Users Guide to
Essential Fish Habitat Designations by the
South Atlantic Fishery Management Council

Final November 2016
Revised March 2024

Purpose and Scope of this Guide

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires federal fishery management councils and NOAA's National Marine Fisheries Service (NMFS) to designate Essential Fish Habitat (EFH) for species managed under federal fishery management plans (FMPs). Federal regulations that implement the EFH program encourage fishery management councils and NMFS also to designate subsets of EFH as a way to highlight priority areas within EFH for conservation and management. These subsets of EFH are called EFH-Habitat Areas of Particular Concern (EFH-HAPCs or HAPCs) and are designated based on ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of the habitat type.

In 1998 through a single administrative action referred to as a "comprehensive amendment," the South Atlantic Fishery Management Council (SAFMC) amended nine FMPs under its jurisdiction or co-jurisdiction[1] to designate EFH (SAFMC 1998b). When SAFMC completed the FMP for dolphin and wahoo, EFH designations for those species were included in that FMP. In 2012, SAFMC used Comprehensive Ecosystem-Based Amendment 2 (CEBA-2) to designate new EFH-HAPCs for tilefish (managed under the FMP for the snapper/grouper complex), deepwater coral (managed under the FMP for coral, coral reef and live/hardbottom), and new EFH for the pelagic Sargassum (managed under the FMP for Sargassum). The supporting information for the initial EFH and HAPC designations is presented in a report commonly referred to by its abbreviated title *Habitat Plan for the South Atlantic Region* (SAFMC 1998a). Supporting information for designations made after 1998 appear in the respective FMP or in CEBA-2. More recently, *Fishery Ecosystem Plan of the South Atlantic Region* (SAFMC 2009) reviews and updates much of the supporting information[2].

During development of the *Fishery Ecosystem Plan of the South Atlantic Region*, SAFMC's advisory panels and partners identified portions of EFH designations that were not clear and led

[1] Red drum was managed by SAFMC at the time of these EFH designations. However, in 2008, management of Atlantic red drum was transferred from the Magnuson-Stevens Act to the Atlantic Coast Act, and with that transfer the EFH designations for red drum were no longer applicable; although NMFS may still use the Fish and Wildlife Coordination Act to comment on the affects of a project to Atlantic red drum.

[2] Specifically, Volume II of *Fishery Ecosystem Plan of the South Atlantic Region* (SAFMC 2009). This plan is available at *www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx*.

to divergent EFH assessments. With one exception[3], while these differences did not significantly affect how SAFMC and the NMFS Southeast Regional Office, Habitat Conservation Division (SER HCD), evaluated impacts to EFH or developed EFH conservation recommendations, clarification would aid development of EFH assessments. For example, a more complete listing of state designated nursery habitats, which are an HAPC under three FMPs, would bring a sharper focus to EFH assessments.

This users guide provides the clarifications requested. As noted above, the information supporting the EFH designations appears in *Fishery Ecosystem Plan of the South Atlantic Region* (SAFMC 2009) and in individual FMPs. General information on the EFH provisions of the Magnuson-Stevens Act and its implementing regulations (50 CFR 900 Subparts J and K) can be found at *sero.nmfs.noaa.gov/hcd/efh.htm* ; these sources should be reviewed for information on the components of EFH assessments, steps to EFH consultations, and other aspects of EFH program operation.

Coral-HAPCs: Please note that this users guide focuses on HAPCs designated under the EFH provisions of the Magnuson-Stevens Act. Under the FMP for Coral, Coral Reefs and Live/Hard Bottom Habitat, SAFMC can use its regulatory authority to designate coral-HAPCs to eliminate or reduce the impact of fishing on those habitats. By itself, the coral-HAPC designation carries no regulatory authority regarding impacts from non-fishing activities. In 1998, only one coral-HAPC existed, Oculina Bank, which SAFMC designated in 1984 and expanded in 2000 to include the Oculina Experimental Closed Area. The comprehensive amendment (SAFMC 1998b) designated each of these areas as EFH-HAPCs, which afforded them the protections from both designations. Similarly, in 2010, SAFMC designated five new coral-HAPCs (Cape Lookout Banks, Cape Fear Banks, Blake Ridge Diapir, Miami-Stetson Terrace, and Pourtales Terrace), and SAFMC added the EFH-HAPC designation to each of these areas in 2012 via CEBA-2. The only reason coral-HAPCs are discussed here is because some publically available documents discuss non-fishing activities in coral-HAPCs, and these documents suggest coral-HAPCs are managed differently from EFH-HAPCs with respect to non-fishing activities that may impact the habitat. While that difference existed before CEBA-2 went into effect, that difference no longer exists.

[3] The exception is the HAPC designation for golden and blueline tilefish. These species managed within the fishery management plan for the snapper-grouper complex have a life history that differs markedly from other species within this complex.

Fishery Management Plan for the Shrimp Fishery of the South Atlantic Region (1993)

EFH Designation Boundary
SAFMC's EFH designation for shrimp applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Penaeid Shrimp (SAFMC 1998b)
For penaeid shrimp, Essential Fish Habitat (EFH) includes inshore estuarine nursery areas, offshore marine habitats used for spawning and growth to maturity, and all interconnecting water bodies as described in the Habitat Plan. Inshore nursery areas include tidal freshwater (palustrine), estuarine, and marine emergent wetlands (e.g., intertidal marshes); tidal palustrine forested areas; mangroves[4], tidal freshwater, estuarine, and marine submerged aquatic vegetation (e.g., seagrass); and subtidal and intertidal non-vegetated flats. This applies from North Carolina through the Florida Keys.

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for penaeid shrimp include all coastal inlets, all state-designated nursery habitats of particular importance to shrimp (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas), and state-identified overwintering areas.

Clarifications to Designations for Penaeid Shrimp
1. The public and resource agencies have requested a complete list of the state-designated areas that may function as nursery habitats of species managed by the SAFMC. Appendix 1 contains a complete list of State protected areas with marine and or estuarine waters that function as nursery habitat and/or that are designated as EFH or EFH-HAPC for Council-managed species. No state-identified overwintering grounds have been indentified for penaeid shrimp.

2. Coastal inlets include the throat of the inlet as well as shoal complexes associated with the inlets (Figure 2). Shoals formed by waters moving landward through the inlet are referred to as flood tidal shoals, and shoals formed by waters moving waterward through the inlet are referred to as ebb tidal shoals.

EFH Designations in the Comprehensive Amendment for Rock Shrimp (SAFMC 1998b)
For rock shrimp, Essential Fish Habitat (EFH) consists of offshore terrigenous and biogenic sand bottom habitats from 18 to 182 meters in depth with highest concentrations occurring between 34 and 55 meters. This applies for all areas from North Carolina through the Florida Keys. EFH includes the shelf current systems near Cape Canaveral, Florida which provide major transport mechanisms affecting planktonic larval rock shrimp. These currents keep larvae on the Florida

[4] Mangroves are defined by this document as a tree or shrub that grows in chiefly tropical coastal swamps that are flooded at high tide. This definition includes coastal areas dominated by buttonwoods as they are habitat with similar ecosystem services.

Shelf and may transport them inshore in spring. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse rock shrimp larvae.

Clarifications to Designations for Rock Shrimp
No clarifications of these designations have been requested during EFH consultations.

EFH Designations in the Comprehensive Amendment for Royal Red Shrimp (SAFMC 1998b)
Essential Fish Habitat (EFH) for royal red shrimp include the upper regions of the continental slope from 180 meters (590 feet) to about 730 meters (2,395 feet), with concentrations found at depths of between 250 meters (820 feet) and 475 meters (1,558 feet) over blue/black mud, sand, muddy sand, or white calcareous mud. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse royal red shrimp larvae.

Clarifications to Designations for Royal Red Shrimp
No clarifications of these designations have been requested during EFH consultations.

Fishery Management Plan, Regulatory Impact Review, and Final Environmental Impact Statement for the Snapper Grouper Fishery of the South Atlantic Region (1983)

EFH Designation Boundary
SAFMC's EFH designation for snapper grouper species applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Snapper Grouper (SAFMC 1998b)
Essential Fish Habitat (EFH) for snapper-grouper species includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 600 feet (but to at least 2000 feet for wreckfish) where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for larval survival and growth up to and including settlement. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine dependent and nearshore snapper-grouper species, EFH includes areas inshore of the 100-foot contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom.

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for species in the snapper-grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; nearshore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper grouper (e.g., Primary and Secondary Nursery Areas designated in North Carolina); pelagic and benthic *Sargassum*; Hoyt Hills for wreckfish; the Oculina Bank Habitat Area of Particular Concern; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; and Council-designated Artificial Reef Special Management Zones (SMZs).

EFH Designations in CEBA-2 for Snapper Grouper (SAFMC 2011)
EFH-HAPCs for golden tilefish includes irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300 meters are HAPC. Golden tilefish are generally found in 80-540 meters, but most commonly found in 200-meter depths.

EFH-HAPC for blueline tilefish includes irregular bottom habitats along the shelf edge in 45-65 meters depth; shelf break; or upper slope along the 100-fathom contour (150-225 meters); hardbottom habitats characterized as rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, or rocky reefs in the South Atlantic Bight; and the Georgetown Hole (Charleston Lumps) off Georgetown, SC.

EFH-HAPCs for the snapper grouper complex include the following deepwater marine protected areas (MPAs) as designated in Snapper Grouper Amendment 14:

- Snowy Grouper Wreck MPA
- Northern South Carolina MPA
- Edisto MPA
- Charleston Deep Artificial Reef MPA
- Georgia MPA
- North Florida MPA
- St. Lucie Hump MPA
- East Hump MPA

Clarifications to the Designations for Snapper Grouper

1. The public and resource agencies have requested a complete list of the localities of known or likely periodic spawning aggregations. SAFMC intends to provide this list on its website as soon as practicable.

2. Coastal inlets include the throat of the inlet as well as shoal complexes associated with the inlets (Figure 2). Shoals formed by waters moving landward through the inlet are referred to as flood tidal shoals, and shoals formed by waters moving waterward through the inlet are referred to as ebb tidal shoals.

3. Designated SMZ is EFH-HAPC: The Council has determined that a designated SMZ meets the criteria for an EFH-HAPC designation, and the Council intends that all SMZs designated under the Snapper Grouper FMP also be designated as EFH-HAPCs under the Snapper Grouper FMP.

The Council established the special management zone (SMZ) designation process in 1983 in the Snapper Grouper FMP, and SMZs have been designated in federal waters off North Carolina, South Carolina, Georgia, and Florida since that time. The purpose of the original SMZ designation process, and the subsequent specification of SMZs, was to protect snapper grouper populations at the relatively small, permitted artificial reef sites and "create fishing opportunities that would not otherwise exist." Thus, the SMZ designation process was centered around protecting the relatively small habitats, which are known to attract desirable snapper grouper species.

Similarly, in the Comprehensive Ecosystem-Based Amendment 1 (CE-BA1, 2010), the Council has designated essential fish habitat (EFH) areas and EFH habitat areas of particular concern (HAPC) under the Snapper Grouper FMP. Under the Magnuson-Stevens Act, FMPs are required to describe and identify EFH and to minimize the adverse effects of fishing on such habitat to the extent practicable. An EFH-HAPC designation adds an additional layer to the EFH designation.

Under the Snapper Grouper FMP, EFH-HAPCs are designated based upon ecological importance, susceptibility to human-induced environmental degradation, susceptibility to stress from development, or rarity of habitat type. The Council determined in CE-BA 1 that the Council-designated SMZs met the criteria to be EFH-HAPCs for species included in the Snapper Grouper FMP. Since CE-BA 1, the Council has designated additional SMZs in the Snapper Grouper FMP. The SMZ and EFH-HAPC designations serve similar purposes in pursuit of identifying and protecting valuable and unique habitat for the benefit of fish populations, which are important to both fish and fishers.

4. The public and resource agencies have requested a complete list of the State protected areas with marine and or estuarine waters that function as nursery habitat and/or that are designated as EFH or EFH-HAPC for Council-managed species. Appendix 1 contains a complete list of protected areas which may function as nursery habitats of species managed by the SAFMC.

Fishery Management Plan (Including Regulatory Impact Review, Environmental Assessment, and Social Impact Statement) for the Golden Crab Fishery of the South Atlantic Region (1995)

EFH Designation Boundary
SAFMC's EFH designation for golden crab applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Golden Crab (SAFMC 1998b)
Essential fish habitat (EFH) for golden crab includes the U.S. Continental Shelf from Chesapeake Bay south through the Florida Straits (and into the Gulf of Mexico). In addition, the Gulf Stream is an EFH because it provides a mechanism to disperse golden crab larvae. The detailed description of seven EFH types (a flat foraminferan ooze habitat; distinct mounds, primarily of dead coral; ripple habitat; dunes; black pebble habitat; low outcrop; and soft-bioturbated habitat) for golden crab is provided in Wenner et al. (1987).

There is insufficient knowledge of the biology of golden crabs to identify spawning and nursery areas and to identify EFH-Habitat Areas of Particular Concern (EFH-HAPCs) at this time. As information becomes available, the Council will evaluate such data and identify EFH-HAPCs as appropriate through the framework.

Clarifications to the Designations for Golden Crab
1. The Council views the first sentence as a general, introductory statement to the later specific areas designated as EFH. In addition to the Gulf Stream, seven habitat types provided in Wenner et al. (1987)[5] are EFH for golden crab; those seven habitat-by-depth combinations are:

- Flat foraminiferan ooze habitat (405 to 567 meters). This habitat type is characterized by pteropod-foraminiferan debris mixed with larger shell fragments, a sediment surface mostly covered with a black phosphorite precipitate.
- Distinct mounds, primarily of dead coral at depths of 503 to 555 meters. Coral mounds rose approximately 15 to 23 meters in height above the surrounding sea floor and included several that were thinly veneered with a fine sediment and dead coral fragments, as well as a number that were thickly encrusted with live branching ahermatypic corals, sponges, pennatulids, and crinoids.
- Ripple habitat (320 to 539 meters)
- Dunes (389 to 472 meters)
- Black pebble habitat (446 to 564 meters)
- Low outcrop (466 to 512 meters)
- Soft-bioturbated habitat (293 to475 meters)

[5] Wenner, EL, Ulrich, GF, and Wise, JB. 1987. Exploration for golden crab, *Geryon fenneri*, in the South Atlantic Bight: Distribution, population structure, and gear assessment. Fishery Bulletin. 85: 547-560

Fishery Management Plan, Environmental Impact Statement and Regulatory Impact Review for Spiny Lobster in the Gulf of Mexico and South Atlantic (1982)

EFH Designation Boundary
This FMP plan is administered by SAFMC and the Gulf of Mexico Management Council. SAFMC's EFH designation for spiny lobster applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border (although see below) to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Spiny Lobster (SAFMC 1998b)
Essential Fish Habitat (EFH) for spiny lobster includes nearshore shelf/oceanic waters; shallow subtidal bottom; seagrass habitat; unconsolidated bottom (soft sediments); coral and live/hard bottom habitat; sponges; algal communities (*Laurencia*); and mangrove habitat (prop roots). In addition the Gulf Stream is an EFH because it provides a mechanism to disperse spiny lobster larvae.

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for spiny lobster include Florida Bay, Biscayne Bay, Card Sound, and coral/hard bottom habitat from Jupiter Inlet, Florida through the Dry Tortugas, Florida.

Clarifications to the Designations for Spiny Lobster
1. In practice, the northern limit for inshore benthic habitats designated EFH for spiny lobster is Sebastian Inlet, the northern extent of the offshore benthic habitats designated as EFH for spiny lobster is the area offshore of the St. Johns River.

Fishery Management Plan, Environmental Impact Statement, Regulatory Impact Review, Final Regulations for the Coastal Migratory Pelagic Resources (1983)[6]

EFH Designation Boundary
SAFMC's EFH designation for coastal migratory pelagic species applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border (although see below) to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Coastal Migratory Pelagic Species (SAFMC 1998b)
Essential Fish Habitat (EFH) for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas).

In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse coastal migratory pelagic larvae. For king and Spanish mackerel EFH occurs in the South Atlantic and Mid-Atlantic Bights.

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) include sandy shoals of Capes Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel based on abundance data from the ELMR Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River, North Carolina; Bogue Sound, North Carolina (Adults May-September salinity >30 ppt); and New River, North Carolina (Adults May-October salinity >30 ppt).

Clarifications to the Designations for Coastal Migratory Pelagic Species
1. Coastal inlets include the throat of the inlet as well as shoal complexes associated with the inlets (Figure 2). Shoals formed by waters moving landward through the inlet are referred to as flood tidal shoals, and shoals formed by waters moving waterward through the inlet are referred to as ebb tidal shoals.

2. The public and resource agencies have requested a complete list of the State protected areas with marine and or estuarine waters that function as nursery habitat and/or that are designated as

[6] Amendment 31 to this FMP, effective March 21, 2019, transferred management of Atlantic Migratory Group Cobia (Georgia - New York) to the Atlantic States Marine Fisheries Commission. Accordingly, references germane to cobia EFH and EFH-HAPCs have been removed from the FMP sections described below.

EFH or EFH-HAPC for Council-managed species. Appendix 1 contains a complete list of state protected areas which may function as nursery habitats of species managed by the SAFMC.

The Fishery Management Plan for Coral, Coral Reefs, and Live/Hard Bottom Habitats of the South Atlantic Region (1995)

EFH Designation Boundary
This FMP plan is administered by SAFMC. An earlier version of the FMP was jointly administered by SAFMC and the Gulf of Mexico Management Council. SAFMC's EFH designation for coral and coral reefs applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border (although see below) to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment for Coral, Coral Reefs, and Live/Hard Bottom Habitats (SAFMC 1998b)
A. Essential Fish Habitat (EFH) for hermatypic stony corals includes rough, hard, exposed, stable substrate from Palm Beach County south through the Florida reef tract in subtidal to 30 m depth, subtropical (15°-35° C), oligotrophic waters with high (30-35o/oo) salinity and turbidity levels sufficiently low enough to provide algal symbionts adequate sunlight penetration for photosynthesis. Ahermatypic stony corals are not light restricted and their essential fish habitat includes defined hard substrate in subtidal to outer shelf depths throughout the management area.

B. EFH for *Antipatharia* (black corals) includes rough, hard, exposed, stable substrate, offshore in high (30-35o/oo) salinity waters in depths exceeding 18 meters (54 feet), not restricted by light penetration on the outer shelf throughout the management area.

C. EFH for octocorals excepting the order Pennatulacea (sea pens and sea pansies) includes rough, hard, exposed, stable substrate in subtidal to outer shelf depths within a wide range of salinity and light penetration throughout the management area.

D. EFH for Pennatulacea (sea pens and sea pansies) includes muddy, silty bottoms in subtidal to outer shelf depths within a wide range of salinity and light penetration.

Areas which meet the criteria for EFH-Habitat Areas of Particular Concern (EFH-HAPCs) for coral, coral reefs, and live/hard bottom include The 10-Fathom Ledge, Big Rock, and The Point (North Carolina); Hurl Rocks and The Charleston Bump (South Carolina); Gray's Reef National Marine Sanctuary (Georgia); The *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; Oculina Banks off the east coast of Florida from Ft. Pierce to Cape Canaveral; nearshore (0-4 meters; 0-12 feet) hard bottom off the east coast of Florida from Cape Canaveral to Broward County); offshore (5-30 meter; 15-90 feet) hard bottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary.

EFH Designations in CEBA-2 for Coral, Coral Reefs, and Live/Hard Bottom Habitats (SAFMC 2011)

The following Deepwater Coral HAPCs designated in Comprehensive Ecosystem-Based Amendment 1 are designated as EFH-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, and Pourtalés Terrace Coral HAPC.

Clarifications to the designations for Coral, Coral Reefs, and Live/Hard Bottom Habitats

1. Several fishery management plans refer in different ways to coral, coral reef, or hardbottom in their EFH designations. The public and resource agencies have requested a more uniform application of these terms in the designations. SAFMC's Coral Advisory Panel and Habitat and Environmental Protection Advisory Panel are developing terminology that will bring consistency to the wording of the EFH designations.

Fishery Management Plan for Pelagic *Sargassum* Habitat of the South Atlantic Region (2002)

EFH Designation Boundary
SAFMC's EFH designation for *Sargassum* applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in CEBA-2 for Coral, Coral Reefs, and Live/Hard Bottom Habitats (SAFMC 2011)
Essential Fish Habitat (EFH) for *Sargassum* is the top ten meters of the water column in the South Atlantic EEZ bounded by the Gulfstream.

Clarifications to the designation for Sargassum
No clarifications of this designation have been requested during EFH consultations.

Fishery Management Plan for the Dolphin and Wahoo Fishery of the Atlantic (2003)

EFH Designation Boundary
This fishery management plan is administered by SAFMC in cooperation with the New England Fishery Management Council and Mid-Atlantic Fishery Management Council. SAFMC's EFH designation for dolphin and wahoo applies to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border (although see below) to the Dry Tortugas in the Florida Keys (Figure 1). Within this area, the specific habitats and locations that are EFH are listed below.

EFH Designations in the Comprehensive Amendment (1998b) and the Fishery Management Plan for Dolphin and Wahoo (2003)

EFH for dolphin and wahoo is the Gulf Stream, Charleston Gyre, Florida Current, and pelagic *Sargassum.*

EFH-HAPCs for dolphin and wahoo in the Atlantic include The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and The Georgetown Hole (South Carolina); The Point off Jupiter Inlet (Florida); The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; and Pelagic *Sargassum.*

Clarifications to the designation for Dolphin and Wahoo
No clarifications of this designation have been requested during EFH consultations.

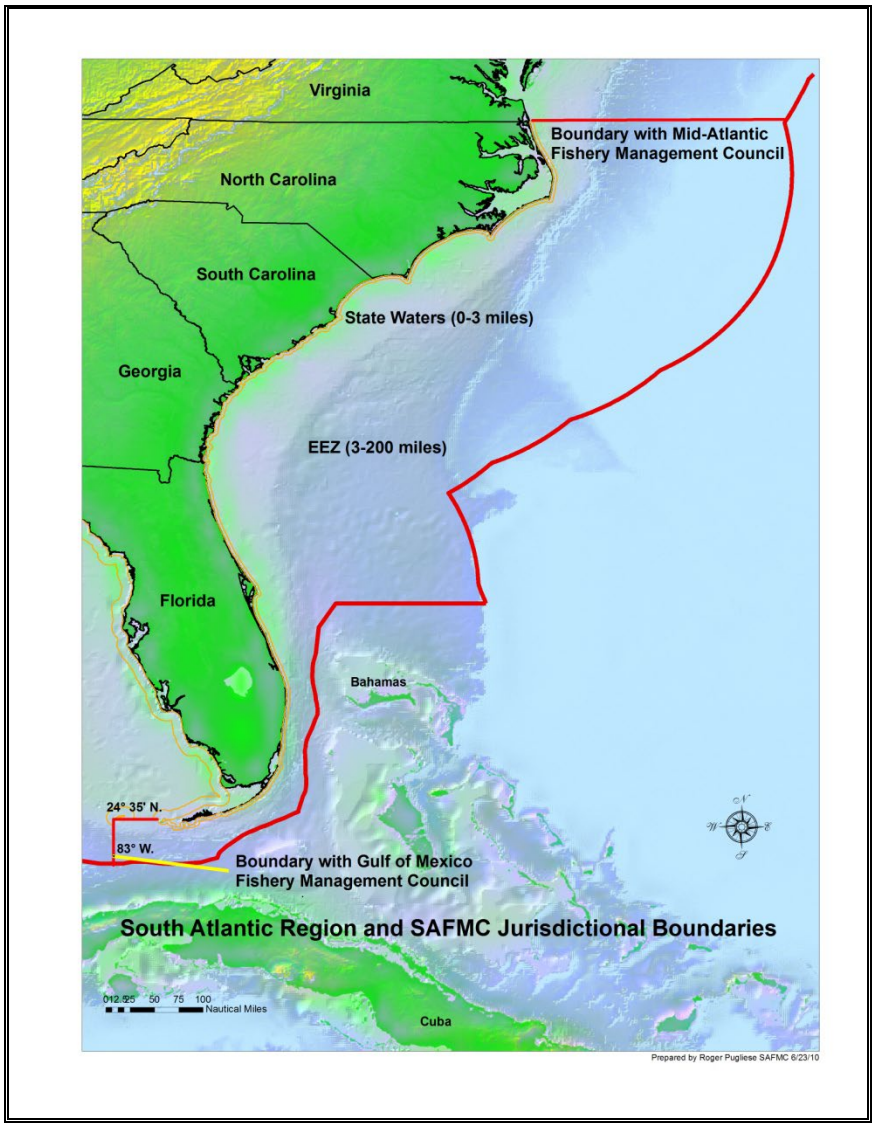

Figure 1. Unless otherwise specified in an EFH designation, SAFMC's EFH designations apply to all waters from the EEZ to the landward most influence of the tide, from the Virginia/North Carolina border to the Dry Tortugas in the Florida Keys.

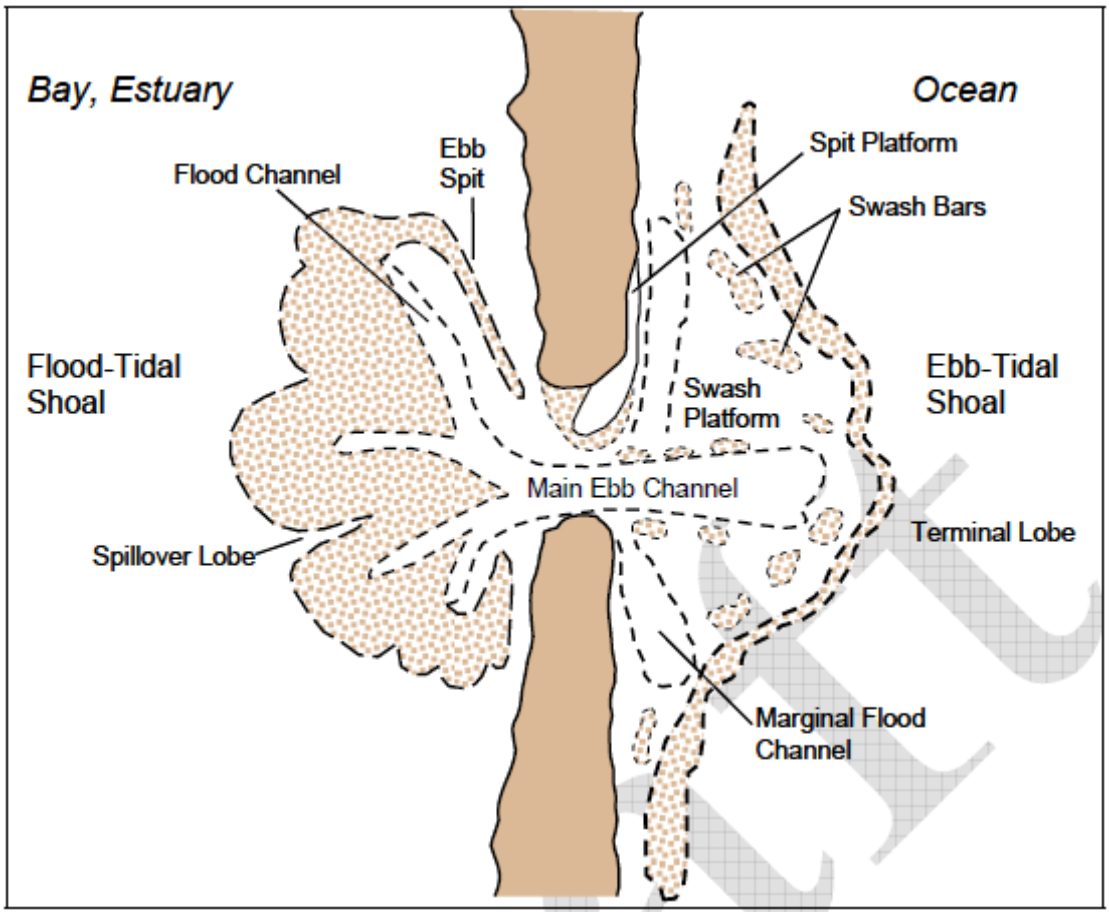

Figure 2. Components of a tidal inlet. (Source U.S. Army Corps of Engineers)

Appendix 1. State-Designated Areas.

The table below references the state regulations that present state-designated areas that warrant special protection under state law. These areas are "state-designated areas" which may function as nursery habitats of species managed by the SAFMC and under the EFH or EFH-HAPC designations for penaeid shrimp, snapper grouper species, and coastal migratory pelagic species.

Designation	Regulation	Comments
North Carolina		
Inland Primary Nursery Areas	15A NCAC 10C .0503	
Primary Nursery Areas	15A NCAC 03R .0103	
Permanent Secondary Nursery Areas	15A NCAC 03R .0104	
Secondary Nursery Areas	15A NCAC 03R .0105	
Strategic Habitat Areas and Critical Habitat Areas	15A NCAC 03H .0104 (4)(h)	None as of November 30, 2010
Crab Spawning Sanctuaries	15A NCAC 03R .0110	
Oyster Sanctuaries	15A NCAC 03R .0117	
Outstanding Resource Waters	15A NCAC 02B .0225	
South Carolina		
Outstanding Resource Waters	DHEC R. 61-69	Only coastal counties included as state designated nursery grounds
Outstanding National Resource Waters	DHEC R. 61-68	None coastal as of November 30, 2010
Georgia		
Outstanding National Resource Waters	391-3-6-.03	None as of November 30, 2010
Florida		
Aquatic Preserves and Outstanding Florida Waters	258.35, Florida Statutes (F.S.) and 62-302.700, Florida Administrative Code (F.A.C)	Only Preserves and Waters located on the Atlantic coast of Florida included

Appendix 1 (continued). State-Designated Areas —North Carolina.

In North Carolina, NC Marine Fisheries Rule 15A NCAC 03I .0101(4) defines "Fish Habitat Areas" as "The estuarine and marine areas that support juvenile and adult populations of fish species, as well as forage species utilized in the food chain. Fish habitats, as used in this definition, are vital for portions of the entire life cycle, including the early growth and development of fish species." Nursery areas are further defined in 15A NCAC 03I .0101(4)(f) as "areas that for reasons such as food, cover, bottom type, salinity, temperature, and other factors, young finfish and crustaceans spend the major portion of their initial growing season. Primary nursery areas are those areas in the estuarine system where initial post-larval development takes place. These are areas where populations are uniformly early juveniles. Secondary nursery areas are those areas in the estuarine system where later juvenile development takes place. Populations are composed of developing sub-adults of similar size that have migrated from an upstream primary nursery area to the secondary nursery area located in the middle portion of the estuarine system." Strategic Habitat Areas are defined in 15A NCAC 03H .0104 (4)(h) as "Locations of individual fish habitats or systems of habitats that provide exceptional habitat functions or that are particularly at risk due to imminent threats, vulnerability, or rarity." All of these areas are managed by the NC Division of Marine Fisheries.

Maps of Primary Nursery Areas, Secondary Nursery Areas, and Special Secondary Nursery Areas have been combined into one map package on the NC Division of Marine Fisheries website at: http://portal.ncdenr.org/web/mf/primary-nursery-areas. Specific coordinates for the various resource area designations can be found at the following NC Marine Fisheries rule links:

Primary Nursery Areas 15A NCAC 03R .0103:
http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0103.pdf.

Permanent Secondary Nursery Areas 15A NCAC 03R .0104:
http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0104.pdf

Special Secondary Nursery Areas 15A NCAC 03R .0105:
http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0105.pdf

Maps of Crab Spawning Sanctuaries can be found on the NC Division of Marine Fisheries website at:
http://portal.ncdenr.org/web/mf/crab-spawning-sanctuaries. Specific coordinates for Crab Spawning Sanctuaries can be found in NC Marine Fisheries Rule 15A NCAC 03R .0110:
http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0110.pdf

Maps of Oyster Sanctuaries can be found on the NC Division of Marine Fisheries website at: http://portal.ncdenr.org/web/mf/habitat/enhancement/oyster-sanctuaries

Specific coordinates for Oyster Sanctuaries can be found in NC Marine Fisheries Rule 15A NCAC 03R .0117: http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2003%20-%20marine%20fisheries/subchapter%20r/15a%20ncac%2003r%20.0117.pdf

Inland Primary Nursery Areas are managed by the NC Wildlife Resources Commission and are defined in rule 15A NCAC 10C .0502 as "those areas inhabited by the embryonic, larval or juvenile life stages of marine or estuarine fish or crustacean species due to favorable physical, chemical or biological factors." Specific coordinates for Inland Primary Nursery Areas are found in NC Wildlife Resources Rule 15A 10C .0503: http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2010%20-%20wildlife%20resources%20and%20water%20safety/subchapter%20c/15a%20ncac%2010c%20.0503.pdf

Outstanding Resource Waters are managed by the NC Division of Water Resources and are defined in rule 15A NCAC 02B .0225 as waters that are "of exceptional state or national recreational or ecological significance and that the waters have exceptional water quality" and that meet certain criteria. Both criteria and specific water body designations can be found in 15A NCAC 02B .0225 and at the following link: http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environmental%20quality/chapter%2002%20-%20environmental%20management/subchapter%20b/15a%20ncac%2002b%20.0225.pdf

A link to an interactive map for Strategic Habitat Areas (SHAs) follows: http://portal.ncdenr.org/web/mf/habitat/SHAs
Note: Region 3 SHAs are not yet included and Region 4 SHA designation is underway.

Offshore Areas
Coordinates of artificial reefs are included in the link below for an interactive map/reef guide: http://portal.ncdenr.org/web/mf/artificial-reefs-program

Appendix 1 (continued). State-Designated Areas—South Carolina.

In South Carolina, DHEC R. 61-69 designates Outstanding Resources Waters. Those estuarine Outstanding Resources Waters within coastal counties are state-designated areas that may function as nursery habitats of species managed by the SAFMC; the table below lists those estuarine Outstanding Resources Waters.

Waterbody	County	Description
Bass Creek	Beaufort	The entire creek tributary to May River
Bull Creek	Beaufort	The entire creek tributary to the Cooper River and May River
Callawassie Creek	Beaufort	The entire creek tributary to the Colleton River
Chechessee Creek	Beaufort	The entire creek tributary to the Colleton River and the Chechessee River
Colleton River	Beaufort	The entire stream tributary to the Chechessee River
Cooper River	Beaufort	The river form New River to Ramshorn Creek
May River	Beaufort	The entire stream tributary to Calibogue Sound
Okatie River	Beaufort	The entire river tributary to Colleton River
Sawmill Creek	Beaufort	The entire creek tributary to Colleton River
Adams Creek	Charleston	The entire creek tributary to Bohicket Creek
Bailey Creek	Charleston	The entire creek tributary to St. Pierre Creek
Big bay Creek	Charleston	The entire creek tributary to the South Edisto River
Bohicket Creek	Charleston	The entire creek tributary from North Edisto River to Church Creek
Bull's Bay	Charleston	The entire Bay
Bullyard Sound	Charleston	The entire Sound
Cape Romain Harbor	Charleston	The entire Harbor
Caper's Inlet	Charleston	The entire stream tributary to the Atlantic Ocean
Church Creek	Charleston	That portion of the creek from Wadmalaw Sound to Ravens Point
Copahee Sound	Charleston	The entire Sound
Dawhoo River	Charleston	The entire river from The South Edisto River to the North Edisto River
Fishing Creek	Charleston	From its headwaters to a point 2 miles from its mouth
Fishing Creek	Charleston	From a point 2 miles from its mouth to its confluence with St. Pierre Creek
Fishing Creek	Charleston	The entire creek tributary to Dawhoo River
Frampton Creek	Charleston	The entire creek tributary to Frampton Inlet

Waterbody	County	Description
Frampton Inlet	Charleston	The entire inlet tributary to the Atlantic Ocean
Garden Creek	Charleston	The entire creek tributary to Toogoodoo Creek
Gibson Creek	Charleston	The entire creek tributary to Wadmalaw River
Intracoastal Waterway	Charleston	That portion of the waterway from Gibson Creek to the confluence of Wadmalaw Sound and Stono River
Intracoastal Waterway	Charleston	From Dawho River to Gibson Creek
Jeremy Inlet	Charleston	The entire inlet tributary to the Atlantic Ocean
Leadenwah Creek	Charleston	The entire creek tributary to the North Edisto River
Long Creek	Charleston	The entire creek tributary to Steamboat Creek
Lower Toogoodoo Creek	Charleston	From a point 3 miles from its mouth to its confluence with Toogoodoo Creek
Mark Bay	Charleston	The entire Bay
Mcleod Creek	Charleston	The entire creek tributary to the North Edisto River (Also called Tom Point Creek)
Milton Creek	Charleston	The entire creek tributary to St. Pierre Creek
Mud Creek	Charleston	The entire creek tributary to the South Edisto River
North Edisto River	Charleston	From its headwaters to the Intracoastal Waterway
North Edisto River	Charleston	From Steamboat Creek to the Atlantic Ocean
Ocella Creek	Charleston	The entire creek tributary to the North Edisto River
Oyster House Creek	Charleston	The entire stream tributary to Wadmalaw River
Price Inlet	Charleston	The entire stream tributary to the Atlantic Ocean
Privateer Creek	Charleston	The entire creek tributary to the North Edisto River
Russell Creek	Charleston	The entire creek tributary to Dawho River
Sand Creek	Charleston	The entire creek tributary to Steamboat Creek
Scott Creek	Charleston	The entire creek from Big Bay Creek to Jeremy Inlet
Shingle Creek	Charleston	The entire creek tributary to St. Pierre Creek
South Creek	Charleston	The entire creek tributary to Ocella Creek
St. Pierre Creek	Charleston	The entire creek tributary to the South Edisto River
Steamoat Creek	Charleston	The entire creek tributary to the North Edisto River
Store Creek	Charleston	The entire creek tributary to St. Pierre Creek
Swinton Creek	Charleston	The entire creek tributary to Lower Toogoodoo Creek
Tom Point Creek	Charleston	The entire creek tributary to the North Edisto River (Also Called McLeod Creek)

Waterbody	County	Description
Toogoodoo Creek	Charleston	The entire creek tributary to the North Edisto River
Townsend River	Charleston	The entire river tributary to Frampton Inlet
Wadmalaw River	Charleston	The entire river from Wadmalaw Sound to the North Edisto River
Wadmalaw Sound	Charleston	The entire sound
Westbank Creek	Charleston	The entire creek tributary to the North Edisto River
Whooping Island Creek	Charleston	The entire creek tributary to Steamboat Creek
Edisto River	Charleston, Colleton	From U.S. 17 to its confluence with the Dawhoo River and the South Edisto River
South Edisto River	Charleston, Colleton	From Dawhoo River to Mud Creek
Alligator Creek	Colleton	The entire creek tributary to the South Edisto River
Mosquito Creek	Colleton	That portion of the creek from Bull Cut to the South Edisto River
Sampson Island Creek	Colleton	The entire creek tributary to the South Edisto River
Bass Hole Bay	Georgetown	The entire bay between Old Man Creek and Debidue Creek
Bly Creek	Georgetown	The entire creek tributary to Old Man Creek
Bob's Garden Creek	Georgetown	The entire creek tributary to Jones Creek
Boor Creek	Georgetown	The entire creek between Jones Creek and Wood Creek
Bread and Butter Creek	Georgetown	The entire creek tributary to Town Creek
Clambank Creek	Georgetown	The entire creek tributary to Town Creek
Cooks Creek	Georgetown	The entire creek between Old Man Creek and Debidue Creek
Crabhaul Creek	Georgetown	The entire creek tributary to Old Man Creek
Debidue Creek	Georgetown	That portion of the ck from confluence with Cooks Creek to North Inlet and all tidal creeks including those on western shore between Bass Hole Bay & Cooks Ck
Duck Creek	Georgetown	The entire creek tributary to Jones Creek
Jones Creek	Georgetown	That portion of the creek from a point midway between its confluence with Duck Creek and Noble Slough to North Inlet
North Inlet	Georgetown	The entire inlet tributary to the Atlantic Ocean
North Santee River	Georgetown	From 1000 feet below the Intracoastal Waterway to the Atlantic Ocean
Old Man Creek	Georgetown	The entire creek tributary to Town Creek
Sea Creek Bay	Georgetown	The entire bay tributary to Old Man Creek

Waterbody	County	Description
Sixty Bass Creek	Georgetown	That portion of the creek from a point 0.4 mile from its confluence with Town Creek to North Inlet
South Santee River	Georgetown	From 1000 feet below the Intracoastal Waterway to the Atlantic Ocean
Town Creek	Georgetown	That portion of the creek from its eastern confluence with Clambank Creek to North Inlet
Wood Creek	Georgetown	The entire creek between Boor Creek and Jones Creek
Little Pee Dee River	Horry, Marion	That portion from the confluence with Lumber River to the confluence with Great Pee Dee River

Appendix 1 (continued). State-Designated Areas—Florida.

In 1975, the Florida Legislature set aside state-owned submerged lands in areas which have exceptional biological, aesthetic, and scientific value, as Aquatic Preserves or Sanctuaries to be maintained in their natural or existing condition (258.35-37, F.S.). Aquatic Preserves are also designated as Outstanding Florida Waters (62-302.700, F.A.C.), which are "waters designated by the Environmental Regulation Commission as worthy of special protection because of their natural attributes" (62-302.200(26), F.A.C.). The Aquatic Preserves that have estuarine and marine attributes and are located on the Atlantic coast of Florida function as nursery habitat and include EFH and EFH-HAPCs for species managed by the South Atlantic Fishery Management Council. The table below lists Aquatic Preserves designated by the State of Florida with estuarine and marine waters located on the Atlantic coast of Florida. The Florida Department of Environmental Protection provides GIS data to show precise boundaries at: *ocean.floridamarine.org/mrgis/Description_Layers_Marine.htm#management*

Aquatic Preserves and Outstanding Florida Waters in Monroe County and along Florida's East Coast	**County**
Banana River (as mod. 8-8-94)	Brevard
Biscayne Bay (Cape Florida)	Dade/Monroe
Biscayne Bay (Card Sound) (12-1-82)	Dade/Monroe
Coupon Bight	Monroe
Fort Clinch State Park Sound-Charlotte Harbor(as mod. 10-4-90)	Nassau
Guana River Marsh(8-8-94)	St. Johns
Indian River Malabar to Vero Beach	Brevard/Indian River
Indian River Malabar to Vero Beach(additions), except those Indian River portions of Sebastian Creek and Turkey Creek upstream of U.S. Highway 1 (1-26-88)	Brevard/Indian River
Indian River Vero Beach to Ft. Pierce (as mod. 10-4-90)	Indian River/St. Lucie
Jensen Beach to Jupiter Inlet (as mod. 10-4-90)	Martin/Palm Beach/St. Lucie
Lignumvitae Key	Monroe
Loxahatchee River-Lake Worth Creek (as mod. 8-8-94)	Martin/Palm Beach
Mosquito Lagoon	Volusia/Brevard
Nassau River-St. Johns River Marshes	Nassau/Duval
North Fork, St. Lucie	St. Lucie/Martin
Pellicer Creek	St. Johns/Flagler
Tomoka Marsh	Volusia/Flagler

Appendix 2. Fresh Water tidal Boundaries

The following Table clarifies the upstream tidal boundaries for EFH in the South Atlantic. The GPS coordinates are the tidal boundary defined as the farthest point upstream where the river is affected by tidal fluctuations.

State	Waterbody	Latitude	Longitude	River Mile[1]
NC	Chowan River	36.52798464	-76.92253971	
NC	Roanoke River	35.97956924	-77.19345253	
NC	Tar River	35.61401228	-77.37729669	
NC	New River	34.76095859	-77.45783716	
NC	Turkey Creek	34.58247099	-77.82777857	
NC	Cape Fear River	34.4106624	-78.32114907	
NC	Lyon Thorofare	34.36459838	-78.08579649	
NC	Northeast Cape Fear River	34.37601987	-77.92723777	
NC	Town Creek	34.1405012	-78.04086501	
NC	Tranters Creek	35.58277282	-77.11709351	
NC	Blounts Creek	35.38110016	-76.971479	
NC	Neuse River	35.31429631	-77.32536533	
NC	Swift Creek	35.21718331	-77.10847899	
NC	Trent River	35.006241	-77.27575153	
NC	White Oak River	34.88003658	-77.23154452	
NC	Pasquotank River	36.46752437	-76.44798508	
NC	Perquimans River	36.29215826	-76.55530868	
NC	Bath Creek	35.51184781	-76.8064099	
NC	Little River	36.27188682	-76.3877813	
NC	Alligator River	35.67503043	-76.17785881	
NC	North River	36.34854471	-76.09604217	
SC	Waccamaw River	33.88447468	-78.90383388	60
SC	Black River	33.4580866	-79.46426386	40
SC	Santee River	33.46901699	-79.94062442	37
SC	Cooper River	33.22586404	-79.98328129	45
SC	Edisto River	32.8821289	-80.38743981	37
SC	Combahee River	32.686087	-80.8201948	37
SC	Coosawatchie River	32.57495045	-80.92319863	9
SC	Jones Swamp Creek	32.98106629	-80.69995422	
SC/GA	Savannah River	32.30308768	-81.1196948	
SC	Great Pee Dee River	33.89637307	-79.42191574	33
GA	Ogeechee River	32.00462998	-81.32104959	
GA	Medway River	31.89709368	-81.39367252	
GA	North Newport River	31.77641006	-81.45468715	
GA	Altamaha River	31.42663678	-81.60453357	
GA	Satilla River	31.10538697	-81.90889608	
GA	Saint Marys River	30.77515248	-81.97986501	
FL	Saint Johns River	29.14560492	-81.51381932	

Table provided by NCDNER
https://ncdenr.maps.arcgis.com/apps/mapviewer/index.html?webmap=502517848a324c93b7be7b5f69d6781e