commission's patrol vessel C.T. Randall, photo: SAFMC









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This document includes an unofficial summa ry of federal regulations and coordinates.

Why Marine Protected Areas?

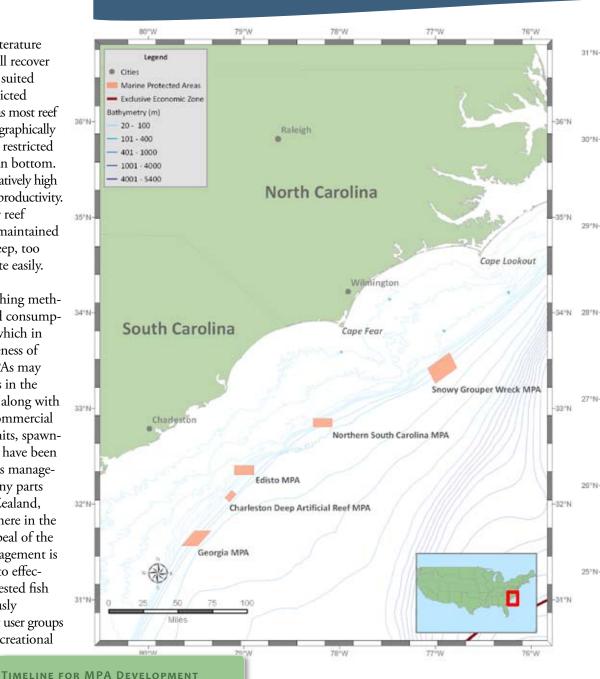
The concept of marine protected areas (MPAs) can be stated simply: If protected from human interference, nature will take care of itself.

A LARGE BODY of scientific literature attests that harvested stocks will recover if fishing stops. MPAs are best suited to protecting species with restricted geographical movements, such as most reef organisms. Reef habitats are geographically well-defined, long-lasting, and restricted to relatively small areas of ocean bottom. Their importance, however, is relatively high because of their high biological productivity. Until recently, most deepwater reef fisheries were probably partly maintained by natural refuges: areas too deep, too remote, or too difficult to locate easily.

However, with improved fishing methods and the increase in seafood consumption, more people are fishing which in turn can diminish the effectiveness of natural refuges. Therefore, MPAs may serve as one of the many "tools in the fishery management toolbox," along with strategies such as size limits, commercial trip limits, recreational bag limits, spawning season closures, etc. MPAs have been used as components of fisheries management with some success in many parts of the world, including New Zealand, Australia, the Caribbean, and here in the United States. The greatest appeal of the MPA concept to fisheries management is that MPAs have the potential to effectively restore certain over-harvested fish populations while simultaneously addressing the needs of different user groups (i.e., commercial fishermen, recreational fishermen, etc.).

SOUTH ATLANTIC
DEEPWATER MPA SITES
FROM NORTH TO SOUTH

Snowy Grouper Wreck MPA Northern South Carolina MPA

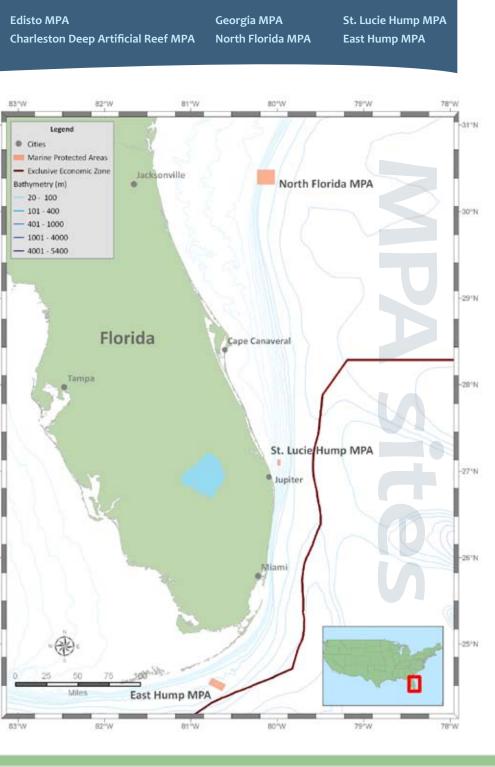


Council's Snapper Grouper Plan Development Team offers MPAs as "the only viable option for maintaining optimum size, age, and genetic structure of slowgrowing, long-lived species over the long-term." 1992

Public scoping meetings result in the creation of a Scientific Review Panel to review the concept of marine reserves as a management tool. 1994

Council creates the 92-square-mile Oculina Experimental Closed Area off the East Coast of Florida and prohibits fishing for snapper grouper species. **1995** Scientific Review Panel

concludes that properly designed marine reserves in combination with other management measures are an effective tool.



Marine Protected Areas in the South Atlantic

Through actions proposed by the South Atlantic Fishery Management Council, 8 deepwater MPAs have been established within federal waters (ranging from 3 to 200 miles offshore) between North Carolina and the East Coast of Florida. The MPAs are designed to protect a portion of the long-lived, deepwater snapper grouper species and their habitat from directed fishing pressure. These deepwater species include snowy grouper, misty grouper, speckled hind, yellowedge grouper, warsaw grouper, golden tilefish, and blueline tilefish. As a management tool, the MPAs are designed to protect the size, age, and genetic structure of populations of deepwater species that are susceptible to overfishing.

THE SOUTH ATLANTIC MPAs are classified as "Type II" MPAs —meaning the closure is permanent but some fishing is allowed. In this case, fishing for and/or possession of snapper grouper species is prohibited in the areas. But fishermen can still troll for pelagic species such as tuna, wahoo, and billfish. The Council also established a provision to allow vessels to transit the areas with snapper grouper species onboard as long as fishermen follow specific regulations for stowing fishing gear. The transit provision applies to all vessels: private recreational, charter, headboat, and commercial vessels. Additionally, the use of shark bottom longline gear is prohibited within the MPAs.

ESTABLISHING THESE MPAs took over a decade and involved a collaborative process among the Council, its advisors, and public stakeholders. The public provided substantial input into the process through scoping meetings, workshops, and public hearings. Many stakeholder groups also provided valuable input into the design and location of the MPAs and the Council considered several alternatives for each of the sites. In addition, the Council utilized its advisory panels, Scientific and Statistical Committee, Snapper Grouper Committee, and worked closely with NOAA Fisheries in developing Amendment 14 to the Snapper Grouper Fishery Management Plan to establish these MPAs.

1008

Council forms a Marine Reserves Advisory Panel and Committee

2000

Council begins deliberative process involving constituents to determine if MPAs should be used as a management tool in the South Atlantic region.

2000-2006

Series of advisory panel, committee meetings, and public hearings are held to receive input.

2007

Amendment 14 to the Snapper Grouper Fishery Management Plan is submitted to NOAA Fisheries on July 18 for formal review and approval by the Secretary of Commerce.

2009

Amendment 14 is approved by the Secretary of Commerce on January 13, 2009 and regulations implemented effective February 13, 2009





snowy grouper

Benefits of MPAs

The potential benefits of MPAs are many and include:

- ▶ Protection of critical habitats that fish and other species use during important life history stages (spawning, migration, juvenile settlement, etc.).
- ▶ Reduction in harvest by reducing fishing pressure for species that show a preference for a specific geographic location and/or habitat.
- ▶ Allowance of some types of fishing to continue in the MPAs to maintain fishing opportunities.
- ▶ Protection of spawning locations or a portion of a fish stock to provide a buffer against uncertainty of population estimates and stock assessments.

Currently, many marine fisheries throughout the world's oceans are overfished due to increases in the consumption of seafood; an increase in the number of recreational and commercial fishermen; enhanced vessel design, endurance, and configuration; and modern gear technologies, all of which have improved fishing success. These factors combined have largely contributed to overfishing and the collapse of some fisheries. Thus, the use of MPAs as a fishery management tool—used in concert with traditional measures—may effectively increase fish biomass and contribute to overall fisheries production.



Snowy groupe

Definitions of MPAs

On a federal level, according to a Presidential Executive Order, MPAs are defined as:

"Any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein."

The South Atlantic Fishery Management Council further defines MPAs within its jurisdiction as:

"A network of specific areas of marine environments reserved and managed for the primary purpose of aiding in the recovery of overfished stocks and to ensure the persistence of healthy fish stocks, fisheries, and associated habitats.

Such areas may include naturally occurring or artificial bottom, and water-column habitats, and may include prohibition of harvest on seasonal or permanent time periods to achieve desired fishery conservation and management goals."

SNAPPER GROUPER MANAGEMENT COMPLEX

Fishing for or possession of these species prohibited in MPAs



► There are 73 species managed under the Snapper Grouper Fishery Management Plan. Information on current regulations for these species is available at www.safmc.net or by contacting the Council office. Sea basses & Groupers (Serranidae)

black sea bass bank sea bass rock sea bass gag grouper red grouper scamp black grouper rock hind red hind graysby yellowfin grouper goliath grouper
Nassau grouper
snowy grouper
yellowedge grouper
warsaw grouper
speckled hind
misty grouper
coney
yellowmouth grouper
tiger grouper

Snappers (Lutjanidae)

queen snapper yellowtail snapper gray snapper mutton snapper lane snapper cubera snapper dog snapper schoolmaster mahogany snapper vermilion snapper red snapper silk snapper blackfin snapper black snapper

snappers



Why do MPAs Work to Protect Deepwater Species?

Many species utilize both open-ocean and bottom habitats during different life stages; larvae live in the water column and feed on plankton; most juveniles and adults live in deeper water near the bottom, close to hard structures on the continental shelf that have moderate to high relief. This behavior makes some deepwater species more easily targeted.

- ▶ Many deepwater snapper grouper species are long lived, including snowy grouper, golden tilefish, and speckled hind, making them vulnerable to overfishing. Snowy grouper may live up to 27 years.
- ▶ Deepwater species are slow-growing and some have complex life histories. For example snowy grouper reach sexual maturity at 4-5 years old; both

snowy grouper and speckled hind start out their lives as females and then change sex at a later age. Some species also form spawning aggregations, making them more susceptible to harvest.

- ▶ Deepwater species do not survive the trauma of capture from deep waters. Most species experience 100% mortality when brought to the surface.
- ► These complexities, combined with other factors such as high fishing pressure and bycatch mortality, can lead to overexploitation.

MPAs are the most effective fishery management tool to allow populations of deepwater snapper grouper species to reach their natural size and age, while protecting spawning locations and habitat.



Snowy grouper, scamp grouper, blackbar drum, and blue angelfish congregate on an Oculina coral reef within the Oculina Bank Experimental Closed Area (OHAPC, 263 ft.).

Porgies (Sparidae) red porgy sheepshead knobbed porgy jolthead porgy scup whitebone porgy saucereye porgy grass porgy longspine porgy

porgies

white grunt black margate margate tomtate sailor's choice porkfish bluestriped grunt french grunt cottonwick spanish grunt smallmouth grunt

Jacks (Carangidae) greater amberjack crevalle jack blue runner almaco jack

banded rudderfish bar jack lesser amberjack yellow jack

spadefish

Spadefishes (Eppiphidae)
Atlantic spadefish

Triggerfishes (Balistidae) gray triggerfish ocean triggerfish queen triggerfish

tilefish

Tilefishes (Malacanthidae) golden tilefish blueline tilefish sand tilefish

wreckfish

Wreckfish (Polyprionidae) wreckfish

wrasses

Wrasses (Labridae) hogfish puddingwife







REGULATIONS WITHIN THE MPAS

N X

Fishing for or possession of snapper grouper species from the area is **prohibited**.



The use of shark bottom longline gear is **prohibited**.



Vessels (both commercial and recreational) may transit (direct, non-stop progression) through the MPAs with snapper grouper species onboard with fishing gear appropriately stowed.*



Trolling for pelagic species such as tuna, dolphin, mackerel, and billfish is **allowed** within the MPAs.

* Fishing gear **appropriately stowed** means:

- **Terminal gear** (i.e. hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, buoy gear, hand-line, or rod and reel must be disconnected and stowed separately from such fishing gear. A rod and reel must be removed from the rod holder and stowed securely on or below deck.
- A **longline** may be left on the drum if all gangions and hooks are disconnected and stowed below deck. Hooks cannot be baited. All buoys must be disconnected from the gear; however, buoys may remain on deck.
- A trawl or try net may remain on deck, but trawl doors must be disconnected from such net and must be secured.
- A **gill net**, stab net, or trammel net must be left on the drum. Any additional such nets not attached to the drum must be stowed below deck.
- A **crustacean trap**, golden crab trap, or sea bass pot cannot be baited. All buoys must be disconnected from the gear; however buoys may remain on deck.

SPECIES PROFILE

Deepwater species targeted for protection through MPAs

snowy grouper misty grouper speckled hind yellowedge grouper warsaw grouper golden tilefish blueline tilefish **Snowy Grouper** (Epinephelus niveatus)

Snowy groupers live in the outer continental shelf of the South Atlantic Bight, which is characterized by ridges, terraces, and precipitous cliffs. The species is distributed from Massachusetts to Brazil, including the Gulf of Mexico, the Lesser Antilles and the northern coast of Cuba. Snowy grouper are protogynous hermaphrodites, meaning they start their lives as female and change to male later in life. Spawning occurs from May to June, with females producing more than 2 million eggs. Fish are capable of reproducing when they are 4 or 5 years old, about 18 to 20 inches long. They may reach a maximum age of 27 years and a weight of 70 pounds. Snowy groupers are territorial, like most groupers, and wait to ambush their prey.



SNOWY GROUPER WRECK MPA

SIZE

Approximately 15 x 10 nautical miles

LOCATION

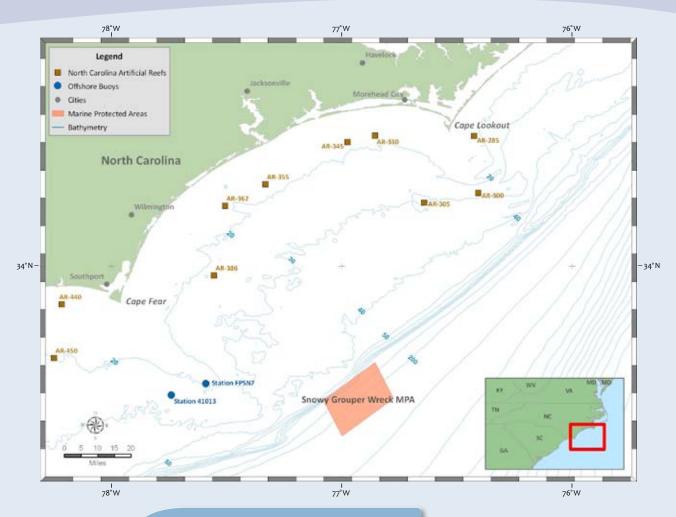
Approximately 55 nautical miles southeast of Southport, NC

COORDINATES

Northwest corner at 33°25′N, 77°4.75′W Northeast corner at 33°34.75′N, 76°51.3′W Southwest corner at 33°15.75′N, 77°W Southeast corner at 33°25.5′N, 76°46.5′W

DESCRIPTION

The area, located east of Cape Fear, NC, ranges in depth from 492 ft. to 984 ft. deep, with a shallower portion of the site ranging from 197 ft. to 328 ft. This MPA includes a wreck site known to have once held spawning aggregations of snowy grouper. Information from public hearings indicates that the snowy wreck is mostly fished by commercial snapper grouper fishermen out of Little River, SC, and the ports of Carolina Beach and Southport, NC. This area is also heavily fished by fishermen who troll for tuna, marlin, dolphin, and wahoo during certain times of the year. After discovery of the wreck in the 1990s, the area was quickly fished down. This MPA site may also contain smaller wrecks. Bottom fish known to frequent the area include snowy grouper, speckled hind, gag, red porgy, red grouper, graysby, and hogfish. The area contains substantial hard-bottom habitat and has the potential to protect a portion of deepwater snapper grouper species, as well as some mid-shelf species, from directed fishing pressure.



SPECIES PROFILE

Golden Tilefish (Lopholatilus chamaeleonticeps)

Tilefish inhabit the outer continental shelf and upper continental slope along the entire East Coast of the United States and the Gulf of Mexico south to Venezuela. They are found in waters from 250-1,500 ft. deep, where bottom temperatures range from 49° to 58° F. Individuals live in cone-shaped burrows, and concentrate in small groups or pods. Females are smaller than males, although whether or not the species displays hermaphrodism is unknown. Golden tilefish reach sexual maturity at about 27 inches long and about 9 pounds. Spawning occurs from March to September, and females lay from 2-8 million pelagic eggs. Tilefish feed during the day on bottom crustaceans, clams, snails, worms, anemones, and sea cucumbers. They can reach lengths of 38 inches, although growth is slow.



Northern South Carolina MPA

SIZE

Approximately 10 x 5 nautical miles

LOCATION

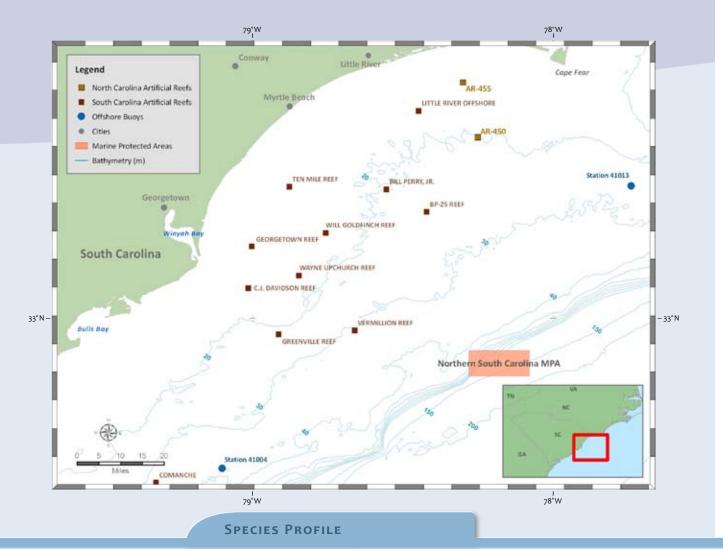
Approximately 54 nautical miles from Murrells Inlet, SC

COORDINATES

Northwest corner at 32°53.5′N, 78°16.75′W Northeast corner at 32°53.5′N, 78°4.75′W Southwest corner at 32°48.5′N, 78°16.75′W Southeast corner at 32°48.5′N, 78°4.75′W

DESCRIPTION

The area, located southeast of Murrells Inlet, SC, hosts areas of low relief in waters from 164 ft. to 591 ft. deep. Fishermen refer to the area as "smurfville" because it holds many small vermilion snapper. Information received during the public input process indicated that this area is fished mostly in the winter and that it holds deepwater species like snowy grouper, yellowedge grouper, and speckled hind, as well as red porgy, triggerfish, and gag. The MPA runs east to west and includes hard-bottom habitat consisting of eroded rock in shelf-edge water depths around 164 ft. The site has the potential of protecting several species of deepwater snappers and groupers, mid-shelf species, and associated habitat.



Speckled Hind (Epinephelus drummondhayi)

Speckled hind inhabit warm, moderately deep waters from North Carolina to Cuba, including Bermuda, the Bahamas and the Gulf of Mexico. Preferred habitats include high- and low-profile hardbottoms in depths of 150-300 ft., with temperatures of 60° to 85°F. Off the Carolinas, the speckled hind is usually found inshore of deepwater reef fish (tile-fish, snowy, warsaw, and yellowedge groupers). Like other reef fish in the South Atlantic Bight, smaller speckled hind occur inshore, whereas larger fish are found in deeper waters. The world record is a 64 lb. fish, caught off North Carolina. Speckled hind are protogynous hermaphrodites, with females reaching sexual maturity at 4 or 5 years of age (about 19-21 inches long). Spawning takes place offshore in July through September. Speckled hind generally engulf their prey whole, literally inhaling their food.



geepwater

EDISTO MPA

SIZE

45 nautical miles southeast of Charleston, SC, harbor

LOCATION

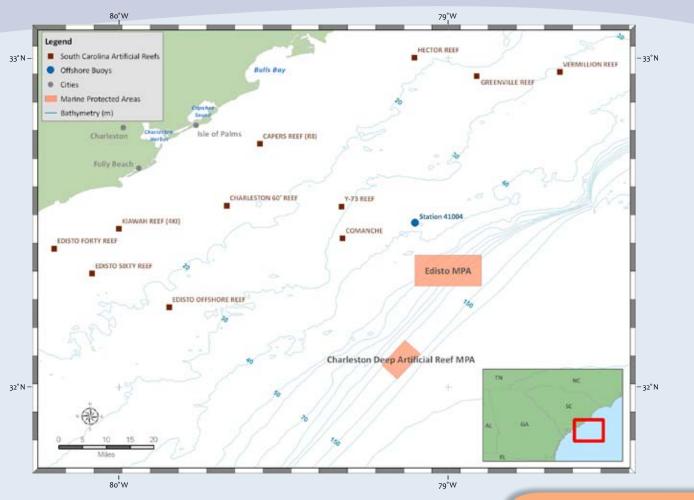
COORDINATES

Northwest corner at 32°24′N, 79°6′W Northeast corner at 32°24′N, 78°54′W Southwest corner at 32°18.5′N, 79°6′W Southeast corner at 32°18.5′N, 78°54′W

DESCRIPTION

10 x 5 nautical miles

Oriented perpendicular to and southeast of the Charleston, SC, coastline, the area is heavily fished by both commercial and recreational fishermen. Water depths range from 262 ft. to 459 ft., with shallower areas from 148 ft. to 262 ft. The area includes shelf-edge habitat, home to species such as vermilion snapper, red porgy, gag, scamp, and black sea bass. Other deepwater species include: juvenile snowy grouper, speckled hind, and blueline tilefish. The large number of species found in this area may be related to regional circulation patterns: the MPA lies in an area where the Gulf Stream deflects, or bounces off, the "Charleston Bump," a deepwater bank made up of a series of steep scarps with rocky cliffs, overhangs, and caves. This deflection creates a series of persistent clockwise swirls and upwelling currents referred to as the "Charleston Gyre," resulting in nutrient rich water beneficial to early life stages of fishes. Furthermore, the Charleston Gyre may serve to retain larvae offshore, as well as transport the larvae of some species such as gag and snowy grouper toward nursery areas in estuarine waters. Thus, the area may serve both as a source of larvae for surrounding regions and a sink to retain young fish that need to remain offshore to complete their development.



CA PAIDE VI



- Fishing for or possession of snapper grouper species from the area is **prohibited.**
 - Vessels (both commercial and recreational) may transit (direct, non-stop progression) through the MPAs with snapper grouper species onboard with fishing gear appropriately stowed. (see page 5)
- Trolling for pelagic species such as tuna, dolphin, mackerel, and billfish is **allowed** within the MPAs.
- The use of shark bottom longline gear is **prohibited**.

CHARLESTON DEEP ARTIFICIAL REEF MPA

SIZE

LOCATION

50 nautical miles southeast of Charleston Harbor, SC

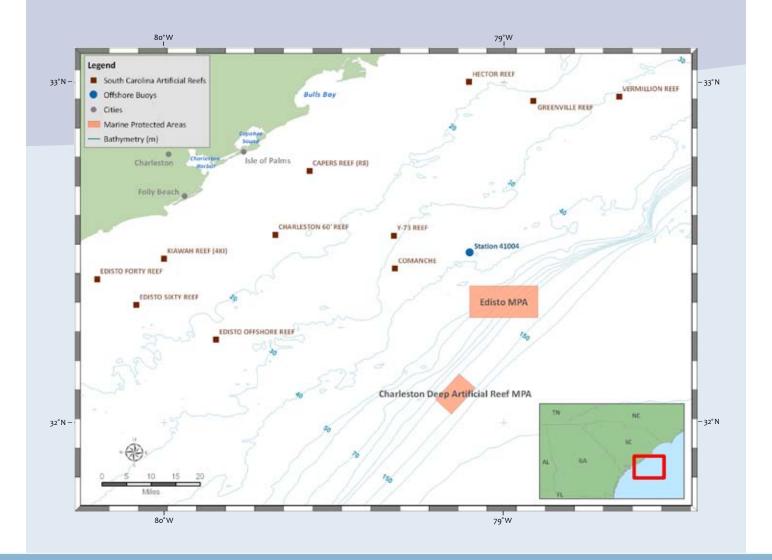
COORDINATES

Northwest corner at 32°8.5′N, 79°12′W Northeast corner at 32°8.5′N, 79°7.5′W Southwest corner at 32°1.5′N, 79°9.3′W Southeast corner at 32°6′N, 79°5′W

DESCRIPTION

3.5 x 6 nautical miles

This area is proposed as an experimental artificial reef site as a result of public comment and support for creating artificial reefs. The area ranges in depth from 328 ft. to 492 ft. There is no hard bottom in the area. Any biological benefits to deepwater species would accrue after artificial reef material (such as sunken ships, tanks, or highway materials) is added to improve habitat and attract fish. Study of this site in the long-term may provide important biological information about deepwater snapper grouper species and the effectiveness of deepwater artificial reefs.









GEORGIA MPA

SIZE

10 x 10 nautical miles

LOCATION

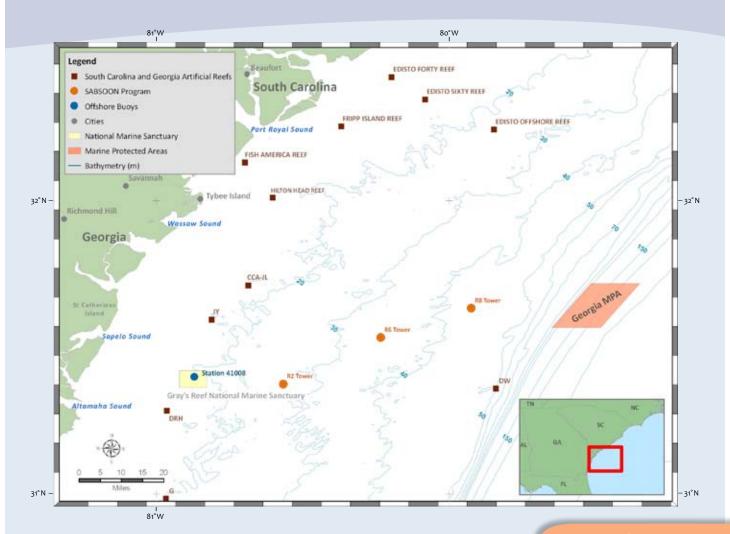
69 nautical miles southeast of the mouth of Wassaw Sound, GA

COORDINATES

Northwest corner at 31°43′ N, 79°31′ W Northeast corner at 31°43′ N, 79°21′ W Southwest corner at 31°34′ N, 79°39′ W Southeast corner at 31°34′ N, 79°29′ W

DESCRIPTION

The area consists of a mud-bottom habitat in waters 295 ft. to 984 ft. deep. Species such as snowy grouper and golden tilefish are often caught within the area, although most fishing is for pelagic species such as tuna and dolphin. This area is occasionally fished commercially for snapper grouper species but lies east of an area called the "Triple Ledge" that is an important area for commercial fishermen. Oriented parallel to the coast and shelf break, the area encompasses additional deepwater habitat.





- Fishing for or possession of snapper grouper species from the area is **prohibited**.
 - Vessels (both commercial and recreational) may transit (direct, non-stop progression) through the MPAs with snapper grouper species onboard with fishing gear appropriately stowed. (see page 5)
- Trolling for pelagic species such as tuna, dolphin, mackerel, and billfish is **allowed** within the MPAs.
- The use of shark bottom longline gear is **prohibited**.

North Florida MPA

SIZE

LOCATION

COORDINATES

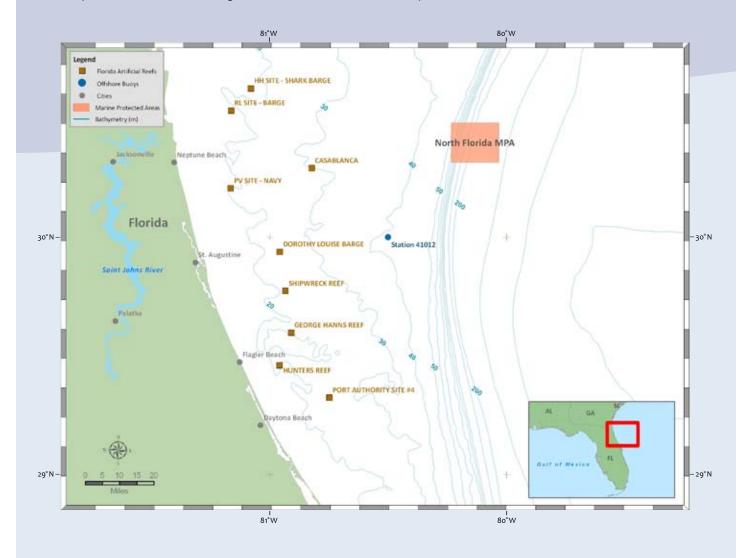
10 x 10 nautical miles

60 nautical miles off the mouth of the St. John's River near Jacksonville, FL

Northwest corner at 30°29′N, 80°14′W Northeast corner at 30°29′N, 80°2′ W Southwest corner at 30°19′N, 80°14′W Southeast corner at 30°19′N, 80°2′W

DESCRIPTION

The MPA consists of varying water depths ranging from 197 ft. to 656 ft., with a deeper area up to 1,247 ft. The bottom habitat comprises some mud bottom habitat and shelf-edge reef of slab pavement, blocked boulders, and buried blocked boulders. Snowy grouper and speckled hind have been caught in the area and the mud bottom may also be habitat for golden tilefish. Some mid-shelf species that are also likely to inhabit the area include vermilion snapper, hogfish, scamp, red porgy, and tomtate. The location of this MPA represents a compromise between fishermen and the Habitat Advisory Panel in order to balance biological benefits with social and economic impacts.









ST. LUCIE HUMP MPA

SIZE

LOCATION

4 x 2 nautical miles

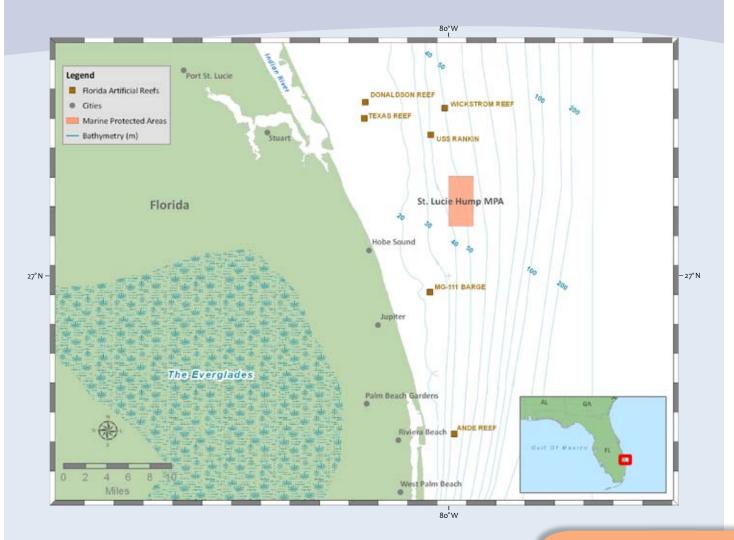
9 nautical miles southeast of St. Lucie Inlet, FL

COORDINATE

Northwest corner at 27°8′N, 80°W Northeast corner at 27°8′N, 79°58′W Southwest corner at 27°4′N, 80°W Southeast corner at 27°4′N, 79°58′W

DESCRIPTION

This area, located east of Jupiter, FL, is habitat-rich and harbors speckled hind, juvenile snowy grouper, warsaw grouper, and mid-shelf species such as sea bass, red porgy, and red snapper. Water depths range from 216 ft. to 234 ft. The area is heavily targeted by fishermen trolling for pelagic species and experiences a high level of vessel traffic. This MPA is located between fishing areas to the north and south that are more popular or just as popular; it is anticipated this will help reduce the potential socio-economic impacts to fishermen. The area has high potential for protecting deepwater snapper grouper species as well as some mid-shelf species.



A & B MARINA



- Fishing for or possession of snapper grouper species from the area is **prohibited**.
- Vessels (both commercial and recreational) may transit (direct, non-stop progression) through the MPAs with snapper grouper species onboard with fishing gear appropriately stowed. (see page 5)
- Trolling for pelagic species such as tuna, dolphin, mackerel, and billfish is **allowed** within the MPAs.
- The use of shark bottom longline gear is **prohibited**.

EAST HUMP MPA

SIZE

LOCATION

COORDINATES

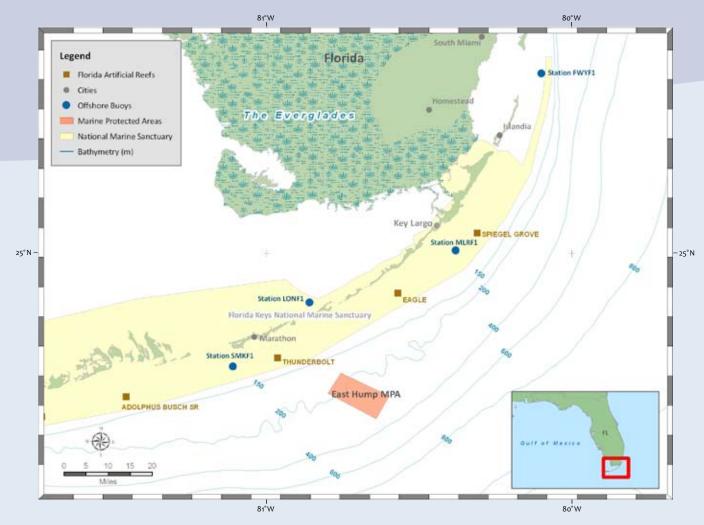
5 x 10 nautical miles

13 nautical miles southeast of Long Key, FL

Northwest corner at 24°36.5′ N, 80°45.5′ W Northeast corner at 24°32′ N, 80°36′ W Southwest corner at 24°32.5′ N, 80°48′ W Southeast corner at 24°27.5′ N, 80°38.5′ W

DESCRIPTION

Located near the popular fishing spot called the "Islamorada Hump," this site is located in waters ranging from 636 ft. to 971 ft. deep, with the tops of the "humps" at 509 ft. to 541 ft. The humps are pinnacle-like formations that consist primarily of hardened layers of sandy carbonate sediments and support a diverse array of marine plants and animals, including deepwater corals. The area contains abundant habitat for snapper grouper species, such as snowy grouper, golden tilefish, and warsaw grouper.



- Fishing for or possession of snapper grouper species from the area is **prohibited**.
- Vessels (both commercial and recreational) may transit (direct, non-stop progression) through the MPAs with snapper grouper species onboard with fishing gear appropriately stowed. (see page 5)
- Trolling for pelagic species such as tuna, dolphin, mackerel, and billfish is allowed within the MPAs.
- The use of shark bottom longline gear is **prohibited**.











fish school near Oculina coral

scamp grouper

AMERICA'S FIRST DEEPWATER PROTECTED AREA





OCULINA VARICOSA, Ivory tree coral

Oculina Bank Experimental Closed Area

This 92-nautical-square-mile area, extending northward from Ft. Pierce, Florida, has been closed to snapper grouper fishing since June 1994. The area is named for *Oculina varicosa*, a rare species of coral found throughout the closed area. Left undisturbed, the slow-growing coral forms large masses on limestone pinnacles, providing essential habitat for snappers, groupers, amberjack, and other fishes associated with coral reefs. Because of the concentrations of fishes associated with the scattered reefs, the area has been heavily fished since the 1960s. Bottom trawls, anchors, and other fishing gear have had a damaging effect on the fragile coral.

Beginning in 1982, the Council began a series of actions to protect the area, including designating it as a Habitat Area of Particular Concern (HAPC) and restricting the use of bottom-tending gear, such as trawls, dredges, and fish traps. In 1994, the area was designated as the Oculina Experimental Closed Area and bottom fishing for all snapper grouper species was banned. This designation was recently extended indefinitely to continue protection of snapper grouper populations and their habitat. For additional information, including specific area coordinates, visit www.safmc.net.

The South Atlantic Fishery Management Council (SAFMC), headquartered in Charleston, South Carolina, is one of eight regional fishery management councils in the United States. The South Atlantic Council is responsible for the conservation and management of fish stocks within the federal 200mile limit off the coasts of North Carolina, South Carolina, Georgia, and East Florida to Key West.

For additional information regarding the South Atlantic Council, MPAs, and fishing regulations for species managed by the Council, visit **www.safmc.net**, or contact the Council office Toll Free at 866/SAFMC-10, or write to SAFMC, 4055 Faber Place Drive, Suite 201 N. Charleston, SC, 29405.

FISHERIES MANAGED BY THE SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

Coastal Migratory Pelagics (mackerels) Coral Dolphin Wahoo Golden Crab Sargassum Shrimp Snapper Grouper

The S.C. Sea Grant Consortium is one of 32 Sea Grant programs administered by the NOAA National Sea Grant College Program. The Consortium is a university-based state agency charged with managing the Sea Grant Program and related activities to support, improve, and share research, education, training, and advisory services in fields related to ocean and coastal resources. The agency's mission is to generate and apply science-based information on issues and opportunities that enhance the practical use and conservation of coastal and marine resources to foster a sustainable economy and environment. Its mission is achieved by working with scientists at leading research institutions across the state, serving as a broker of funding, and providing essential information to coastal resources managers, policymakers, and the public.

S.C. SEA GRANT EXTENSION **PROGRAM**



www.scseagrant.org

www.safmc.net

Spiny Lobster

PHOTO CREDITS: pages 3 and 4, gorgonian coral, grouper with Oculina coral, John Reed, Harbor Branch Oceanographic Institution (HBOI); snowy grouper, golden tilefish, Andrew David, NOAA/ NMFS/SEFSC, Panama City; L. Horn, UNCW/NURC; blackbelly rosefish, Steve Ross, et.al, UNCW; school of anthiids, L. Horn, UNCW/NURC; page 14, deepwater grouper, Don DeMaria, Oculina coral, John Reed, HBOI. All other photos, Kim Iverson, South Atlantic Fishery Management Council. Maps by Tina Udouj, Florida Fish and Wildlife Research Institute. Illustrations by Duane Raver.



Report Fishing Violations

NOAA Fisheries Enforcement Hotline 1/800-853-1964 24-hours a day, 7 days a week Anywhere in the U.S.A.

N.C. Division of Marine Fisheries www.ncfisheries.net Information: 252/726-7021 Report state fishing violations: 1-800/682-2632 (NC only)

S.C. DNR – Marine Resources Division www.dnr.state.sc.us/marine Information: 843/953-9300 Report violations: 1-800/922-5431

GA DNR – Coastal Resources Division www.dnr.state.ga.us Information: 912/264-7218 Report violations: 1-800/241-4113

Florida Fish and Wildlife
Conservation Commission
www.myfwc.com
Information: 850/487-0554
Wildlife Alert Reward Program
1-888/404-FWCC (3922)
Cell Phone: *FWC or #FWC





