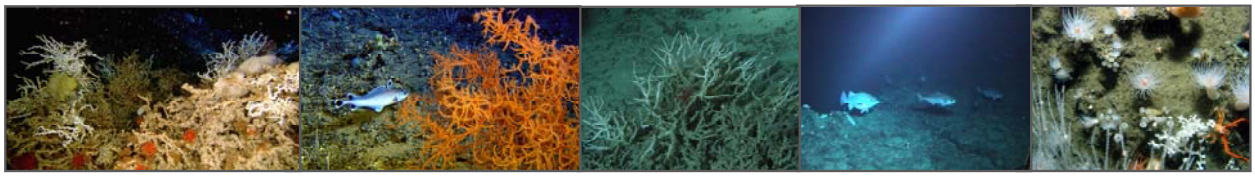
Comprehensive Ecosystem-Based Amendment 3



AMENDMENT 21 TO THE FISHERY MANAGEMENT PLAN FOR COASTAL MIGRATORY PELAGIC RESOURCES
AMENDMENT 7 TO THE FISHERY MANAGEMENT PLAN FOR CORAL, CORAL REEFS, AND LIVE/HARDBOTTOM HABITATS of the SOUTH ATLANTIC REGION
AMENDMENT 3 TO THE FISHERY MANAGEMENT PLAN FOR THE DOLPHIN WAHOO FISHERY OF THE ATLANTIC
AMENDMENT 7 TO THE FISHERY MANAGEMENT PLAN FOR THE GOLDEN CRAB FISHERY OF THE SOUTH ATLANTIC REGION
AMENDMENT 10 TO THE FISHERY MANAGEMENT PLAN FOR THE SHRIMP FISHERY OF THE SOUTH ATLANTIC REGION
AMENDMENT 26 TO THE FISHERY MANAGEMENT PLAN FOR THE SNAPPER GROUPER FISHERY OF THE SOUTH ATLANTIC REGION

Draft Environmental Impact Statement Initial Regulatory Flexibility Act Analysis Regulatory Impact Review

Fishery Impact Statement

June 2012

Definitions of Abbreviations and Acronyms Used in the Amendment

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
B_{CURR}	The current stock biomass
CPUE	catch per unit effort
EA	environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
F	a measure of the instantaneous rate of fishing mortality
$F_{30\%SPR}$	fishing mortality that will produce a static SPR = 30%
F_{CURR}	the current instantaneous rate of fishing mortality
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B_{OY}
FEIS	final environmental impact statement
FMP	fishery management plan
FMU	fishery management unit
M	natural mortality rate
MARMAP	Marine Resources Monitoring Assessment and Prediction Program
MFMT	maximum fishing mortality threshold
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	overfishing limit
OY	optimum yield
RIR	regulatory impact review
SAMFC	South Atlantic Fishery Management Council
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SIA	social impact assessment
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee

Comprehensive Ecosystem - Based Amendment 3

Amends the following South Atlantic Fishery Management Plans: Shrimp; Coral, Coral Reef, and Live/Hardbottom; Snapper Grouper; Dolphin Wahoo; Golden Crab; Coastal Migratory Pelagics
with Draft Environmental Impact Statement, Initial Regulatory Flexibility Act Analysis, Regulatory Impact Review, and Fishery Impact Statement

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Proposed actions:	Expand spatially managed areas for the protection of deepwater coral resources; implement area closures for the protection of speckled hind and warsaw grouper; and improve data collection methods.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council EIS - NOAA Fisheries Service
For Further Information Contact:	Robert K. Mahood South Atlantic Fishery Management Council 4055 Faber Place, Suite 201 North Charleston, SC 29405 843-571-4366 866-SAFMC-10 Robert.Mahood@safmc.net
	Phil Steele NOAA Fisheries, Southeast Region 263 13th Avenue South St. Petersburg, FL 33701 727-824-5301 Phil.Steele@noaa.gov
NOI for CE-BA 3:	May 23, 2012
Scoping meetings held:	January 24, 26, and January 30-February 2, 2012
Public Hearings held:	August 6-9, 14, and 16, 2012

Abstract

Actions in Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) address placed-based management and improvements in data collection methods in the South Atlantic. Measures include the expansion of protected areas for deepwater coral resources, management measures for the protection of speckled hind and warsaw grouper, and improvements in data collection methods in commercial and for-hire fisheries.

Actions in CE-BA 3 consider alternatives that could:

- Expand boundaries of the Oculina Bank Habitat Area of Particular Concern (HAPC)
- Modify the transit provision for the Oculina Bank HAPC
- Expand the boundaries of the deepwater coral HAPCs
- Establish Marine Protected Areas for speckled hind and warsaw grouper
- Modify permits and data reporting for for-hire and commercial sectors
- Modify bycatch and discard reporting

This Draft Environmental Impact Statement has been prepared to analyze the effects of the actions considered in these amendments.

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CE-BA 3 List of Actions

Action 1. Expand the Boundaries of the Oculina Bank HAPC

Action 2. Expand Stetson-Miami Terrace Coral HAPC to Incorporate a *Lophelia* Site off Jacksonville

Action 3. Expand Cape Lookout Coral HAPC

Action 4. Designate Habitat Areas of Particular Concern for Speckled Hind and Warsaw Grouper

Action 5. Establish Marine Protected Areas for Additional Protections for Speckled Hind and Warsaw Grouper

Action 6. Modify Permits and Data Reporting for For-Hire Vessels

Action 7. Modify Permits and Data Reporting for Commercial Vessels

Action 8. Modify Bycatch and Discard Reporting

Table of Contents for the Environmental Impact Statement

SUMMARY

of

Comprehensive Ecosystem-Based Amendment 3 to the Fishery Management Plans for the Coastal Migratory Pelagic Resources; Coral, Coral Reef, and Live/Hardbottom Habitats; Dolphin Wahoo; Golden Crab; Shrimp; and Snapper Grouper Fisheries of the South Atlantic Region

Why is the South Atlantic Council taking Action?

{To Be Completed}

IPT recommendation for the Purpose and Need.

Purpose for Action

The ***purpose*** of Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) is to implement management measures for additional protections for deepwater coral ecosystems and to reduce bycatch of speckled hind and warsaw grouper. Measures in CE-BA 3 also intend to improve data collection methods and tracking of annual limits to ensure overages do not occur in the South Atlantic fisheries.

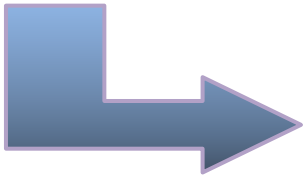
CE-BA 3 would increase protections for deepwater coral through expansion of the boundaries of the Coral Habitat Areas of Particular Concerns; implement management measures to reduce bycatch associated with speckled hind and warsaw grouper; and modify commercial and for-hire permits and reporting requirements and bycatch requirements to enhance data collection throughout the South Atlantic.

Need for Action

The ***need*** for action in CE-BA 3 is to address recent discoveries of deepwater coral resources; reduce bycatch mortality associated with speckled hind and warsaw grouper and improve data tracking methods and limit overages in annual catch limits.

What Are the Proposed Actions?

There are 8 actions being proposed in CE-BA 3. Each action has a range of alternatives, including a 'no action alternative' and a 'preferred alternative'.



Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

What Are the Alternatives?

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. **Expand Boundaries of the Oculina Bank HAPC**
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

1. Expand Boundaries of the Oculina Bank HAPC

Alternative 1 (No Action). Do not modify the boundaries of the Oculina Bank HAPC.

The existing Oculina Bank HAPC is delineated by the following boundaries: on the north by 28°30' N, on the south by 27°30' N., on the east by the 100-fathom (183-m) contour, and on the west by 80°00' W.; and two adjacent satellite sites: the first bounded on the north by 28°30' N., on the south by 28°29' N., on the east by 80°00' W., and on the west by 80°03' W.; and the second bounded on the north by 28°17' N., on the south by 28°16' N., on the east by 80°00 W., and on the west by 80°03' W.

Alternative 2. Modify the northern boundary of the Oculina Bank HAPC.

Sub-Alternative 2a. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure S-1**).

Sub-Alternative 2b. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure S-2**).

Sub-Alternative 2c. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure S-3**).

Sub-Alternative 2d. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure S-4**).

Alternative 3. Modify the western boundary of the Oculina Bank HAPC from 28° 4.5'N to the north boundary of the current Oculina HAPC (28° 30'N). The east boundary would coincide with the current western boundary of the Oculina HAPC (80° W). The west boundary could either use the 60 meter contour line, or the 80° 03'W longitude (**Figure S-5**).

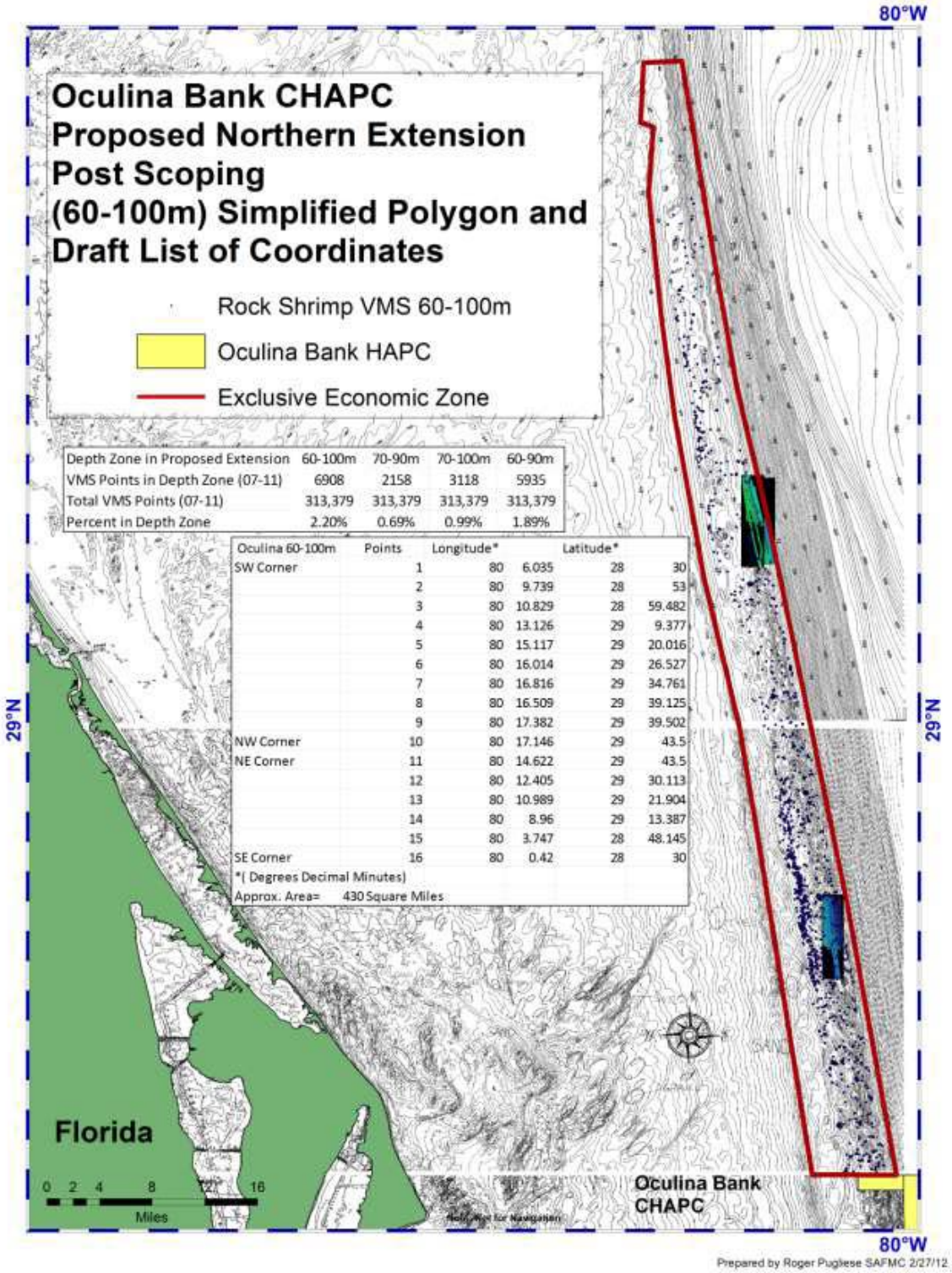
Alternative 4. Allow for transit through the Oculina Bank HAPC based on recommendations by the Law Enforcement Advisory Panel:
Consult CFR §622.35 (i)(2) for reference to stowing gear and transit (pertains to MPAs but language can be adopted and altered accordingly to be applicable to the deepwater shrimp fisheries).
If transit is allowed through the HAPC, request that industry increase ping rate for VMS.

NOTE: IPT recommendation to remove Alternative 4 under Action 1 and designate this as a separate Action. Suggested wording for the transit provision action:

Action 2. Implement a transit provision through the Oculina Bank HAPC.

Alternative 1 (No Action). Do not implement a transit provision through Oculina Bank HAPC. Currently, possession of rock shrimp in or from the area on board a fishing vessel is prohibited.

Alternative 2. Allow for transit through the Oculina Bank HAPC. When transiting the Oculina Bank, gear must be stowed in accordance with CFR Section 622.35 (i)(2). Vessels must maintain a minimum speed of 5 knots while in transit through the Oculina HAPC. In the event minimal speed is not sustainable, vessel must communicate to appropriate contact.

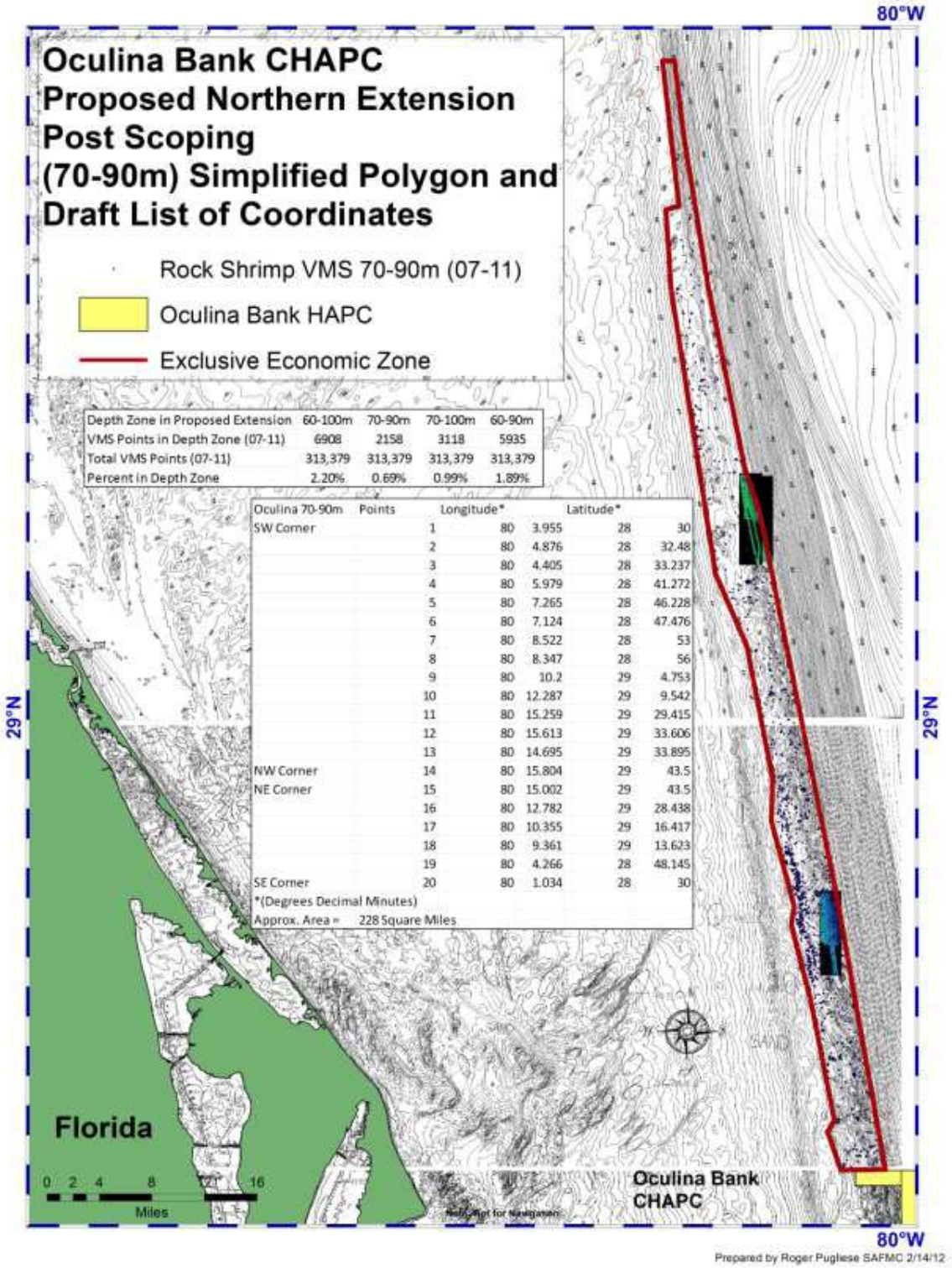


Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 60-100m	Points	Longitude*		Latitude*	
SW Corner	1	80	6.035	28	30
	2	80	9.739	28	53
	3	80	10.829	28	59.482
	4	80	13.126	29	9.377
	5	80	15.117	29	20.016
	6	80	16.014	29	26.527
	7	80	16.816	29	34.761
	8	80	16.509	29	39.125
	9	80	17.382	29	39.502
NW Corner	10	80	17.146	29	43.5
NE Corner	11	80	14.622	29	43.5
	12	80	12.405	29	30.113
	13	80	10.989	29	21.904
	14	80	8.96	29	13.387
	15	80	3.747	28	48.145
SE Corner	16	80	0.42	28	30

*(Degrees Decimal Minutes)
Approx. Area= 430 Square Miles

Figure S-1. Action 1, Sub-Alternative 2a. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 100 meter depth contour lines, as represented in the simplified polygon.



Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 70-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	3.955	28	30
	2	80	4.876	28	32.48
	3	80	4.405	28	33.237
	4	80	5.979	28	41.272
	5	80	7.265	28	46.228
	6	80	7.124	28	47.476
	7	80	8.522	28	53
	8	80	8.347	28	56
	9	80	10.2	29	4.753
	10	80	12.287	29	9.542
	11	80	15.259	29	29.415
	12	80	15.613	29	33.606
	13	80	14.695	29	33.895
NW Corner	14	80	15.804	29	43.5
NE Corner	15	80	15.002	29	43.5
	16	80	12.782	29	28.438
	17	80	10.355	29	16.417
	18	80	9.361	29	13.623
	19	80	4.266	28	48.145
SE Corner	20	80	1.034	28	30

*(Degrees Decimal Minutes)
Approx. Area = 228 Square Miles

Figure S-2. Action 1, Sub-Alternative 2b. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 90 meter depth contour lines, as represented in the simplified polygon.

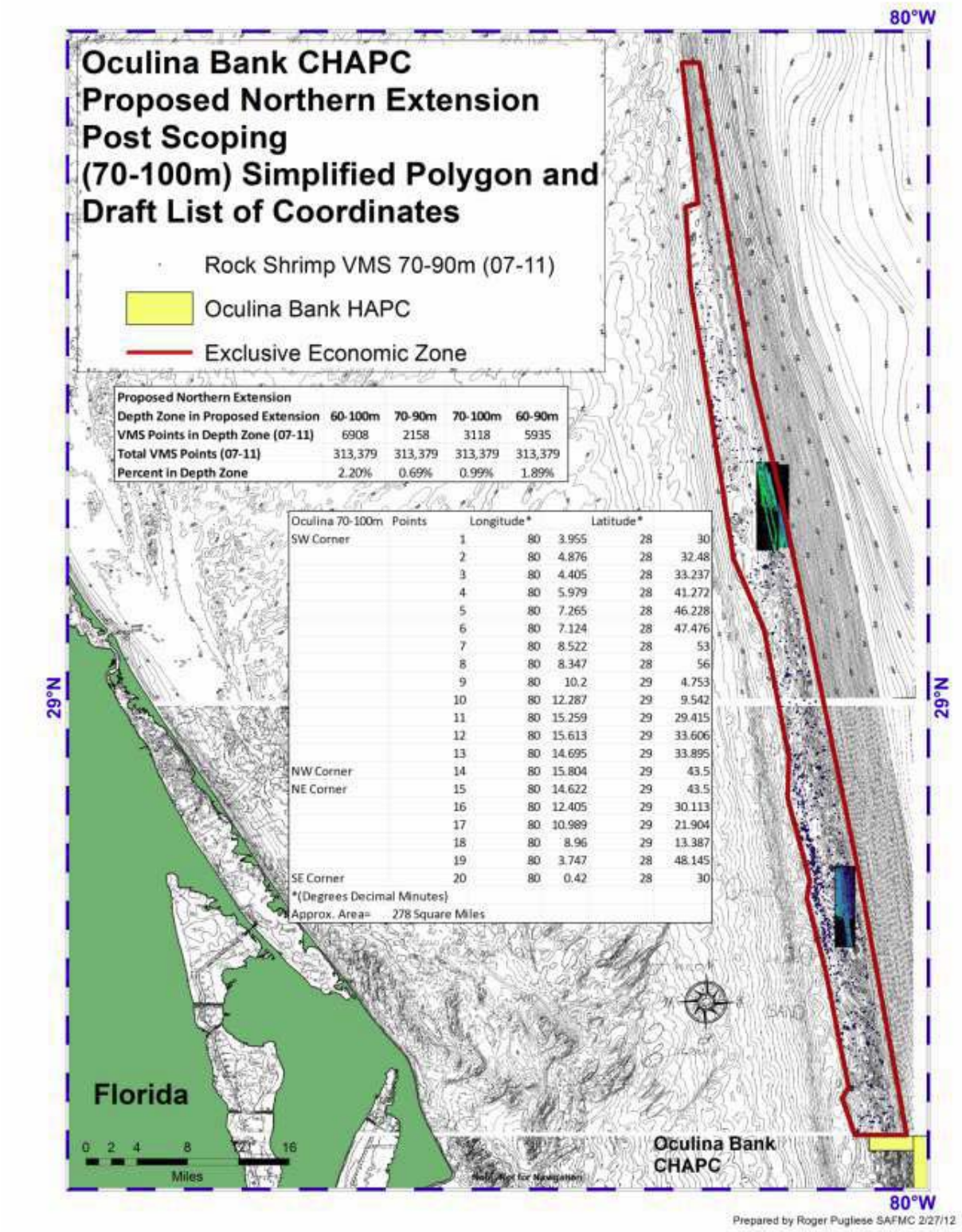
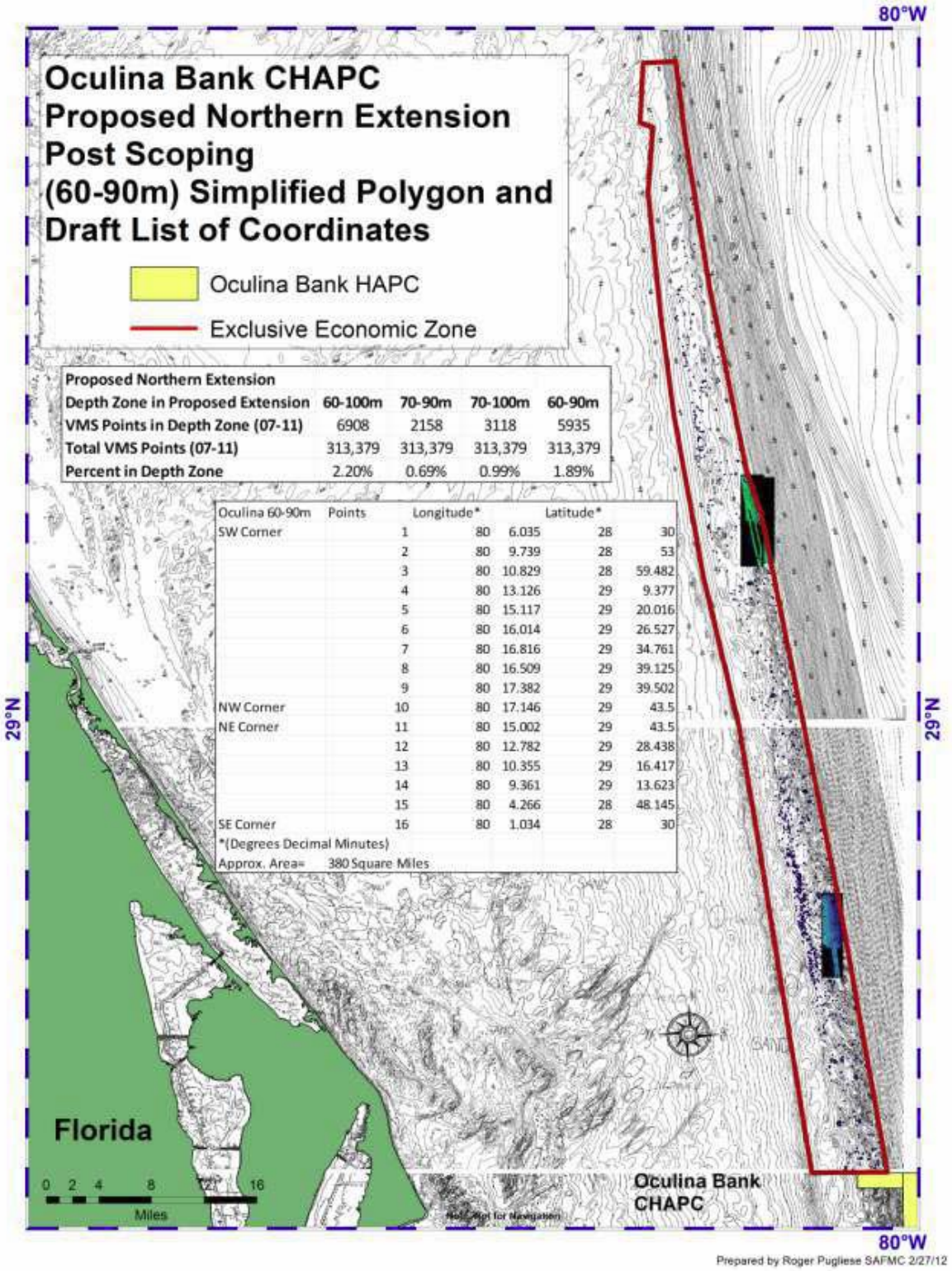


Figure S-3. Action 1, Sub-Alternative 2c. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 100 meter depth contour lines, as represented in the simplified polygon.



Proposed Northern Extension				
Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 60-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	6.035	28	30
	2	80	9.739	28	53
	3	80	10.829	28	59.482
	4	80	13.126	29	9.377
	5	80	15.117	29	20.016
	6	80	16.014	29	26.527
	7	80	16.816	29	34.761
	8	80	16.509	29	39.125
	9	80	17.382	29	39.502
NW Corner	10	80	17.146	29	43.5
NE Corner	11	80	15.002	29	43.5
	12	80	12.782	29	28.438
	13	80	10.355	29	16.417
	14	80	9.361	29	13.623
	15	80	4.266	28	48.145
SE Corner	16	80	1.034	28	30
*(Degrees Decimal Minutes)					
Approx. Area=	380 Square Miles				

Figure S-4. Action 1, Sub-Alternative 2d. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 90 meter depth contour lines, as represented in the simplified polygon.

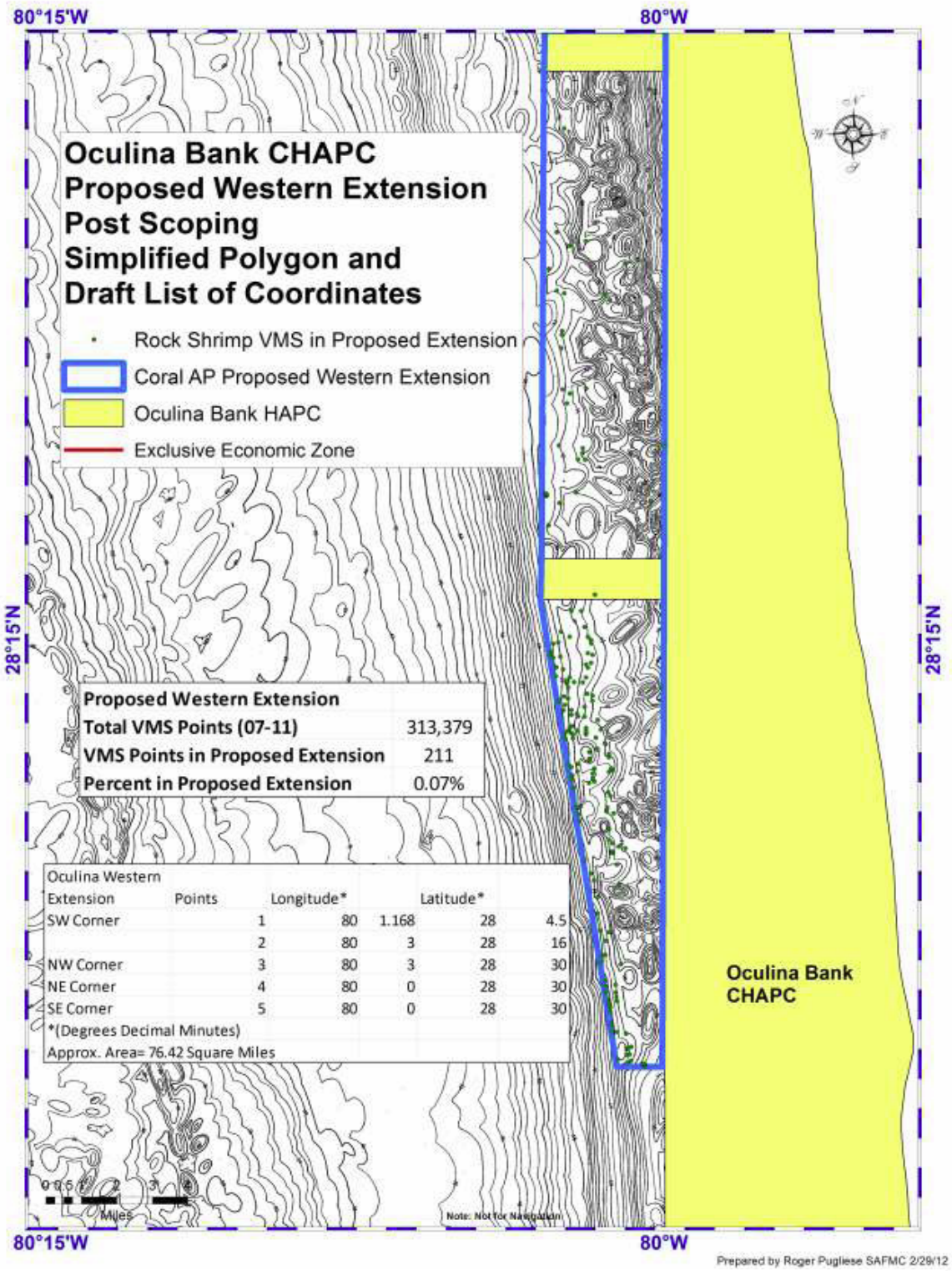


Figure S-5. Action 1, Alternative 3. Modification to the western boundary of the Oculina Bank HAPC. The west boundary would follow the 80° 03'W longitude between 28° 30'N and 28° 16'N which is the western border of the Oculina HAPC satellite regions, and would follow the 60 meter contour as represented in the simplified polygon.

Summary of Effects

2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville

Note: IPT recommendation: reword the language of Action 2 to read:
Action 2. Expand boundaries of the Stetson-Miami Terrace Coral HAPC.

Alternative 1. (No Action) Do not expand the boundaries of the Stetson-Miami Coral HAPC

The existing Stetson-Miami Terrace Coral HAPC is delineated by the coordinates identified in CFR §633.35 (n)(iii).

Alternative 2. Expand Stetson-Miami Terrace Coral HAPC in the area west of the existing boundary approximately by the 200 meter depth contour between latitude 30°45.0' to the north and latitude 29°52.0' to the south (**Figure S-6**).

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. **Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville**
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

Alternative 3. Modify the Coral AP recommendation for expanding the Stetson-Miami Terrace Coral HAPC to include area of mapped habitat within the expansion, and exclude areas of royal red fishery activity based on VMS data (**Figure S-7**).

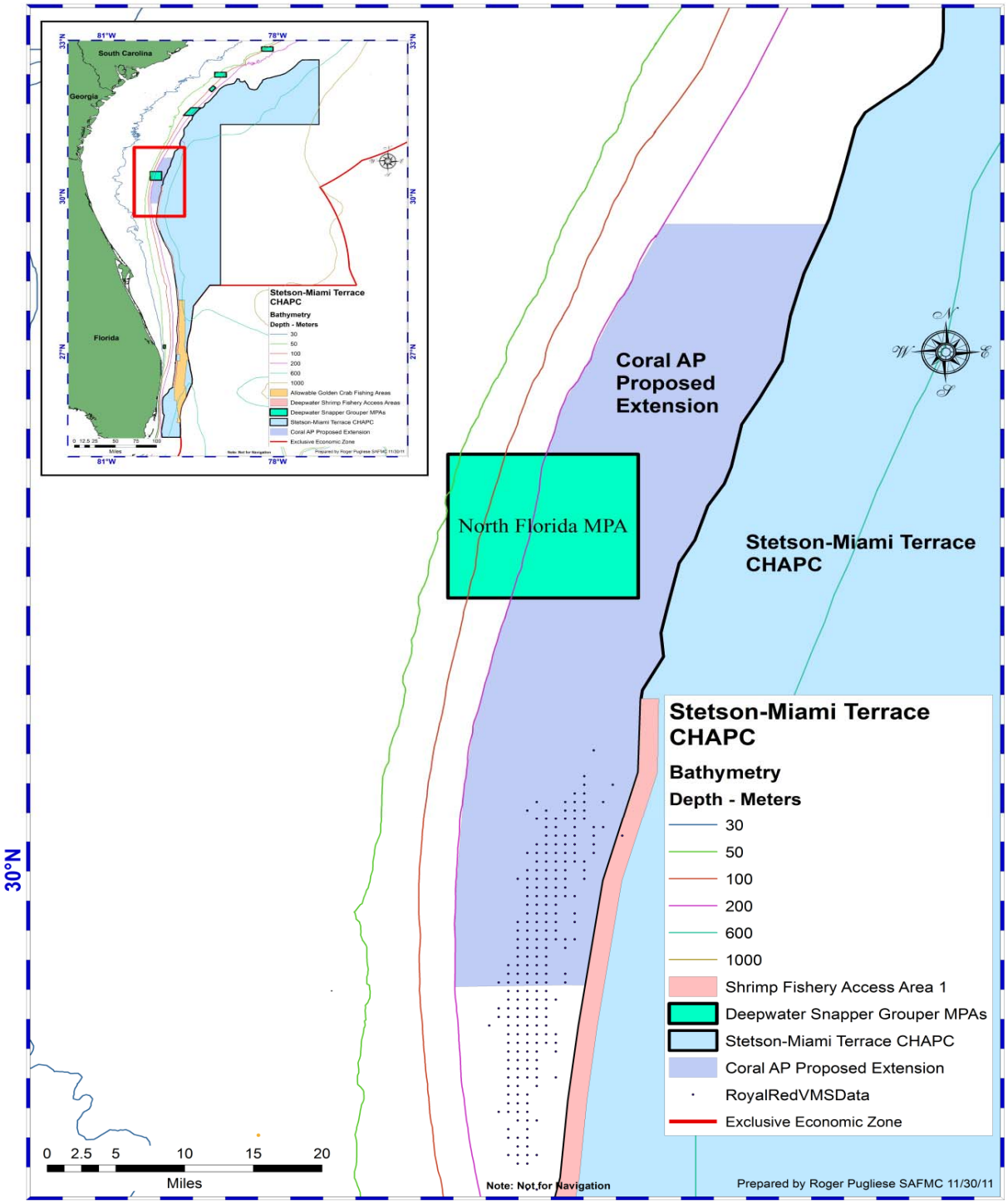


Figure S-6. Action 2, Alternative 2, the Coral Advisory Panel's original proposed expansion of the Stetson-Miami Terrace HAPC western boundary.

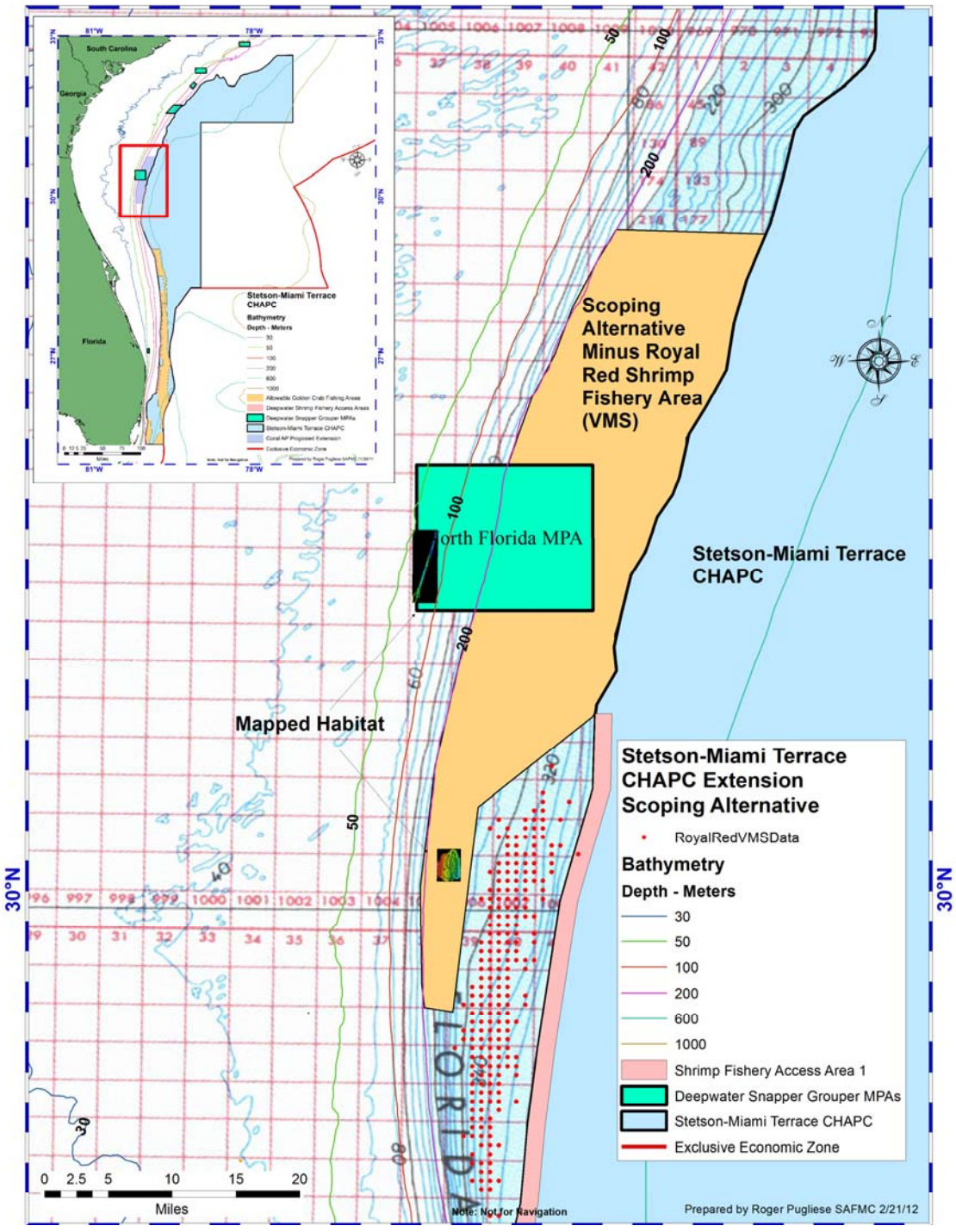


Figure S-7. Action 2, Alternative 3, modifications to the Coral AP's original recommendation for expanding the Stetson-Miami Terrace Coral HAPC based on suggestions from shrimp industry representatives during the CE-BA 3 public scoping process. This figure includes area of mapped habitat within the Coral AP's original proposed extension and excludes areas of royal red fishery activity based on VMS data.

Summary of Effects

3. Expand Cape Lookout Coral HAPC

Note: IPT recommendation to reword the language of Action 3 to read: **Action 3**. Expand boundaries of the Cape Lookout Coral HAPC.

Alternative 1. (No Action) Do not modify the boundaries of the Cape Lookout Coral HAPC.

The existing Cape Lookout Coral HAPC is identified by the following coordinates:

Latitude	Longitude
34°24'37"	75°45'11"
34°10'26"	75°58'44"
34°05'47"	75°54'54"
34°21'02"	75°41'25"

Alternative 2. Extend the northern boundary to encompass the area identified by the following coordinates (**Figure S-8**):

Latitude	Longitude
34°24.6166'	75°45.1833'
34°23.4833'	75°43.9667'
34°27.9'	75°42.75'
34°27.0'	75°41.5'

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. **Expand Cape Lookout Coral HAPC**
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

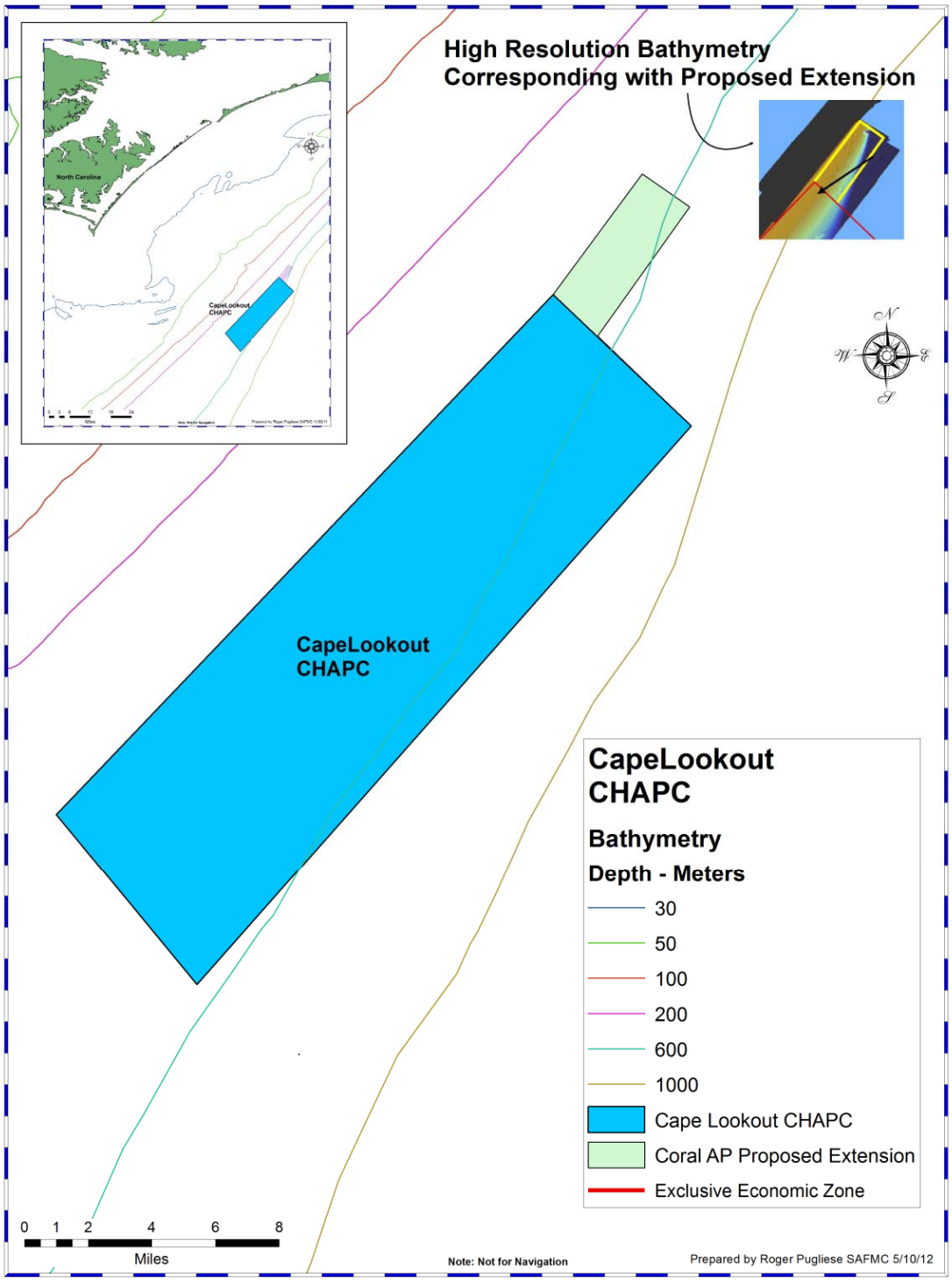


Figure S-8. Action 3, Alternative 2. Coral Advisory Panel's proposed expansion of the Cape Lookout Coral HAPC northern boundary.

Summary of Effects

4. Designate HAPCs for speckled hind and warsaw grouper

Alternative 1 (No Action). Do not designate EFH-HAPCs for speckled hind and warsaw grouper.

Essential Fish Habitat(EFH)-HAPCs for species in the South Atlantic snapper grouper management unit have been defined as shown below:

Areas which meet the criteria for 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).

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. **Designate HAPCs for Speckled Hind and Warsaw Grouper**
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

EFH-HAPCs for golden tilefish include 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-HAPCs for blueline tilefish include 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 and East Hump MPA.

Alternative 2. Designate new and/or expanded MPAs as EFH-HAPCs for speckled hind and warsaw grouper.

Summary of Effects

5. Establish Marine Protected Areas for speckled hind and warsaw grouper

Alternative 1 (No Action).

Summary of Effects

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. **Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper**
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

6. Modify permits and data reporting for for-hire vessels

Alternative 1 (No Action).

Summary of Effects

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. **Modify Permits and Data Reporting for For-Hire Vessels**
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

7. Modify permits and data-reporting for commercial vessels

Alternative 1. (No Action) Do not modify permits and data reporting for commercial vessels.

Retain existing permits and data reporting systems for the commercial sector.

Alternative 2. Modify permits and data-reporting for commercial vessels similarly to how this was done in SG Amendment 18A (Council chose No Action as their preferred at that time).

> **Sub-Alternative 2a.** Require all vessels with a Federal snapper grouper commercial permit to have an electronic logbook tied to the vessel's GPS onboard the vessel.
>
> **Sub-Alternative 2b.** Provide the option for fishermen to submit their logbook entries electronically via an electronic version of the logbook made available online.
>
> **Sub-Alternative 2c.** Require that commercial landings and catch/effort data be submitted in accordance with ACCSP standards, using the SAFIS system.

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

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7. **Modify Permits and Data Reporting for Commercial Vessels**
8. Modify Bycatch and Discard Reporting

Summary of Effects

8. Modify bycatch and discard reporting

Alternative 1 (No Action).

Summary of Effects

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
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6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. **Modify Bycatch and Discard Reporting**

Chapter 1. Introduction

1.1 What Actions Are Being Proposed?

Fishery managers are proposing changes to regulations through Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3). Actions included in CE-BA 3 would implement management measures for the protection of deepwater coral ecosystems, the reduce bycatch of speckled hind and warsaw grouper; and improvements to data collection and tracking of annual catch limits.

South Atlantic Fishery Management Council

- Is responsible for conservation and management of fish stocks in the South Atlantic Region
- Consists of 13 voting members who are appointed by the Secretary of Commerce
- Manages the waters from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and Florida
- Develops management plans and recommends regulations to NOAA Fisheries Service for implementation

1.2 Who is Proposing the Actions?

The South Atlantic Fishery Management Council (South Atlantic Council) is proposing the actions contained within this document. The South Atlantic Council recommends management measures and submits them to the National Marine Fisheries Service (NOAA Fisheries Service) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment on behalf of the Secretary of Commerce. NOAA Fisheries Service is an agency in the National Oceanic and Atmospheric Administration within the Department of Commerce.

1.3 Where is the Project Located?

Management of the federal fisheries is located off the South Atlantic in the 3-200 nautical miles (nm) U.S. Exclusive Economic Zone (EEZ) is conducted under the FMP for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 1983) (**Figure 1-1**). The management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and Florida. [Revise]

1.4 Why is the South Atlantic Council Considering Action?

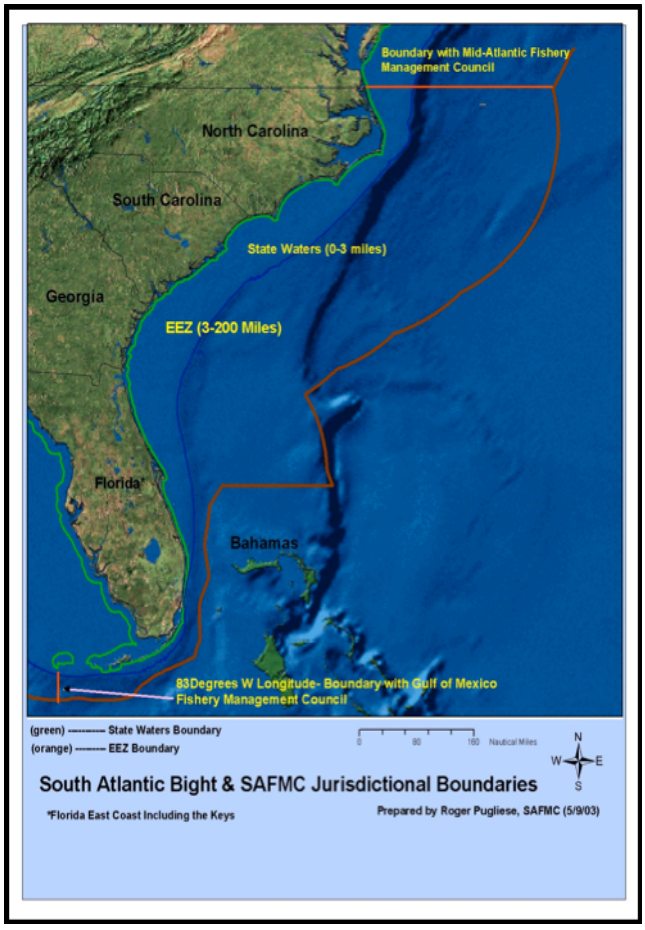


Figure 1-1. Jurisdictional boundaries of the South Atlantic Council

NOTE: IPT recommendation for CE-BA 3 Purpose and Need

Purpose for Action

The ***purpose*** of Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) is to implement management measures for additional protections for deepwater coral ecosystems and the reduce bycatch of speckled hind and warsaw grouper. Measures in CE-BA 3 also intend to improve data collection methods and tracking of annual limits to ensure overages do not occur in the South Atlantic fisheries.

CE-BA 3 would increase protections for deepwater coral through expansion of the boundaries of the Coral Habitat Areas of Particular Concerns; implementation of management measures to reduce bycatch associated with speckled hind and warsaw grouper, and modify commercial and for-hire permits and reporting requirements and bycatch requirements to enhance data collection throughout the South Atlantic.

Need for Action

The ***need*** for action in CE-BA 3 is to address recent discoveries of deepwater coral resources; reduce bycatch mortality associated with speckled hind and Warsaw grouper and improve data tracking methods and limit overages in annual catch limits.

Chapter 2. Proposed Actions

This section contains the proposed actions being considered to meet the purpose and need. Each action contains a range of alternatives, including the no action (status-quo). Alternatives the South Atlantic Council considered but eliminated from detailed study during the development of this amendment are described in **Appendix A**.

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Expand Boundaries of the Oculina Bank HAPC
2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville
3. Expand Cape Lookout Coral HAPC
4. Designate HAPCs for Speckled Hind and Warsaw Grouper
5. Establish MPAs for Additional Protections for Speckled Hind and Warsaw Grouper
6. Modify Permits and Data Reporting for For-Hire Vessels
7. Modify Permits and Data Reporting for Commercial Vessels
8. Modify Bycatch and Discard Reporting

2.1 Action 1. Expand Boundaries of Oculina Bank HAPC

Alternative 1. (No Action) Do not revise boundaries of the Oculina Bank HAPC

The existing Oculina Bank HAPC is delineated by the following boundaries: on the north by 28°30' N, on the south by 27°30' N., on the east by the 100-fathom (183-m) contour, and on the west by 80°00' W.; and two adjacent satellite sites: the first bounded on the north by 28°30' N., on the south by 28°29' N., on the east by 80°00' W., and on the west by 80°03' W.; and the second bounded on the north by 28°17' N., on the south by 28°16' N., on the east by 80°00 W., and on the west by 80°03' W.
Alternative 2. Modify the northern boundary of the Oculina Bank HAPC.

> **Sub-Alternative 2a**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 2-1**).
>
> **Sub-Alternative 2b**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 2-2**).
>
> **Sub-Alternative 2c**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 2-3**).
>
> **Sub-Alternative 2d**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 2-4**).

Alternative 3. Modify the western boundary of the Oculina Bank HAPC from 28° 4.5'N to the north boundary of the current Oculina HAPC (28° 30'N). The east boundary would coincide with the current western boundary of the Oculina HAPC (80° W). The west boundary could either use the 60 meter contour line, or the 80° 03'W longitude (**Figure 2-5**).

Alternative 4. Allow for transit through the Oculina Bank HAPC based on recommendations by the Law Enforcement Advisory Panel:

- Consult CFR §622.35 (i)(2) for reference to stowing gear and transit (pertains to MPAs but language can be adopted and altered accordingly to be applicable to the deepwater shrimp fisheries).
- If transit is allowed through the HAPC, request that industry increase ping rate for VMS.
- Stowing of gear is recommended by the LE AP instead of corridors for transiting Oculina Bank HAPC, in addition to speed restrictions (no less than 5 knots). In the event minimal speed is not sustainable, vessel must communicate to appropriate contact.

NOTE: IPT recommendation to remove Alternative 4 under Action 1 and designate this as a separate Action. Suggested wording for the transit provision action:

Action 2. Implement a transit provision through the Oculina Bank HAPC.

Alternative 1 (No Action). Do not implement a transit provision through Oculina Bank HAPC. Currently, possession of rock shrimp in or from the area on board a fishing vessel is prohibited.

Alternative 2. Allow for transit through the Oculina Bank HAPC. When transiting the Oculina Bank, gear must be stowed in accordance with CFR Section 622.35 (i)(2). Vessels must maintain a minimum speed of 5 knots while in transit through the Oculina HAPC. In the event minimal speed is not sustainable, vessel must communicate to appropriate contact.

Note: IPT recommendation for inclusion of transit provision definitions in amendment.

Definitions for Alternatives in Action 2

The term *"Transit"* means: Underway, making way, not anchored, and a direct, non-stop progression through any snapper grouper closed area in the South Atlantic EEZ on a constant heading, along a continuous straight line course, while making way by means of a source of power at all times.

The term *"Gear appropriately stowed"* includes but is not limited to: **Terminal gear** (i.e., hook, leader, sinker, flasher, or bait) used with an automatic reel, bandit gear, buoy gear, trolling gear, hand-line, or rod and reel must be disconnected and stowed separately from such fishing gear. **Rod and reel** must be removed from the rod holder and stowed securely on or below deck. **Longline gear** may be left on the drum if all gangions and hooks are disconnected and stowed below deck, hooks cannot be baited, and all buoys must be disconnected from the gear; however, buoys may remain on deck. **Trawl** and **try net gear** may remain on deck, but trawl doors must be disconnected from such net and must be secured. **Gill nets**, stab nets, or trammel nets must be left on the drum, and any additional such nets not attached to the drum must be stowed below deck. **Crustacean traps** or **golden crab traps** cannot be baited and all buoys must be disconnected from the gear; however, buoys may remain on deck. Other methods of stowage authorized in writing by the Regional Administrator, and subsequently published in the *Federal Register*, may also be utilized under this definition.

The term *"Not available for immediate use"* means: gear that is shown to not have been in recent use and that is stowed in conformance with the definitions included under "gear appropriately stowed".

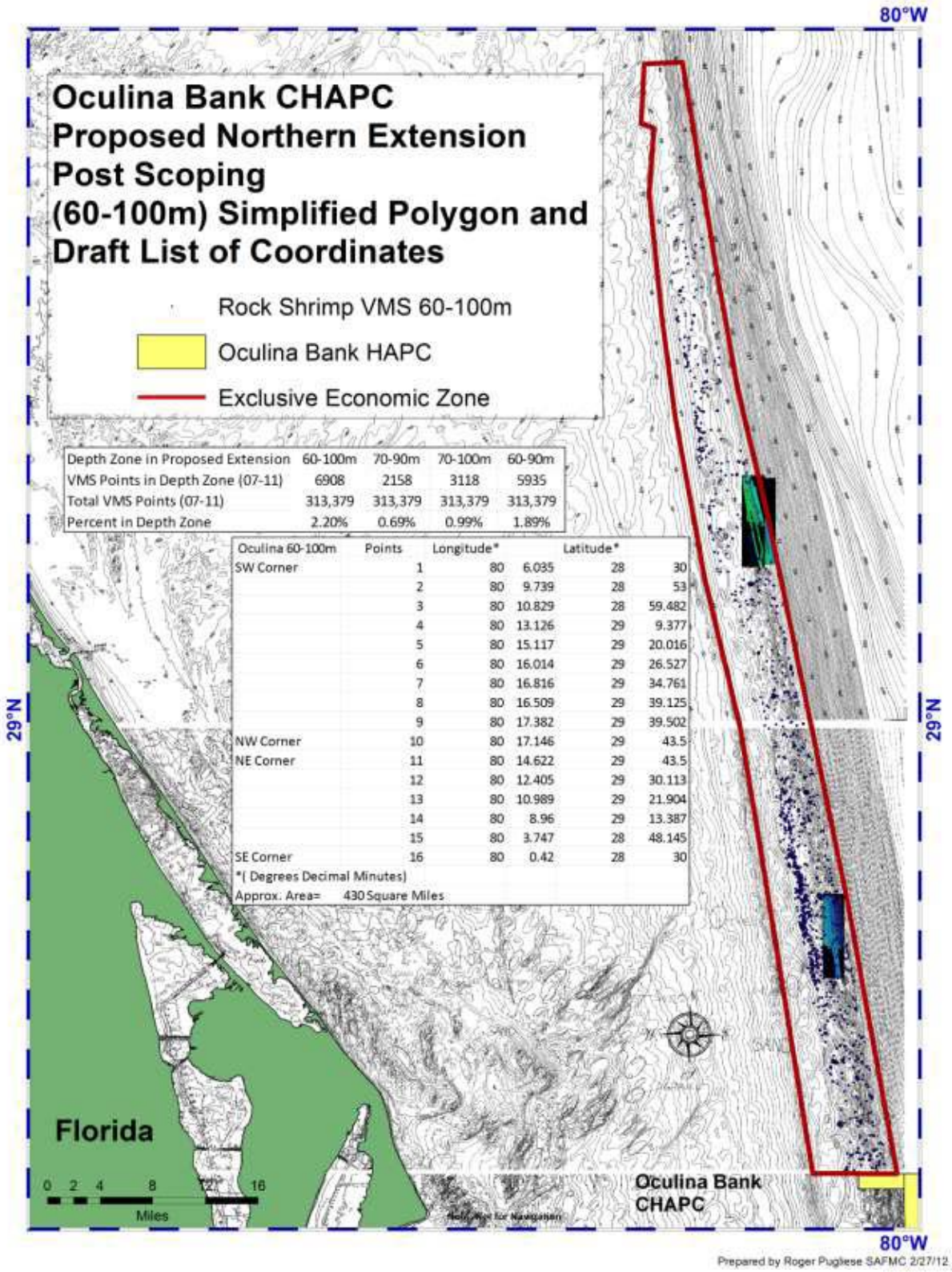
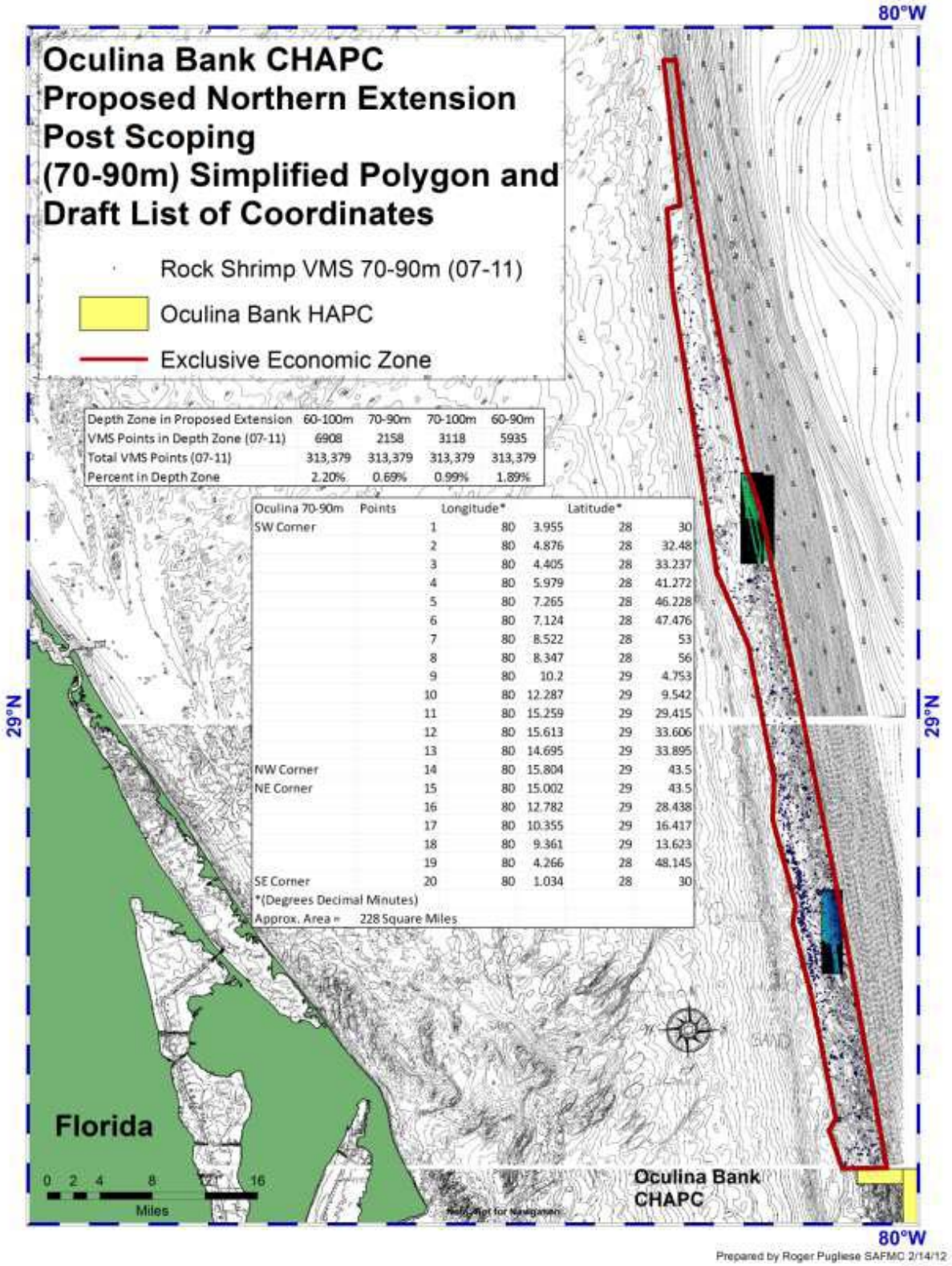


Figure 2-1. Action 1, Sub-Alternative 2a. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 100 meter depth contour lines, as represented in the simplified polygon.

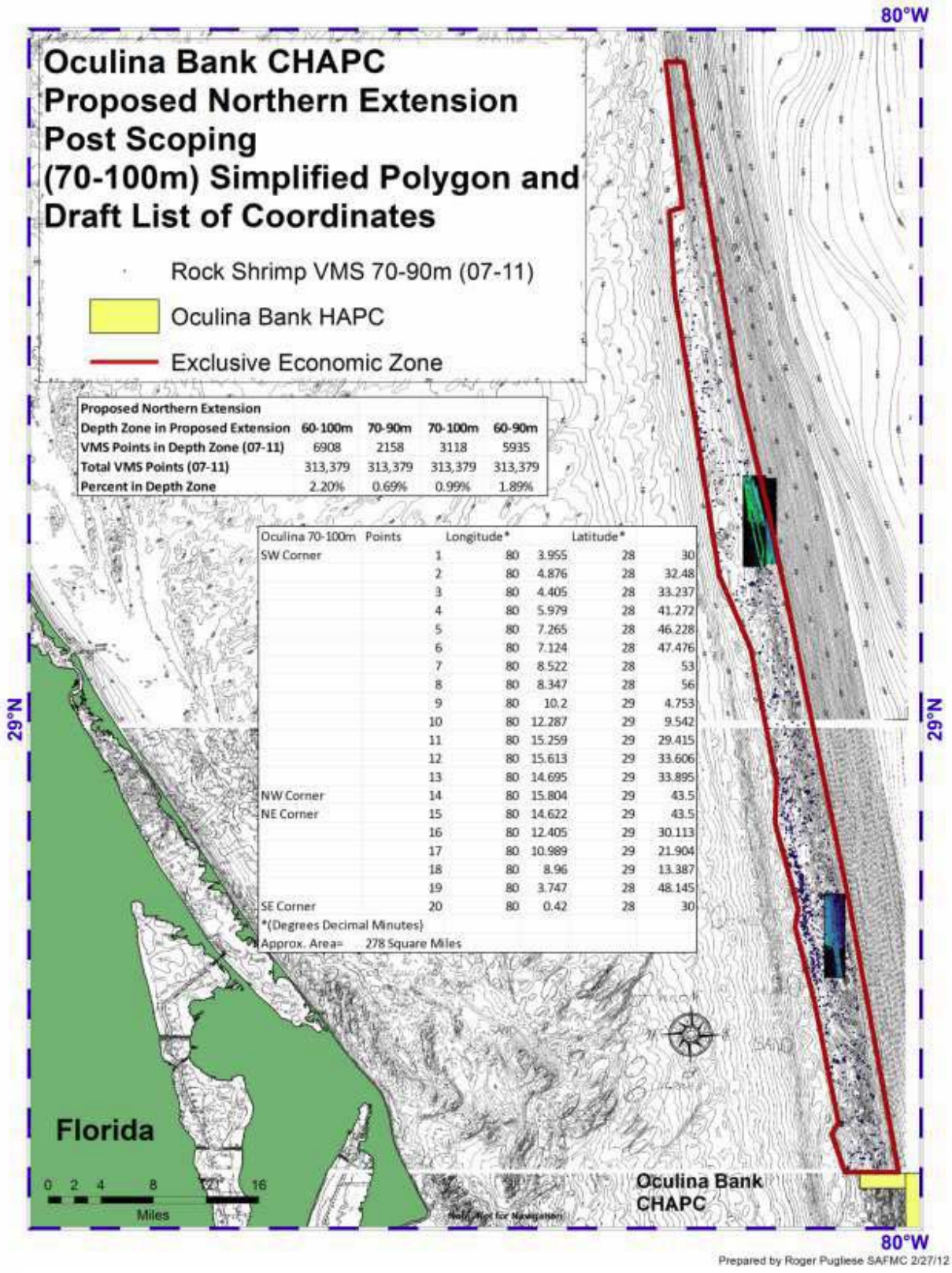


Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 70-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	3.955	28	30
	2	80	4.876	28	32.48
	3	80	4.405	28	33.237
	4	80	5.979	28	41.272
	5	80	7.265	28	46.228
	6	80	7.124	28	47.476
	7	80	8.522	28	53
	8	80	8.347	28	56
	9	80	10.2	29	4.753
	10	80	12.287	29	9.542
	11	80	15.259	29	29.415
	12	80	15.613	29	33.606
	13	80	14.695	29	33.895
NW Corner	14	80	15.804	29	43.5
NE Corner	15	80	15.002	29	43.5
	16	80	12.782	29	28.438
	17	80	10.355	29	16.417
	18	80	9.361	29	13.623
	19	80	4.266	28	48.145
SE Corner	20	80	1.034	28	30

*(Degrees Decimal Minutes)
Approx. Area = 228 Square Miles

Figure 2-2. Action 1, Sub-Alternative 2b. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 90 meter depth contour lines, as represented in the simplified polygon.

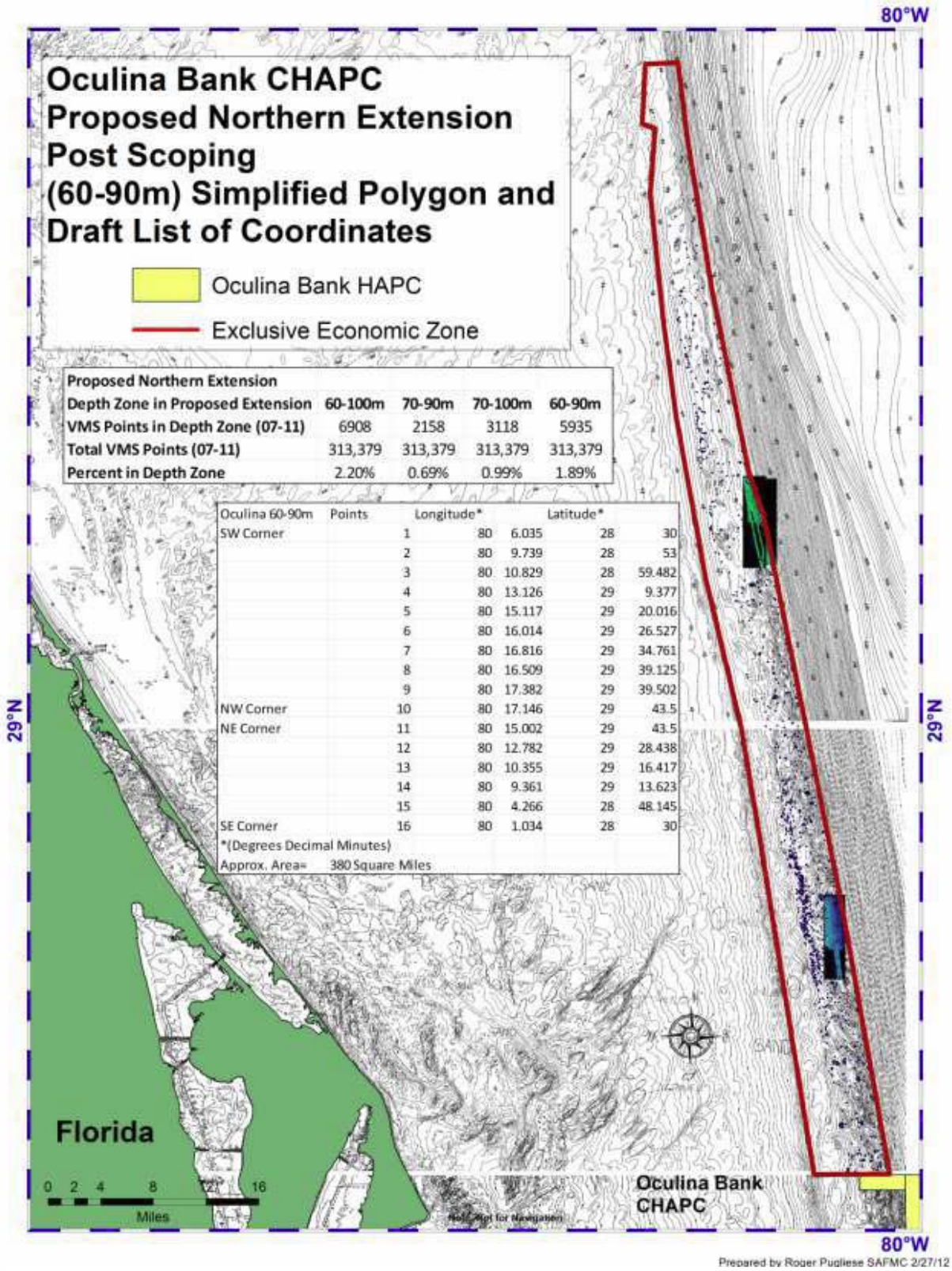


Proposed Northern Extension				
Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 70-100m	Points	Longitude*		Latitude*	
SW Corner	1	80	3.955	28	30
	2	80	4.876	28	32.48
	3	80	4.405	28	33.237
	4	80	5.979	28	41.272
	5	80	7.265	28	46.228
	6	80	7.124	28	47.476
	7	80	8.522	28	53
	8	80	8.347	28	56
	9	80	10.2	29	4.753
	10	80	12.287	29	9.542
	11	80	15.259	29	29.415
	12	80	15.613	29	33.606
	13	80	14.695	29	33.895
NW Corner	14	80	15.804	29	43.5
NE Corner	15	80	14.622	29	43.5
	16	80	12.405	29	30.113
	17	80	10.989	29	21.904
	18	80	8.96	29	13.387
	19	80	3.747	28	48.145
SE Corner	20	80	0.42	28	30

*(Degrees Decimal Minutes)
Approx. Area= 278 Square Miles

Figure 2-3. Action 1, Sub-Alternative 2c. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 100 meter depth contour lines, as represented in the simplified polygon.



Proposed Northern Extension				
Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 60-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	6.035	28	30
	2	80	9.739	28	53
	3	80	10.829	28	59.482
	4	80	13.126	29	9.377
	5	80	15.117	29	20.016
	6	80	16.014	29	26.527
	7	80	16.816	29	34.761
	8	80	16.509	29	39.125
	9	80	17.382	29	39.502
NW Corner	10	80	17.146	29	43.5
NE Corner	11	80	15.002	29	43.5
	12	80	12.782	29	28.438
	13	80	10.355	29	16.417
	14	80	9.361	29	13.623
	15	80	4.266	28	48.145
SE Corner	16	80	1.034	28	30

*(Degrees Decimal Minutes)
Approx. Area= 380 Square Miles

Figure 2-4. Action 1, Sub-Alternative 2d. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 90 meter depth contour lines, as represented in the simplified polygon.

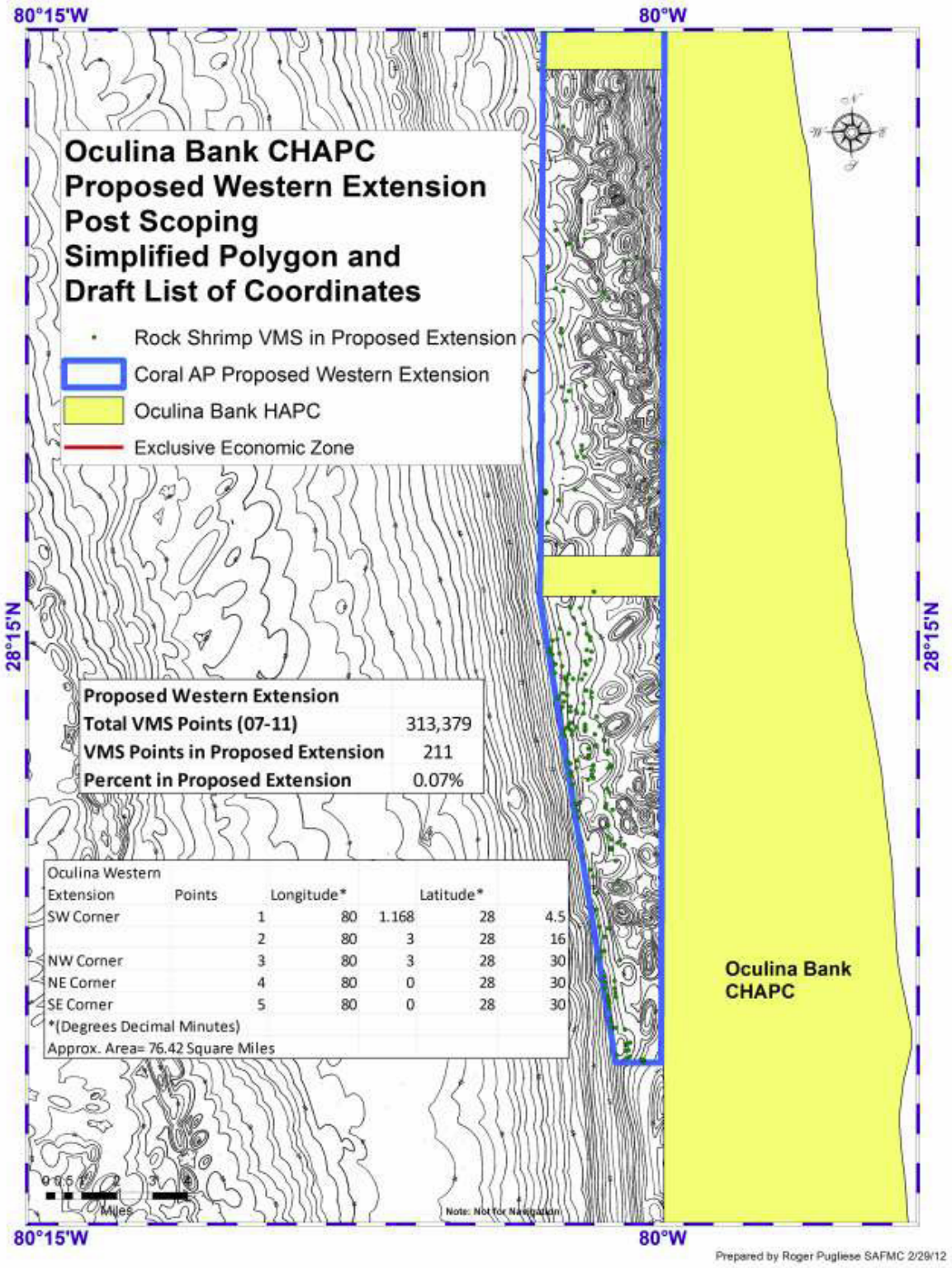


Figure 2-5. Action 1, Alternative 3. Modification to the western boundary of the Oculina Bank HAPC. The west boundary would follow the 80° 03'W longitude between 28° 30'N and 28° 16'N which is the western border of the Oculina HAPC satellite regions, and would follow the 60 meter contour as represented in the simplified polygon.

Comparison of Alternatives

Table 2-1. Summary of effects under **Action 1**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		
Alternative 3		
Alternative 4		

2.2 Action 2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville

Note: IPT recommendation - reword the language of Action 2 to read: **Action 2.** Expand boundaries of the Stetson-Miami Terrace Coral HAPC.

Alternative 1. (**No Action**) Do not revise the boundaries of the Stetson-Miami Terrace Coral HAPC. The existing Stetson-Miami Terrace Coral HAPC is delineated by the coordinates identified in CFR §633.35 (n)(iii).

Alternative 2. Expand Stetson-Miami Terrace Coral HAPC in the area west of the existing boundary approximately by the 200 meter depth contour between latitude 30°45.0' to the north and latitude 29°52.0' to the south (**Figure 2-6**).

Alternative 3. Modify the Coral AP recommendation for expanding the Stetson-Miami Terrace Coral HAPC to include area of mapped habitat within the expansion, and exclude areas of royal red fishery activity based on VMS data (**Figure 2-7**).

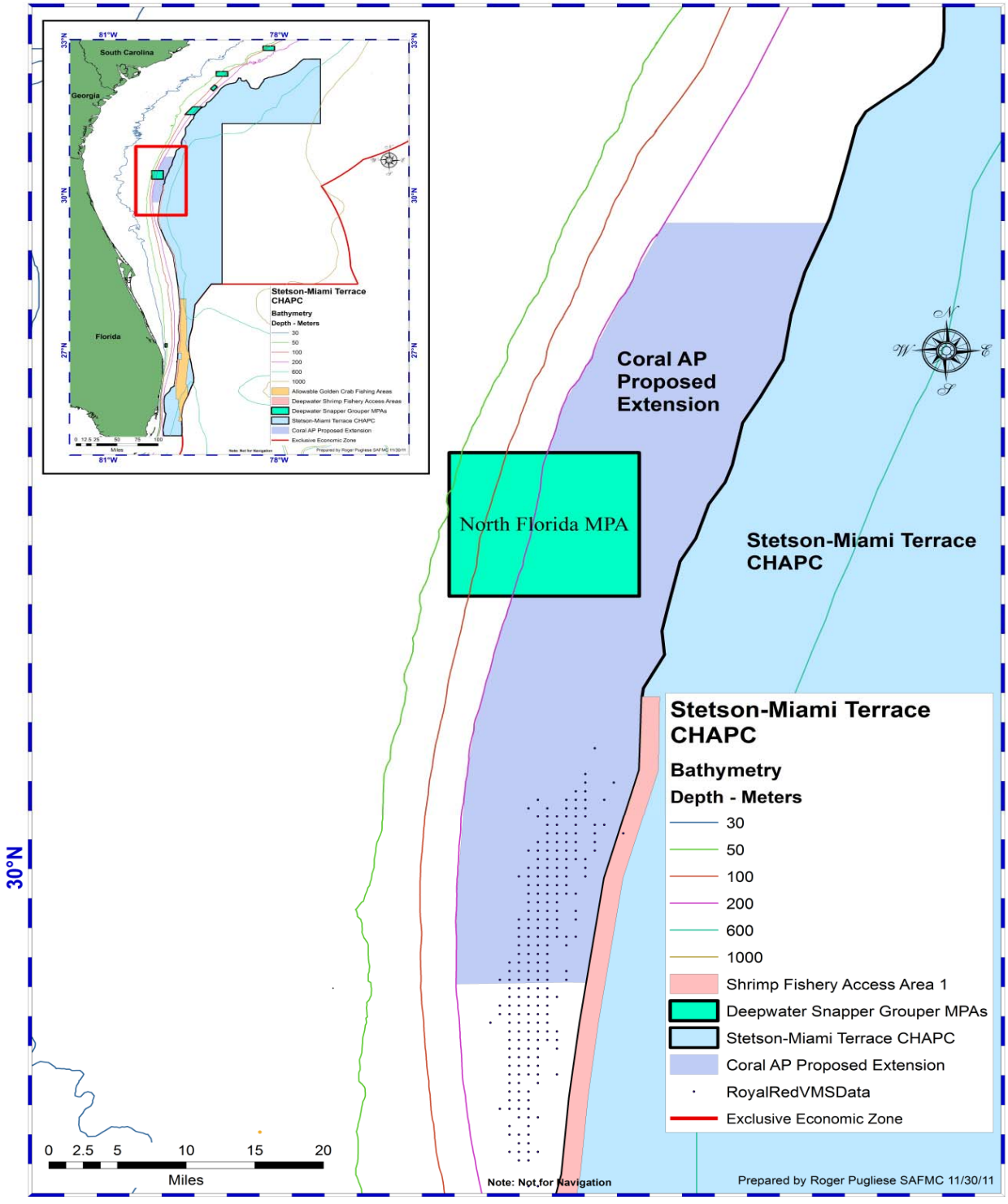


Figure 2-6. Action 2, Alternative 2, the Coral Advisory Panel's original proposed expansion of the Stetson-Miami Terrace HAPC western boundary.

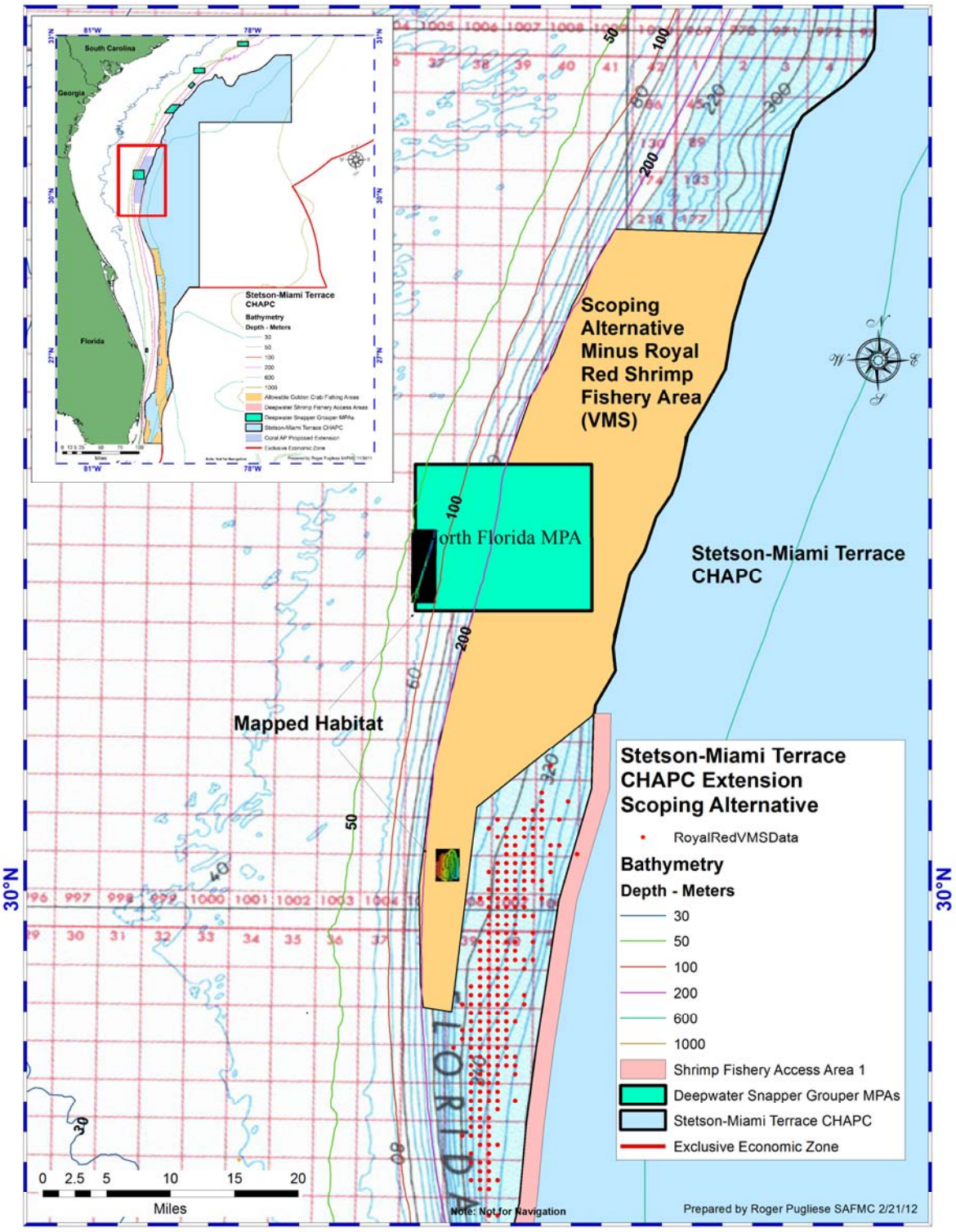


Figure 2-7. Action 2, Alternative 3, modifications to the Coral AP's original recommendation for expanding the Stetson-Miami Terrace Coral HAPC based on suggestions from shrimp industry representatives during the CE-BA 3 public scoping process. This figure includes area of mapped habitat within the Coral AP's original proposed extension and excludes areas of royal red fishery activity based on VMS data.

Comparison of Alternatives

Table 2-2. Summary of effects under **Action 2**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		
Alternative 3		

2.3 Action 3. Expand Cape Lookout Coral HAPC

NOTE: IPT recommendation - reword the language of Action 3 to read: **Action 3.** Expand boundaries of the Cape Lookout Coral HAPC.

Alternative 1 (**No Action**). The existing Cape Lookout Coral HAPC is identified by the following coordinates:

Latitude	Longitude
34°24’37”	75°45’11”
34°10’26”	75°58’44”
34°05’47”	75°54’54”
34°21’02”	75°41’25”

Alternative 2. Extend the northern boundary to encompass the area identified by the following coordinates (**Figure 2-8**):

Latitude	Longitude
34°24.6166’	75°45.1833’
34°23.4833’	75°43.9667’
34°27.9’	75°42.75’
34°27.0’	75°41.5’

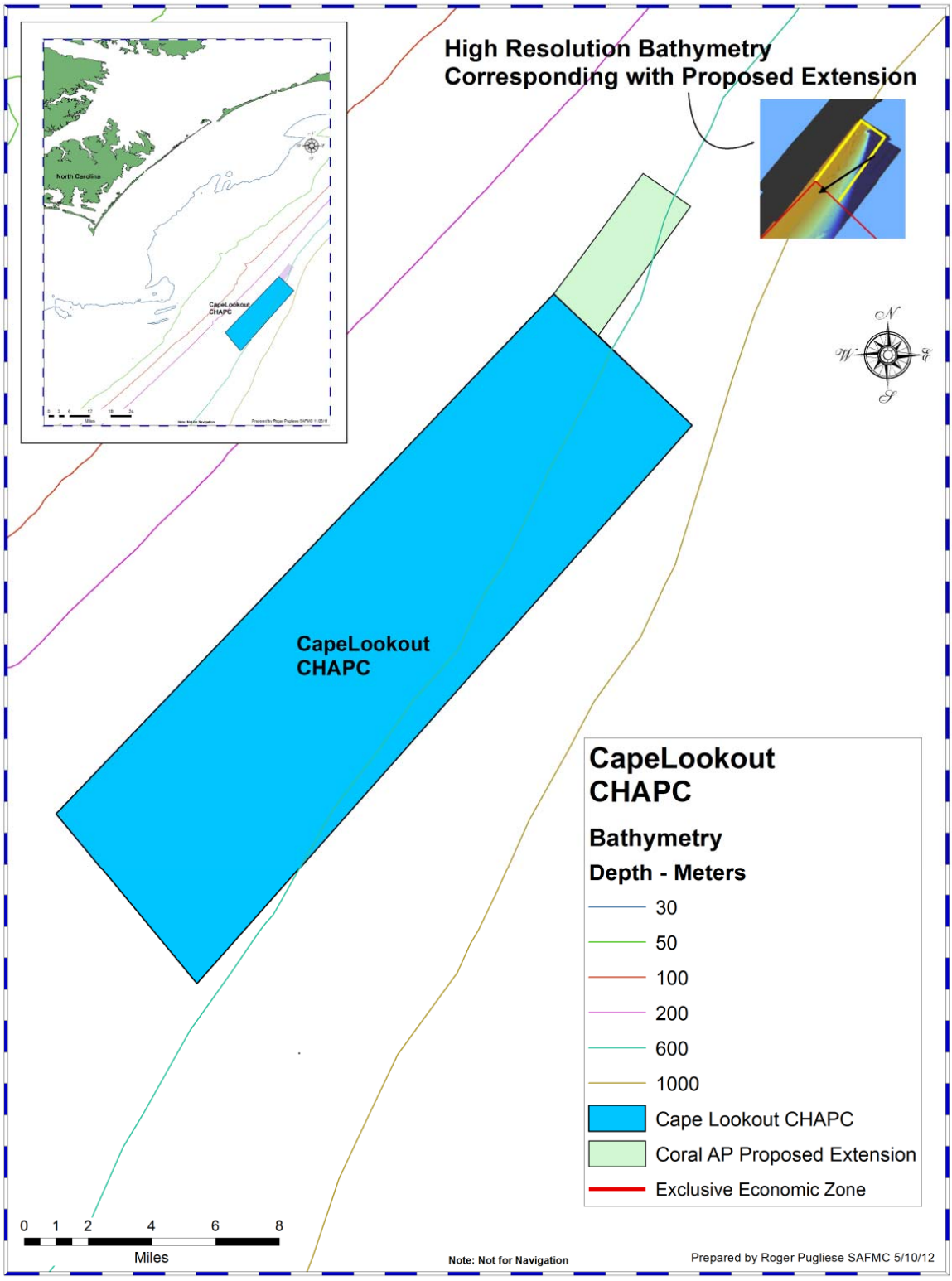


Figure 2-8. Action 3, Alternative 2. Coral Advisory Panel's proposed expansion of the Cape Lookout Coral HAPC northern boundary.

Comparison of Alternatives

Table 2-3. Summary of effects under **Action 3**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		

2.4 Action 4. Designate Habitat Areas of Particular Concern for speckled hind and warsaw grouper

Alternative 1 (**No Action**). Essential Fish Habitat(EFH)-HAPCs for species in the South Atlantic snapper grouper management unit have been defined as shown below:

> Areas which meet the criteria for 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-HAPCs for golden tilefish include 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-HAPCs for blueline tilefish include 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 and East Hump MPA.

Alternative 2. Designate new and/or expanded MPAs as EFH-HAPCs for speckled hind and warsaw grouper.

Comparison of Alternatives

Table 2-4. Summary of effects under **Action 4**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)	Status quo.	Status quo.
Alternative 2		
Alternative 3		
Alternative 4		

2.5 Action 5. Establish Marine Protected Areas for additional protections for speckled hind and warsaw grouper

Alternative 1 (No Action).

Comparison of Alternatives

Table 2-5. Summary of effects under **Action 5**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		

2.6 Action 6. Modify permits and data reporting for for-hire vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the for-hire sector.

Alternative 2. Data Collection Committee motion says modify as per Attachment 4, which is the Code of Federal Regulations excerpt pasted below:

***** *Code of Federal Regulations*: Title 50
§ 622.2 Definitions and acronyms. Science and Research Director (SRD), for the purposes of this part, means the Science and Research Director, Southeast Fisheries Science Center, NMFS (see Table 1 of § 600.502 of this chapter).
§ 622.4 Permits and fees.

Amendment, Proposed Changes:
I. Timing
(2) Reporting deadlines--(i) Charter vessels and headboats. Completed fishing records required by paragraph (b)(1) of this section for charter vessels and headboats must be submitted to the SRD weekly, or at intervals shorter than a week if notified by the SRD. These records must be electronically stamped or postmarked not later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.
Option 1. Weekly.
Option 2. Daily.
Option 3. Weekly or at intervals shorter than a week if notified by the SRD.

Comparison of Alternatives

Table 2-6. Summary of effects under **Action 6**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		

2.7 Action 7. Modify permits and data reporting for commercial vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the commercial sector.

Alternative 2. Modify permits and data-reporting for commercial vessels similarly to how this was done in SG Amendment 18A (Council chose No Action as their preferred at that time).

> **Sub-Alternative 2a.** Require all vessels with a Federal snapper grouper commercial permit to have an electronic logbook tied to the vessel's GPS onboard the vessel.
>
> (Note: Sub-Alternative 2a would require 100% of vessels to have an electronic logbook; whereas, current data reporting programs only require electronic logbooks if selected.)
>
> **Sub-Alternative 2b.** Provide the option for fishermen to submit their logbook entries electronically via an electronic version of the logbook made available online.
>
> **Sub-Alternative 2c.** Require that commercial landings and catch/effort data be submitted in accordance with ACCSP standards, using the SAFIS system.

Comparison of Alternatives

Table 2-7. Summary of effects under **Action 7**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		

2.8 Action 8. Modify bycatch and discard reporting

Alternative 1 (No Action). Adopt the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology. Until this module is fully funded, require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects. After the ACCSP Bycatch Module is implemented, continue the use of technologies to augment and verify observer data. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

Alternative 2. Adopt the Atlantic Coastal Cooperative Statistics Program Release, Discard and Protected Species Module as the preferred methodology. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

Alternative 3. Require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

Comparison of Alternatives

Table 2-8. Summary of effects under **Action 8**.

Alternatives	Biological Effects	Socioeconomic/Administrative Effects
Alternative 1 (No Action)		
Alternative 2		
Alternative 3		

Chapter 3. Affected Environment

This section describes the affected environment in the proposed project area. The affected environment is divided into four major components:

- **Habitat environment** (Section 3.1)

  Examples include coral reefs and sea grass beds

- **Biological environment** (Section 3.2)

  Examples include populations of golden tilefish, corals, turtles

- **Human environment** (Sections 3.3 & 3.4)

  Examples include fishing communities and economic descriptions of the fisheries

- **Administrative environment** (Section 3.5)

  Examples include the fishery management process and enforcement activities

3.1 Habitat Environment

The Comprehensive Ecosystem-Based Amendment 3 addresses management measures to protect deepwater coral ecosystems, including Oculina, to reduce bycatch of speckled hind and warsaw grouper as well as modification of reporting requirements in all of the South Atlantic Council managed fisheries. Chapter 3 details the biological environment for the species that will be most affected by this amendment including speckled hind and warsaw grouper, as well as deepwater coral ecosystems including Oculina.

Detailed information on the life history of the other species affected by this amendment through the data collection action can be found in previous amendments and the habitat and biological environment can be found in the Fishery Ecosystem Plan (SAFMC, 2009).

Information on the habitat utilized by species in the Snapper Grouper Complex is included in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b) and incorporated here by reference. The FEP can be found at:
http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx

The affected environment for the snapper grouper fishery has recently been described in the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011c), Amendment 17B (Amendment 17B) to the Fishery Management Plan for the Snapper Grouper of the South Atlantic Region (SAMFC 2010b), and the Fishery Ecosystem Plan (FEP) of the South Atlantic Region (SAMFC 2009). Those descriptions of the biological, social, economic, and administrative environments are herein incorporated by reference

The affected environment for the coral fishery has recently been described in the Comprehensive Ecosystem Based Amendment 2 (SAFMC, 2010) and the descriptions of the biological, social, economic and administrative environments are herein incorporated by reference.

Copies are available from the South Atlantic Fishery Management Council's (South Atlantic Council) Web site (www.safmc.net).

3.1.1 Inshore/Estuarine Habitat

Snapper-Grouper

Many deepwater snapper grouper species utilize both pelagic and benthic habitats during several stages of their life histories; larval stages of these species live in the water column and feed on plankton. Most juveniles and adults are demersal (bottom dwellers) and associate with hard structures on the continental shelf that have moderate to high relief (e.g., coral reef systems and artificial reef structures, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings). Juvenile stages of some snapper grouper species also utilize inshore seagrass beds, mangrove estuaries, lagoons, oyster reefs, and embayment systems. In

many species, various combinations of these habitats may be utilized during daytime feeding migrations or seasonal shifts in cross-shelf distributions. More detail on these habitat types can be found in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b).

Coral

3.1.2 Offshore Habitat

Snapper Grouper

Predominant snapper grouper offshore fishing areas are located in live bottom and shelf-edge habitats, where water temperatures range from 11º to 27º C (52º to 81º F) due to the proximity of the Gulf Stream, with lower shelf habitat temperatures varying from 11º to 14º C (52º to 57º F). Water depths range from 16 to 27 meters (54 to 90 feet) or greater for live-bottom habitats, 55 to 110 meters (180 to 360 feet) for the shelf-edge habitat, and from 110 to 183 meters (360 to 600 feet) for lower-shelf habitat areas.

The exact extent and distribution of productive snapper grouper habitat on the continental shelf north of Cape Canaveral is unknown. Current data suggest from 3 to 30% of the shelf is suitable habitat for these species. These live-bottom habitats may include low relief areas, supporting sparse to moderate growth of sessile (permanently attached) invertebrates, moderate relief reefs from 0.5 to 2 meters (1.6 to 6.6 feet), or high relief ridges at or near the shelf break consisting of outcrops of rock that are heavily encrusted with sessile invertebrates such as sponges and sea fan species. Live-bottom habitat is scattered irregularly over most of the shelf north of Cape Canaveral, Florida, but is most abundant offshore from northeastern Florida. South of Cape Canaveral, the continental shelf narrows from 56 to 16 kilometers (35 to 10 miles) wide, thence reducing off the southeast coast of Florida and the Florida Keys. The lack of a large shelf area, presence of extensive, rugged living fossil coral reefs, and dominance of a tropical Caribbean fauna are distinctive benthic characteristics of this area.

Rock outcroppings occur throughout the continental shelf from Cape Hatteras, North Carolina to Key West, Florida (MacIntyre and Milliman 1970; Miller and Richards 1979; Parker et al. 1983), which are principally composed of limestone and carbonate sandstone (Newton et al. 1971), and exhibit vertical relief ranging from less than 0.5 to over 10 meters (33 feet). Ledge systems formed by rock outcrops and piles of irregularly sized boulders are also common. Parker et al. (1983) estimated that 24% (9,443 km^2) of the area between the 27 and 101 meters (89 and 331 feet) depth contours from Cape Hatteras, North Carolina to Cape Canaveral, Florida is reef habitat. Although the bottom communities found in water depths between 100 and 300 meters (328 and 984 feet) from Cape Hatteras, North Carolina to Key West, Florida is relatively small compared to the whole shelf, this area, based upon landing information of fishers, constitutes prime reef fish habitat and probably significantly contributes to the total amount of reef habitat in this region.

Artificial reef structures are also utilized to attract fish and increase fish harvests; however, research on artificial reefs is limited and opinions differ as to whether or not these structures

promote an increase of ecological biomass or merely concentrate fishes by attracting them from nearby, natural un-vegetated areas of little or no relief.

The distribution of coral and live hard bottom habitat as presented in the Southeast Marine Assessment and Prediction (SEAMAP) Bottom Mapping Project is a proxy for the distribution of the species within the snapper grouper complex. The method used to determine hard bottom habitat relied on the identification of reef obligate species including members of the snapper grouper complex. The Florida Fish and Wildlife Research Institute (FWRI), using the best available information on the distribution of hard bottom habitat in the south Atlantic region, prepared ArcView maps for the four-state project. These maps, which consolidate known distribution of coral, hard/live bottom, and artificial reefs as hard bottom, are available on the South Atlantic Fishery Management Council's (South Atlantic Council) Internet Mapping System website: http://ocean.floridamarine.org/efh_coral/ims/viewer.htm.

Plots of the spatial distribution of offshore species were generated from the Marine Resources Monitoring, Assessment, and Prediction Program (MARMAP) data. The plots serve as point confirmation of the presence of each species within the scope of the sampling program. These plots, in combination with the hard bottom habitat distributions previously mentioned, can be employed as proxies for offshore snapper grouper complex distributions in the south Atlantic region. Maps of the distribution of snapper grouper species by gear type based on Marine Assessment Monitoring and Prediction Program (MARMAP) data can also be generated through the Council's Internet Mapping System at the above address.

Coral

Stony Corals (Class Anthozoa, Order Scleractinia)
The southeast U.S. slope area, including the slope off the Florida Keys, appears to have a unique assemblage of deepwater Scleractinia (Cairns and Chapman 2001). The warm temperate assemblage identified by Cairns and Chapman (2001) contained about 62 species, four endemic to the region. This group was characterized by many free-living species, a few species living deeper than 1,000 meters (3,281 feet), and many species with amphi-Atlantic distributions. For the southeastern U.S., in areas deeper than 200 meters (656 feet), they reported a similar assemblage, consisting of 57 species of scleractinians (including 47 solitary and ten colonial structure-forming corals), four antipatharians, one zoanthid, 44 octocorals, one pennatulid, and seven stylasterids. Thus, the region contains at least 114 species of deepwater corals (Classes Hydrozoa and Anthozoa). This list is conservative; however, it is expected that more species will be discovered in the region as exploration and sampling increase. The major structure-forming corals that most contribute to reef-like habitats in the southeastern U.S. are discussed below.

Lophelia pertusa
Although *Lophelia* may occur in small scattered colonies attached to various hard substrata, it also forms complex, high profile features. For instance, off North Carolina, *Lophelia* forms what may be considered classic mounds that appear to be a sediment/coral rubble matrix topped with almost monotypic stands of *L. pertusa*. Along the sides and around the bases of these banks are rubble zones of dead, gray coral pieces which may extend large distances away from the mounds. To the south, sediment/coral mounds vary in size, and *L. pertusa* and other hard and soft corals populate the abundant hard substrata of the Blake Plateau in great numbers.

Data are lacking on how *Lophelia* coral banks in the southeastern U.S. are formed. Hypotheses for coral mound formation in the northeastern Atlantic were proposed (Hovland *et al.* 1998; Hovland and Risk 2003; Masson *et al.* 2003), but it is unclear how relevant these are off the southeastern U.S. The mounds off North Carolina and those in other locations off the southeastern U.S. (particularly east of south-central Florida) appear to be formed by successive coral growth, collapse, and sediment entrapment (Wilson 1979; Ayers and Pilkey 1981; Paull *et al.* 2000; Popenoe and Manheim 2001). Other coral formations in the area (especially on the Blake Plateau) seem to form by coral colonization of appropriate hard substrates, without mound formation by the corals. If bottom currents are too strong, mound formation may be prevented (Popenoe and Manheim 2001) because sediments cannot be trapped. Ayers and Pilkey (1981) suggested that Gulf Stream currents may erode coral mounds, and that present coral bank sizes may be related to historical displacements of that current. Assuming currents also carry appropriate foods, it may be that currents with variable speeds or at least currents of moderate speeds (fast enough to facilitate filter feeding but not too fast to prevent sediment entrapment) coupled with a supply of sediment are the conditions necessary to facilitate coral mound formation (Rogers 1999). Regardless of how coral formations are created, Masson *et al.* (2003) suggest that elevated topography appears to be an important attribute for well developed coral communities.

Reproduction

Lophelia pertusa has been studied more extensively than other species, using samples from Norway, the Gulf of Mexico, and the Florida Straits. Seasonality of gametogenesis appears to vary with location. The gametogenic cycle of samples collected from the Norwegian Fjords began in April and terminated with spawning in March the following year (Brooke and Jarnegren in prep.). In the Gulf of Mexico; however, gametogenesis begins in November and spawning probably occurs in late September/October (S. Brooke unpubl.). Fecundity of both sets of samples is high but quantified data have not yet been compiled. Research into reproduction of octocorals from Alaska and New England is also underway (Simpson unpubl.), and some work has been done on reproduction in Alaskan stylasterines, which are all brooders and produce short-lived planulae (Brooke and Stone in press). Larval biology has been described for *O. varicosa* (Brooke and Young 2005) but not for any of the other deepwater corals.

Development and growth

The growth of *L. pertusa* has been measured using various methods (Duncan 1877; Dons 1944; Freiwald 1998; Gass and Roberts 2006), which have estimated growth rates between 4-26 millimeters (0.2-1.23 inches) per year, with the most likely estimates at approximately 5 millimeters (2 inches) per year (Mortensen and Rapp 1998). These methods have measured linear extension rather than calcification rates, but the latter could potentially be calculated from growth rates and skeletal density. Growth rates of some gorgonians and antipatharians have also been measured using rings in the gorgonian skeleton and isotopic analysis (e.g., Sherwood *et al.* 2005, Andrews *et al.* 2002, Risk *et al.* 2002; Williams *et al.* 2006) and in some cases the colonies are extremely old (hundreds to thousands of years) and have very slow growth rates (e.g., Druffel *et al.* 1995; C. Holmes *et al.* unpubl. data).

Field observations on distribution of *L. pertusa* indicate that the upper thermal limit for survival is approximately 12°C (54°F), and laboratory studies on *L. pertusa* tolerance to temperature extremes corroborate these observations (S. Brooke unpubl. data). Preliminary experiments with heat shock

proteins show expression of HSP-70 in response to exposure of temperature greater than 10°C (50 °F) (S. Brooke unpubl. data). Experiments on tolerance to sediment load indicate that samples of *L. pertusa* from the Gulf of Mexico show >50% survival in sediment loads of 103 mgL-1 for 14 days, and can survive complete burial for up to 2 days (Continental Shelf Associates in review). Given the proximity of some coral habitats to oil and gas extraction sites, tolerance to drilling fluids and fossil fuels should also be investigated.

Further laboratory and field experiments are needed to examine the individual and interactive effects of environmental conditions such as temperature, sedimentation, and toxins. A range of responses or endpoints should be examined including more modern techniques such as cellular diagnostics. These include examination of levels of stress proteins produced by cells in response to external conditions such as heat shock proteins, ubiquitin, etc. There are general classes of cellular products that are known to be indicative of specific stressors such as nutritional stress, xenobiotics, metals, and temperature. These techniques are being increasingly used in shallow coral systems as a more sensitive organismal response to stress (i.e., more sensitive than mortality). These responses should be measured in combination with more standard parameters such as growth, respiration, and fecundity.

Coral growth rates provide information on the rates of habitat production in deepwater coral ecosystems while coral mortality and bioerosion counterbalance this production with destruction. Understanding the positive and negative sides of this balance, particularly under the changes in environmental conditions that are anticipated in the coming decade or two, is crucial to the management and conservation of deepwater coral habitat and habitat function (e.g., fishery production).

Although *Lophelia* is the dominant hard coral off North Carolina, other scleractinians contribute to the overall complexity of the habitat **(Table 3-3)**. Overall, species diversity of scleractinians increases south of Cape Fear, NC, but *L. pertusa* is still dominant. For example, the colonial corals *Madrepora oculata* and *Enallopsammia profunda*, rare off Cape Lookout, NC, are relatively common south of Cape Fear, NC. These hard corals tend not to occur singly or as species-specific mounds, but rather live on or adjacent to the *Lophelia* mounds. A variety of solitary corals are also found off the southeastern U.S. Individuals are often attached to coral rubble or underlying hard substrata. Most species appear to be either uncommon or rare. But, in some instances, particularly in the central portion of the region, local abundance can be high. For example, aggregations of *Thecopsammia socialis* and *Bathypsammia fallosocialis* carpet the bottom adjacent to reef habitat at study sites off South Carolina and northern Florida (Ross *et al*. unpublished data).

Black corals (Class Anthozoa, Order Antipatharia)

Black corals (Families Leiopathidae and Schizopathidae, ca. four species) are important structure-forming corals on the southeastern U.S. slope (**Table 3-3**). These corals occur locally in moderate abundances, but their distributions seem to be limited to the region south of Cape Fear, NC. Colonies may reach heights of 1-2 meters (2-3 feet). Black coral colonies, occurring singly or in small aggregations, may be observed either in association with hard coral colonies or as separate entities. Some of these living components of the deep reefs attain ages of hundreds to thousands of years (Williams *et al.* 2006; Williams *et al.* in press; C. Holmes and S.W. Ross, unpublished data), and thus, along with gold corals, are among the oldest known animals on Earth. Black corals form annual or regular bands, and these bands contain important chemical records on past climates, ocean physics, ocean productivity, pollution, and data relevant to global geochemical cycles. An effort to

investigate these geochemical data is underway by U.S. Geological Survey (C. Holmes and S.W. Ross).

Gold corals (Class Anthozoa, Order Zoanthidae)
Gerardia spp. colonies are found most often singly away from other coral structure, but these corals are also found associated with colonies of other structure-forming corals such as *Lophelia pertusa*, *Keratoisis* spp., or antipatharians (*Leiopathes* spp.). Very little is known about this group of organisms. They apparently exhibit slow growth, reaching ages of at least 1,800 years old (Griffin and Druffel 1989; Druffel *et al.* 1995) and may be valuable in paleo-ecology studies.

Gorgonians (Class Anthozoa, Order Gorgonacea)
The gorgonians are by far the most diverse taxon on the southeastern U.S. slope represented by seven families, 17 genera, and 32 species. The diversity of gorgonians increases dramatically south of Cape Fear, NC. Additional sampling is likely to increase the numbers of known species in this group for this region. To date, material collected off Jacksonville, FL represented a newly described species (*Thourella bipinnata* Cairns 2006); the specimen of *Chrysogorgia squamata* also collected off Jacksonville represented the fifth known specimen of this species and increased our knowledge of its geographic range (previously known only from the Caribbean).

Bamboo corals (Family Isididae, four species), possibly the best known members of this group because of their larger size and distinctive morphology, are also important structure-forming corals off the southeast region **(Table 3-3)**. They occur locally in moderate abundances and their distributions also seem to be limited to the region south of Cape Fear, NC. Colonies may reach heights of 1-2 meters (3-6 feet). Bamboo coral colonies occur either singly or in small aggregations and may be observed either in association with hard coral colonies or as separate entities.

True soft corals (Class Anthozoa, Order Alcyonacea)
Three Families --Alcyoniidae, Nephtheidae, and Nidaliidae-- comprise the Alcyonacea off the southeastern U.S. No family is speciose; total known diversity for this group is only six species. The most abundant species observed in the region is *Anthomastus agassizi*, which is relatively abundant at sites off Florida. It is usually attached to dead *Lophelia*, but some individuals have also been observed on dermosponges and coral rubble. The majority of the alcyonacean species are smaller in size, both in vertical extent and diameter, than the gorgonians. Thus, these corals add to the overall structural complexity of the habitat by attaching to hard substrata such as dead scleractinian skeletons and coral rubble.

Stoloniferans, a suborder (Stolonifera) within the Alcyonacea, are represented by one family (Clavulariidae) off the southeast region. Six species from four genera have been reported from the region. One species, *Clavularia modesta*, is widespread throughout the western Atlantic; the other five species are known from North Carolina southward to the Caribbean.

Pennatulaceans (Class Anthozoa, Order Pennatulacea)
Little is known about pennatulids (sea pens) off the southeastern U.S. It is unlikely that this group contributes significantly to the overall complexity and diversity of the system. No sea pens have been observed during recent surveys (Ross *et al*. unpublished data) and based on museum records, only one species (*Kophobelemnon sertum*) is known in the region.

Stylasterids (Class Hydrozoa, Order Anthoathecatae)

Although not found in great abundances, stylasterids (lace corals) commonly occur off the southeastern U.S. Seven species representing four genera have been reported from the region. Individuals observed in situ are often attached to dead scleractinian corals or coral rubble. Abundance and diversity of stylasterids increase southward from the Carolinas.

3.1.3 Essential Fish Habitat

Snapper Grouper

Essential fish habitat (EFH) is defined in the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as "those waters and substrates necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 U.S. C. 1802(10)). Specific categories of EFH identified in the South Atlantic Bight, which are utilized by federally managed fish and invertebrate species, include both estuarine/inshore and marine/offshore areas. Specifically, estuarine/inshore EFH includes: Estuarine emergent and mangrove wetlands, submerged aquatic vegetation, oyster reefs and shell banks, intertidal flats, palustrine emergent and forested systems, aquatic beds, and estuarine water column. Additionally, marine/offshore EFH includes: Live/hard bottom habitats, coral and coral reefs, artificial and manmade reefs, *Sargassum* species, and marine water column.

EFH utilized by snapper grouper species in this region 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 183 meters [600 feet (but to at least 2,000 feet for wreckfish)] where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical fish complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for survival of larvae and growth up to and including settlement. In addition, the Gulf Stream is also EFH because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine- dependent and near shore snapper grouper species, EFH includes areas inshore of the 30 meter (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 habitats.

Coral

3.1.3.1 Habitat Areas of Particular Concern

Snapper Grouper

Areas which meet the criteria for Essential Fish Habitat-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; near shore 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).

Areas that meet the criteria for EFH-HAPCs include habitats required during each life stage (including egg, larval, postlarval, juvenile, and adult stages). In addition to protecting habitat from fishing related degradation though fishery management plan (FMP) regulations, the South Atlantic Council, in cooperation with NOAA Fisheries Service, actively comments on non-fishing projects or policies that may impact essential fish habitat. With guidance from the Habitat Advisory Panel, the South Atlantic Council has developed and approved policies on: energy exploration, development, transportation and hydropower re-licensing; beach dredging and filling and large-scale coastal engineering; protection and enhancement of submerged aquatic vegetation; alterations to riverine, estuarine and near shore flows; offshore aquaculture; marine invasive species and estuarine invasive species.

3.2 Biological and Ecological Environment

The reef environment in the South Atlantic management area affected by actions in this amendment is defined by two components (Figure 3-1). Each component will be described in detail in the following sections.

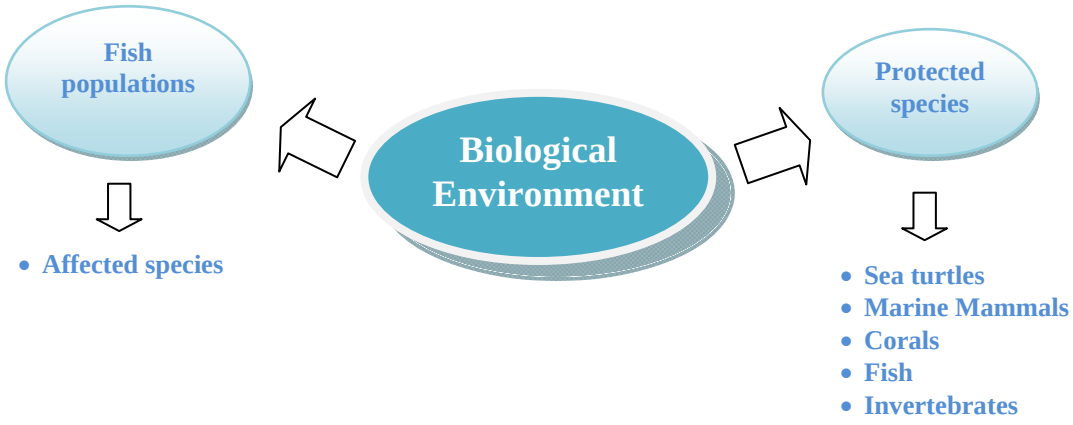


Figure 3-1. Two components of the biological environment described in this amendment

3.2.1 Fish Populations

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit currently contains 73 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (black sea bass, red grouper) while the tropical variety's core residence is in the waters off south Florida waters, Caribbean Islands, and northern South America (black grouper, mutton snapper).

These are reef-dwelling species that live amongst each other. These species rely on the reef environment for protection and food. There are several reef tracts that follow the southeastern coast. The fact that these fish populations congregate together dictates the nature of the fishery (multi-species) and further forms the type of management regulations proposed in this amendment.

Snapper grouper species commonly taken with red grouper could be affected by actions in this amendment. Snapper grouper species most likely to be affected by the proposed actions include many species that occupy the same habitat at the same time. Therefore, snapper grouper species are likely to be caught when regulated since they will be incidentally caught when fishermen target other co-occurring species.

3.2.1.1 Speckled Hind

Life History Information

Speckled hind occur in the Western Atlantic Ocean from North Carolina and Bermuda to the Florida Keys, and in the northern and eastern Gulf of Mexico (Heemstra and Randall 1993). The speckled hind is solitary and found in depths from 25 m (98 ft) (Heemstra and Randall 1993) to 400 m (1,312 ft) (Bullock and Smith 1991). Heemstra and Randall (1993) reported that it most commonly occurs at depths of 60-120 m (197-394 ft). Bullock and Smith (1991) indicated that most commercial catches are taken from depths of 50 m (164 ft) or more. Juveniles occur in shallower waters.

Maximum reported size is 110 cm (43.3 in) TL and 30 kg (66 lbs) (Heemstra and Randall 1993). The maximum size and age of individuals examined by Matheson and Huntsman (1984) in the South Atlantic Bight was 110 cm (43.3 in) and 15 years, respectively. Heemstra and Randall (1993) reported a maximum age of 25 years. Estimated size at maturity is 81.1 cm (32 in), and M (natural mortality) is estimated at 0.14 (Froese and Pauly 2003) to 0.15 (Potts et al. 1998).

The speckled hind is believed to form spawning aggregations (G. Gilmore, Dynamac Corporation, personal communication). Spawning reportedly occurs from July to September (Heemstra and Randall 1993). Prey items include fishes, crustaceans, and squids (Bullock and Smith 1991; Heemstra and Randall 1993).

Speckled hind probably migrate to deeper water as they grow and mature (Ziskin, 2008). Ziskin (2008) reported there was a positive relationship between depth and length for speckled hind examined during 1977 to 1993. Furthermore, like other grouper species, speckled hind change sex from female to male as they age (Ziskin 2008).

A study conducted by Ziskin (2008) indicated that total mortality and fishing mortality of speckled hind had increased since 1977-1993 suggesting that speckled hind continues to be overexploited, despite the 1994 regulation that limited commercial and recreational catch to one speckled hind per trip, and may not be reproductively resilient enough to recover from depressed population levels.

3.2.1.2 Stock Status of Speckled Hind

Speckled Hind
Stock Status

- Undergoing overfishing
- Overfished status unknown
- ABC=0 (landings only)
- ACL=0 (landings only; commercial and recreational)

3.2.1.3 Warsaw Grouper

Life History Information

Warsaw grouper occur in the Western Atlantic from Massachusetts to southeastern Brazil (Robins and Ray 1986), and in the Gulf of Mexico (Smith 1971). The warsaw grouper is a solitary species (Heemstra and Randall 1993), usually found on rocky ledges and seamounts (Robins and Ray 1986), at depths from 55 to 525 m (180-1,722 ft) (Heemstra and Randall 1993). Juveniles are sometimes observed in inshore waters (Robins and Ray 1986), on jetties and shallow reefs (Heemstra and Randall 1993).

Maximum reported size is 230 cm (91 in) TL (Heemstra and Randall 1993) and 263 kg (580 lbs) (Robins and Ray 1986). The oldest specimen was 41 years old (Manooch and Mason 1987). Natural mortality was estimated by the SouthEast Data Assessment and Review (SEDAR) group

during November 2003 to range from 0.05 to 0.12 (SEDAR 4 2004). The warsaw grouper spawns during August, September, and October in the Gulf of Mexico (Peter Hood, NOAA Fisheries, personal communication), and during April and May off Cuba (Naranjo 1956). Adults feed on benthic invertebrates and on fishes (Heemstra and Randall 1993).

3.2.1.4 Stock Status of Warsaw Grouper

Warsaw Grouper
Stock Status

- Undergoing overfishing
- Overfished status unknown
- ABC=0 (landings only)
- ACL=0 (landings only; commercial and recreational)

3.2.1.5 Other Fish Species Affected

3.2.2 Protected Species

There are 31 different species of marine mammals that may occur in the EEZ of the South Atlantic region. All 31 species are protected under the Marine Mammal Protection Act (MMPA) and six are also listed as endangered under the ESA (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). In addition to those six marine mammals, five species of sea turtle , the smalltooth sawfish, and two *Acropora* coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]) are protected under the ESA. Also, since the completion of the June 7, 2006 Biological Opinion, Atlantic sturgeon has been listed under the ESA, effective April 6, 2012 [77 FR 5914; February 6, 2012]. Portions of designated critical habitat for North Atlantic right whales and *Acropora* corals also occur within the South Atlantic Council's jurisdiction. Descriptions of the life history characteristics of the protected species can be found in the FEP (SAMFC 2009b) and in Comprehensive ACL Amendment (SAFMC 2011c), and are herein incorporated by reference.

Species listed as endangered or threatened under the ESA, along with any designated critical habitat(s) in the action area, are listed below. A review of the species' biology, population status, distribution, and on-going threats is provided in order to evaluate potential effects of the fishery and proposed action(s) on the listed species, as required by Section 7 of the ESA.

Section 7(a)(2) requires federal agencies ensure any activity they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of designated critical habitat.

List of Species and Designated Critical Habitat in the Action Area
Endangered
Blue whale *Balaenoptera musculus*
Humpback whale *Megaptera novaeangliae*
Fin whale *Balaenoptera physalus*
North Atlantic right whale *Eubalaena glacialis*
Sei whale *Balaenoptera borealis*
Sperm whale *Physeter macrocephalus*
Leatherback sea turtle *Dermochelys coriacea*
Hawksbill sea turtle *Eretmochelys imbricata*
Kemp's Ridley turtle *Lepidochelys kempii*
Green turtle* *Chelonia mydas (*Green turtles in U.S. waters are listed as threatened except the Florida breeding population, which is listed as endangered.)
Smalltooth sawfish (U.S. distinct population segment) *Pristis pectinata*
Atlantic Sturgeon
Threatened
Loggerhead turtle *Caretta caretta*
Elkhorn coral *Acropora palmata*
Staghorn coral *A. cervicornis*

Critical Habitat: Right Whale Critical Habitat

North Atlantic right whale critical habitat has been designated in the U.S. Southeast Atlantic from the mouth of the Altamaha River, Georgia, to Jacksonville, Florida, out 27 kilometers (15 nautical miles) and from Jacksonville, Florida, to Sebastian Inlet, Florida, out 9 kilometers (5 nautical miles). A portion of this area lies within the EEZ.

Species under U.S. Fish and Wildlife Service (USFWS) Jurisdiction:
Endangered
Bermuda Petrel *Pterodrama cahow*
Roseate Tern*** *Sterna dougallii*
*** North American populations federally listed under the ESA: endangered on Atlantic coast south to NC, threatened elsewhere.

ESA-Listed Sea Turtles
Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and travel widely throughout the South Atlantic. The following sections are a brief overview of the general life history characteristics of the sea turtles found in the South Atlantic region. Several volumes exist that cover more thoroughly the biology and ecology of these species (i.e., Lutz and Musick (eds.) 1997, Lutz *et al.* (eds.) 2002).

Green sea turtle hatchlings are thought to occupy pelagic areas of the open ocean and are often associated with *Sargassum* rafts (Carr 1987, Walker 1994). Pelagic stage green sea turtles are thought to be carnivorous. Stomach samples of these animals found ctenophores and pelagic snails (Frick 1976, Hughes 1974). At approximately 20 to 25 centimeters (8-10 inches) carapace length, juveniles migrate from pelagic habitats to benthic foraging areas (Bjorndal 1997). As juveniles move into benthic foraging areas a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also know to consume jellyfish, salps, and sponges (Bjorndal 1980, 1997; Paredes 1969; Mortimer 1981, 1982). The diving abilities of all sea turtles species vary by their life stages. The maximum diving range of green sea turtles is estimated at 110 meters (360 feet) (Frick 1976), but they are most frequently making dives of less than 20 meters (65 feet) (Walker 1994). The time of these dives also varies by life stage. The maximum dive length is estimated at 66 minutes with most dives lasting from 9 to 23 minutes (Walker 1994).

The **hawksbill's** pelagic stage lasts from the time they leave the nesting beach as hatchlings until they are approximately 22-25 centimeters (8-10 inches) in straight carapace length (Meylan 1988, Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill‘s diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

Kemp's ridley hatchlings are also pelagic during the early stages of life and feed in surface waters (Carr 1987, Ogren 1989). Once the juveniles reach approximately 20 centimeters (8 inches) carapace length they move to relatively shallow (less than 50 meters; 164 feet.)
benthic foraging habitat over unconsolidated substrates (Márquez-M. 1994). They have also been observed transiting long distances between foraging habitats (Ogren 1989). Kemp‘s ridleys feeding in these nearshore areas primarily prey on crabs, though they are also known to ingest mollusks, fish, marine vegetation, and shrimp (Shaver 1991). The fish and shrimp Kemp‘s ridleys ingest are not thought to be a primary prey item but instead may be scavenged opportunistically from bycatch discards or from discarded bait (Shaver 1991). Given their predilection for shallower water, Kemp‘s ridleys most routinely make dives of 50 m or less (Soma 1985, Byles 1988). Their maximum diving range is unknown. Depending on the life stage Kemp‘s ridleys may be able to stay submerged anywhere from 167 minutes to 300 minutes, though dives of 12.7 minutes to 16.7 minutes are much more common (Soma 1985, Mendonca and Pritchard 1986, Byles 1988). Kemp‘s ridleys may also spend as much as 96% of their time underwater (Soma 1985, Byles 1988).

Leatherbacks are the most pelagic of all ESA-listed sea turtles and spend most of their time in the open ocean although they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles, leatherbacks‘ diets do

not shift during their life cycles. Because leatherbacks' ability to capture and eat jellyfish is not constrained by size or age, they continue to feed on these species regardless of life stage (Bjorndal 1997). Leatherbacks are the deepest diving of all sea turtles. It is estimated that these species can dive in excess of 1000 meters (Eckert *et al.* 1989) but more frequently dive to depths of 50 to 84 meters (Eckert *et al.* 1986). Dive times range from a maximum of 37 minutes to more routines dives of 4 to 14.5 minutes (Standora *et al.* 1984, Eckert *et al.* 1986, Eckert *et al.* 1989, Keinath and Musick 1993). Leatherbacks may spend 74% to 91% of their time submerged (Standora *et al.* 1984).

Loggerhead hatchlings forage in the open ocean and are often associated with *Sargassum* rafts (Hughes 1974, Carr 1987, Walker 1994, Bolten and Balazs 1995). The pelagic stage of these sea turtles are known to eat a wide range of things including salps, jellyfish, amphipods, crabs, syngnathid fish, squid, and pelagic snails (Brongersma 1972). Stranding records indicate that when pelagic immature loggerheads reach 40-60 centimeters (16-23 inches) straight-line carapace length they begin to live in coastal inshore and nearshore waters of the continental shelf throughout the U.S. Atlantic (Witzell 2002). Here they forage over hard- and soft-bottom habitats (Carr 1986). Benthic foraging loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke *et al.* 1993). Estimates of the maximum diving depths of loggerheads range from 211 to 233 meters (692-764 feet.) (Thayer *et al.* 1984, Limpus and Nichols 1988). The lengths of loggerhead dives are frequently between 17 and 30 minutes (Thayer *et al.* 1984, Limpus and Nichols 1988, Limpus and Nichols 1994, Lanyan *et al.* 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994, Lanyan *et al.* 1989).

ESA-Listed Marine Fish

Smalltooth Sawfish

The historical range of the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. In the South Atlantic region, they are most commonly found in Florida, primarily off the Florida Keys (Simpfendorfer and Wiley 2004). Only two smalltooth sawfish have been recorded north of Florida since 1963 (the first was captured off North Carolina in 1999 (Schwartz 2003) and the other off Georgia 2002 [Burgess unpublished data]). Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 meters (Bigelow and Schroeder 1953, Adams and Wilson 1995), while mature animals occur in waters in excess of 100 meters (Simpfendorfer pers. comm. 2006). Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938, Bigelow and Schroeder 1953).
NMFS convened the Smalltooth Sawfish Recovery Team, comprising sawfish scientists, managers, and environmental managers, to develop a plan to recover the U.S. distinct population segment (DPS) of smalltooth sawfish. The plan recommends specific steps to recover the DPS, focusing on reducing fishing impacts, protecting important habitats, and educating the public. The draft recovery plan was made available for public comment in August 2006 and can be found at www.nmfs.noaa.gov.

On May 1, 2009, the Southeast Regional Office, Sustainable Fisheries Division, requested reinitiation of the Endangered Species Act Section 7 consultation on the South Atlantic shrimp fishery and its effects on smalltooth sawfish because the amount of authorized incidental take for smalltooth sawfish had been exceeded. The most recent biological opinion on shrimp fishing under the Shrimp Fishery Management Plan for the South Atlantic, completed on February 25, 2005, concluded the continued authorization of the South Atlantic shrimp fishery is not likely to jeopardize the continued existence of smalltooth sawfish. An incidental take statement was issued authorizing the annual incidental lethal take of up to one smalltooth sawfish. A smalltooth sawfish take was observed in a shrimp trawl in the South Atlantic exclusive economic zone (EEZ) on July 26, 2008. It was in poor condition and believed not to have survived the interaction. Three additional smalltooth sawfish were observed taken in a shrimp trawls in the South Atlantic EEZ during a fishing trip from March 5-9, 2009. One of the smalltooth sawfish is thought to have died from the interaction; the other two were released alive and assumed to have survived.

Under the Endangered Species Act (ESA), it is illegal to catch or harm an endangered sawfish. However, some fishermen catch sawfish incidentally while fishing for other species. NMFS and the Smalltooth Sawfish Recovery Team have developed guidelines to fishermen telling them how to safely handle and release any sawfish they catch.

Atlantic Sturgeon

ESA-Listed Marine Invertebrates

Elkhorn (*Acropora palmata)* and staghorn (*A. cervicornis*) coral were listed as threatened under the ESA on May 9, 2006. The Atlantic *Acropora* Status Review (*Acropora* Biological Review Team 2005) presents a summary of published literature and other currently available scientific information regarding the biology and status of both these species.

Elkhorn and **staghorn** corals are two of the major reef-building corals in the wider Caribbean. In the South Atlantic region, they are found most commonly in the Florida Keys; staghorn coral occurs the furthest north with colonies documented off Palm Beach, Florida (26°3'N). The depth range for these species ranges from <1 meter (3 feet) to 60 meters (197 feet). The optimal depth range for elkhorn is considered to be 1 to 5 meters (3-16 feet) depth (Goreau and Wells 1967), while staghorn corals are found slightly deeper, 5 to 15 meters (16-49 feet) (Goreau and Goreau 1973).

All Atlantic *Acropora* species (including elkhorn and staghorn coral) are considered to be environmentally sensitive, requiring relatively clear, well-circulated water (Jaap *et al.* 1989). Optimal water temperatures for elkhorn and staghorn coral range from 25° to 29°C (77-84°F) (Ghiold and Smith 1990, Williams and Bunkley-Williams 1990). Both species are almost entirely dependent upon sunlight for nourishment, contrasting the massive, boulder-shaped species in the region (Porter 1976, Lewis 1977) that are more dependent on zooplankton. Thus, Atlantic *Acropora* species are much more susceptible to increases in water turbidity than some other coral species.

Fertilization and development of elkhorn and staghorn corals is exclusively external. Embryonic development culminates with the development of planktonic larvae called planulae (Bak *et al.* 1977, Sammarco 1980, Rylaarsdam 1983). Unlike most other coral larvae, elkhorn and staghorn planulae

appear to prefer to settle on upper, exposed surfaces, rather than in dark or cryptic ones (Szmant and Miller 2006), at least in a laboratory setting. Studies of elkhorn and staghorn corals indicated that larger colonies of both species[3] had higher fertility rates than smaller colonies (Soong and Lang 1992).

Species of Concern

NOAA Fisheries Service has created a list of Species of Concern as a publicly available list identifying other species of concern. These are species about which NOAA Fisheries Service has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the ESA. NOAA Fisheries Service uses the list to draw proactive attention and conservation action to these species. No federal mandate protects species of concern under the ESA although voluntary protection of these species is urged. To date, no incidental capture of any of these species has been reported in the shrimp fishery or golden crab fishery in the South Atlantic region.

List of Marine Species of Concern in the Southeastern U. S.
Dusky shark *Carcharhinus obscurus*
Sand tiger shark *Odontaspis taurus*
Night shark *Carcharhinus signatus*
Atlantic sturgeon *Acipenser oxyrhynchus oxyrhynchus*
Mangrove rivulus *Rivulus mamoratus*
Oposum pipefish *Microphis barchyurus lineatus*
Key silverside *Menidia conchorum*
Goliath grouper *Epinephelus itajara*
Speckled hind *Epinephelus drummondhayi*
Warsaw grouper *Epinephelus nigritus*
Nassau grouper *Epinephelus striatus*
Atlantic white marlin *Tetrapturus albidus*
Ivory Tree Coral *Oculina varicosa*

3.3 Human Environment

Additional information on the commercial snapper grouper fishery is contained in previous amendments [Amendment 17B (SAFMC 2010b); Regulatory Amendment 9 (SAFMC 2011b); Amendment 25 (Comprehensive ACL Amendment) (SAFMC 2011c)] and is incorporated herein by reference. Additional information on deepwater coral ecosystems can be found in the Comprehensive Ecosystem-Based Amendment 1 and the Comprehenisve ACL Amendment and is herein incorporated by reference.

3.3.1 Economic Description of the Commercial Fishery

Additional information on the commercial snapper grouper fishery is contained in previous amendments [Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2008a), Amendment

15B (SAFMC 2008b), Amendment 16 (SAFMC 2009a), and Amendment 18A (SAFMC 2011] and is incorporated herein by reference

3.3.1.4 Economic Activity

3.3.2 Economic Description of the Recreational Fishery

Additional information on the recreational sector of the snapper grouper fishery contained in previous or concurrent amendments is incorporated herein by reference [see Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2008a), Amendment 15B (SAFMC 2008b), Amendment 16 (SAFMC 2009a), Amendment 17A (SAFMC 2010a), Amendment 17B (SAFMC 2010b), Regulatory Amendment 9 (SAFMC 2011b), Comprehensive ACL Amendment for the South Atlantic Region (SAFMC 2011c), Amendment 24 (SAFMC 2011d)]. The following description of the recreational sector focuses on speckled hind and warsaw grouper, as well as co-located snapper grouper species including as this is the main species considered in this amendment.

The recreational sector is comprised of the private sector and for-hire sector. The private sector includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire sector is composed of the charterboat and headboat (also called partyboat) sectors. Charterboats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

3.3.2.1 Harvest

3.3.2.2 Effort

Recreational effort derived from the MRFSS database can be characterized in terms of the number of trips as follows:

1. Target effort - The number of individual angler trips, regardless of trip duration, where the intercepted angler indicated that the species was targeted as either the first or the second primary target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of trip duration and target intent, where the individual species was caught. The fish caught did not have to be kept.
3. All recreational trips - The total estimated number of recreational trips taken, regardless of target intent or catch success.

3.3.2.3 Permits

For-hire vessels are required to have a for-hire snapper grouper permit to fish for or possess snapper grouper species in the South Atlantic EEZ. The number of vessels with for-hire snapper grouper permits for the period 2005-2010 is provided in Table 3-20. This sector operates as an open access fishery and not all permitted vessels are necessarily active in the fishery. Some vessel owners obtain open access permits as insurance for uncertainties in the fisheries in which they currently operate.

The number of for-hire permits issued for the South Atlantic snapper grouper fishery increased from 1,904 permits in 2005 to 2,104 permits in 2008, but subsequently decreased to 2,091 in 2009 and 1,815 in 2010. The majority of snapper grouper for-hire permitted vessels were home-ported in Florida; a relatively high proportion of these permitted vessels were also home-ported in North Carolina and South Carolina. Many vessels with South Atlantic for-hire snapper-grouper permits were homeported in states outside of SAFMC's area of jurisdiction, particularly in the Gulf states of Alabama through Texas. Although the number of vessels with South Atlantic for-hire snapper grouper permits homeported in states outside of SAFMC's area of jurisdiction increased from 2005 to 2009, they still accounted for approximately the same proportion (9-10%) of the total number of permits. For-hire snapper-grouper permits in these other areas fell in 2010.

Table 3-20. Number of South Atlantic for-hire snapper-grouper vessel permits, 2005-2010.

Home Port State	2005	2006	2007	2008	2009	2010	Avg.
North Carolina	294	317	353	399	391	333	348
South Carolina	136	142	152	160	167	147	151
Georgia	37	36	37	35	36	28	35
Florida	1,267	1,304	1,312	1,310	1,280	1,110	1,264
Gulf States (AL-TX)	102	84	79	84	87	84	87
Other States	68	84	93	116	130	113	101
Total	1,904	1,967	2,026	2,104	2,091	1,815	1,985

For hire permits do not distinguish charterboats from headboats. Based on a 1997 survey, Holland et al. (1999) estimated that a total of 1,080 charter vessels and 96 headboats supplied for-hire services in all South Atlantic fisheries during 1997. By 2010, the estimated number of headboats supplying for-hire services in all South Atlantic fisheries had fallen to 85, indicating a decrease in fleet size of approximately 11% between 1997 and 2010 (K. Brennan, Beaufort Laboratory, SEFSC, personal communication, Feb. 2011).

There are no specific permitting requirements for recreational anglers to harvest snapper grouper. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions.

3.3.2.4 Economic Value and Expenditures

Participation, effort, and harvest are indicators of the value of saltwater recreational fishing. However, a more specific indicator of value is the satisfaction that anglers experience over and above their costs of fishing. The monetary value of this satisfaction is referred to as consumer surplus. The value or benefit derived from the recreational experience is dependent on several quality determinants, which include fish size, catch success rate, and the number of fish kept. These variables help determine the value of a fishing trip and influence total demand for recreational fishing trips.

While anglers receive economic value as measured by the consumer surplus associated with fishing, for-hire businesses receive value from the services they provide. Producer surplus is the measure of the economic value these operations receive. Producer surplus is the difference between the revenue a business receives for a good or service, such as a charter or headboat trip, and the cost the business incurs to provide that good or service. Estimates of the producer surplus associated with for-hire trips are not available. However, proxy values in the form of net operating revenues are available (David Carter, NMFS SEFSC, personal communication, August 2010). These estimates were culled from several studies – Liese *et al.* (2009), Dumas *et al.* (2009), Holland *et al.* (1999), and Sutton *et al.* (1999). Estimates of net operating revenue per angler trip (2009 dollars) on representative charter trips (average charter trip regardless of area fished) are $146 for Louisiana through east Florida, $135 for east Florida, $156 for northeast Florida, and $128 for North Carolina. For charter trips into the EEZ only, net operating revenues are $141 in east Florida and $148 in northeast Florida. For full-day and overnight trips only, net operating revenues are estimated to be $155-$160 in North Carolina. Comparable estimates are not available for Georgia, South Carolina, or Texas.

Net operating revenues per angler trip are lower for headboats than for charterboats. Net operating revenue estimates for a representative headboat trip are $48 in the Gulf of Mexico (all states and all of Florida), and $63-$68 in North Carolina. For full-day and overnight headboat trips, net operating revenues are estimated to be $74-$77 in North Carolina. Comparable estimates are not available for Georgia and South Carolina.

The foregoing value estimates should not be confused with angler expenditures or the economic activity (impacts) associated with these expenditures. While expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

Estimates of the economic activity (impacts) associated with recreational fishing for any species could be derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009). Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output

(sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

The current model to derive business activity is based on the number of recreational trips for a species. Because these trips for golden tilefish are relatively sparse (see **Tables 3-14** through **3-17**), estimates of economic activity generated by the recreational sector for the golden tilefish portion of the snapper grouper fishery reflect such sparse data. Estimates of the average golden tilefish recreational effort (2005-2010) and associated economic impacts (2008 dollars) are provided in **Table 3-21**. Target trips were used as the measure of recreational effort. As previously discussed, more trips may catch a species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent.

It should be noted that output impacts and value added impacts are not additive and the impacts for individual species should not be added because of possible duplication (some trips may target multiple species). Also, the estimates of economic activity should not be added across states to generate a regional total because state-level impacts reflect the economic activity expected to occur within the state before the revenues or expenditures "leak" outside the state, possibly to another state within the region. Under a regional model, economic activity that "leaks" from, for example, Florida into Georgia would still occur within the region and continue to be tabulated. As a result, regional totals would be expected to be greater than the sum of the individual state totals. Regional estimates of the economic activity associated with golden tilefish recreational fishing are unavailable at this time.

Because the headboat sector in the Southeast is not covered by the MRFSS, the current model used in deriving estimates could not provide this sector's estimates of economic activity. In the particular case of golden tilefish, estimating economic activity of the headboat sector is also unnecessary because this sector did not report any landings of the species during the period considered.

3.3.2.5 Financial Operations of the Charter and Headboat Sectors

Holland et al. (1999) estimated that the charterboat fee in the South Atlantic ranged from $292 to $2,000. The actual cost depended on state, trip length, and the variety of services offered by the charter operation. Depending on the state, the average fee for a half-day trip ranged from $296 to $360, for a full day trip the range was $575 to $710, and for an overnight trip the range was $1,000 to $2,000. Most (>90%) Florida charter operators offered half-day and full-day trips and about 15% of the fleet offered overnight trips. In comparison, only about 3% of operations in the other South Atlantic states offered overnight trips.

For headboats, the average fee in Florida was $29 for a half-day trip and $45 for a full day trip. For North and South Carolina, the average base fee was $34 per person for a half-day trip and $61 per person for a full day trip. Most of these headboat trips operated in Federal waters in the South Atlantic (Holland et al. 1999).

Capital investment in charter vessels averaged $109,301 in Florida, $79,868 for North Carolina, $38,150 for South Carolina and $51,554 for Georgia (Holland et al. 1999). Charterboat owners incur expenses for inputs such as fuel, ice, and tackle in order to offer the services required by their passengers. Most expenses incurred in 1997 by charter vessel owners were on crew wages and salaries and fuel. The average annual charterboat business expenditures incurred was $68,816 for Florida vessels, $46,888 for North Carolina vessels, $23,235 for South Carolina vessels, and $41,688 for vessels in Georgia in 1997. The average capital investment for headboats in the South Atlantic was approximately $220,000 in 1997. Total annual business expenditures averaged $135,737 for headboats in Florida and $105,045 for headboats in other states in the South Atlantic.

The 1999 study on the for-hire sector in the Southeastern U.S. presented two sets of average gross revenue estimates for the charter and headboat sectors in the South Atlantic (Holland et al., 1999). The first set of estimates were those reported by survey respondents and were as follows: $51,000 for charterboats on the Atlantic coast of Florida; $60,135 for charterboats in North Carolina; $26,304 for charterboats in South Carolina; $56,551 for charterboats in Georgia; $140,714 for headboats in Florida; and $123,000 for headboats in the other South Atlantic states (Holland *et al*., 1999). The authors generated a second set of estimates using the reported average trip fee, average number of trips per year, and average number of passengers per trip (for the headboat sector) for each vessel category for Florida vessels. Using this method, the resultant average gross revenue figures were $69,268 for charterboats and $299,551 for headboats. Since the calculated estimates were considerably higher than the reported estimates (22% higher for charterboats and 113% higher for headboats), the authors surmised that this was due to sensitivity associated with reporting gross receipts, and subsequent under reporting. Alternatively, the respondents could have overestimated individual components of the calculated estimates. Although the authors only applied this methodology to Florida vessels, assuming the same degree of under reporting in the other states results in the following estimates in average gross revenues: $73,365 for charterboats in North Carolina, $32,091 for charterboats in South Carolina; $68,992 for charterboats in Georgia; and $261,990 for headboats in the other South Atlantic states.

It should be noted that the study's authors were concerned that while the reported gross revenue figures may be underestimates of true vessel income, the calculated values could overestimate gross income per vessel from for-hire activity (Holland et al., 1999). Some of these vessels are also used in commercial fishing activities and that income is not reflected in these estimates.

A more recent study of the North Carolina for-hire fishery provides some updated information on the financial status of the for-hire fishery in the state (Dumas et al., 2009). Depending on vessel

length, regional location, and season, charter fees per passenger per trip ranged from $168.14 to $251.59 for a full-day trip and from $93.63 to $123.95 for a half-day trip; headboat fees ranged from $72.50 to $81.78 for a full-day trip and from $38.08 to $45 for a half-day trip. Charterboats generated a total of $55.7 million in passenger fees, $3.2 million in other vessel income (e.g., food and beverages), and $4.8 million in tips. The corresponding figures for headboats were $9.8 million in passenger fees, $0.2 million in other vessel income, and $0.9 million in tips. Non-labor expenditures (e.g., boat insurance, dockage fees, bait, ice, fuel) amounted to $43.6 million for charterboats and $5.3 million for headboats. Summing across vessel lengths and regions, charter vessels had an aggregate value (depreciated) of $120.4 million and headboats had an aggregate value (depreciated) of $10.2 million.

3.4 Social and Cultural Environment

The proposed actions in this amendment may affect fishermen and communities associated with the snapper grouper fishery, the coastal migratory pelagic fisheries, the dolphin and wahoo fisheries, the shrimp and deepwater shrimp fisheries, the golden crab fishery, and the spiny lobster fishery. Communities associated with each of the fisheries will be described in the sections below and previous amendments with detailed descriptions of social environments of these fisheries are incorporated as references.

In general, the people who may be directly affected by the proposed regulations include captain and crew of commercial and for-hire vessels, vessel owners, fish houses and dealers, restaurants, recreational anglers, businesses associated with recreational fishing, businesses associated with coastal tourism, and coastal communities. In addition to regulatory change, individuals who may be affected by proposed actions also live and work in an environment with natural, economic, social and political dynamics.

Coastal growth and development affects many coastal communities, especially those with either or both commercial and recreational working waterfronts. The rapid disappearance of these types of waterfronts has important implications as the disruption of various types of fishing-related businesses and employment. The process of "gentrification," which tends to push those of a lower socio-economic class out of traditional communities as property values and taxes rise has become common along coastal areas of the U.S. and around the world. Working waterfronts tend to be displaced with development that is often stated as the "highest and best" use of waterfront property, but often is not associated with water-dependent occupations. However, with the continued removal of these types of businesses over time the local economy becomes less diverse and more reliant on the service sector and recreational tourism. As home values increase, people within lower socio-economic strata find it difficult to live within these communities and eventually must move. Consequently they spend more time and expense commuting to work, if jobs continue to be available. Newer residents often have no association with the water-dependent employment and may see that type of work and its associated infrastructure as unappealing. They often do not see the linkage between those occupations and the aesthetics of the community that produced the initial appeal for many migrants. The

demographic trends within counties can provide some indication as to whether these types of coastal change may be occurring if an unusually high rate of growth or change in the demographic character of the population is present. A rise in education levels, property values, fewer owner occupied properties and an increase in the median age can at times indicate a growing process of gentrification (Colburn and Jepson 2012). Demographic profiles of coastal communities can be found in the Comprehensive Annual Catch Limit Amendment (SAFMC 2011).

3.4.1 Fishing Communities

The communities displayed in the figures in Sections 3.4.2-7 below represent a categorization of communities based upon their overall value of local commercial landings divided by the overall value of commercial landings referred to as a "regional quotient" (RQ). These data were assembled from the accumulated landings system which includes all species from both state and federal waters landed in 2010. All communities were ranked on this "RQ" and divided by those who were above the mean and those below. This breakdown of fisheries involvement is similar to the how communities were categorized in the community profiling of South Atlantic fishing communities (Jepson *et al*. 2005). However, the categorization within the community profiles included other aspects associated with fishing such as infrastructure and other measures to determine a community's status with regard to reliance upon fishing.

The social vulnerability index (SoVI) was created to understand social vulnerability of communities to coastal environmental hazards and can also be interpreted as a general measure of vulnerability to other social disruptions, such as adverse regulatory change or manmade hazards. Detailed information about the SoVI can be found in Comprehensive ACL Amendment (SAFMC 2011). High social vulnerability does not necessarily mean that there will be adverse effects of proposed actions in this amendment, only that there may be a potential for adverse effects under the right circumstances. Fishing communities in these counties may have more difficulty adjusting to regulatory changes if those impacts affect employment or other critical social capital. The SoVI for counties in each state is illustrated in the maps in Sections 3.4.8-11.

3.4.2 Snapper Grouper Fishing Communities

Figure 3-1 presents the top communities based upon a regional quotient of combined commercial landings and value for all snapper grouper species in the South Atlantic snapper grouper complex. There were 154 communities with snapper grouper landings but the 11 communities included in Figure 3-2 were those with Pounds RQ larger than 3 percent. Therefore, because so many communities have snapper grouper landings, many had low RQs and are not included in the figure. There are also communities that have high landings of a particular species, such as black sea bass in Sneads Ferry, NC, or golden tilefish in Port Orange, FL.

Key West, FL, has the highest landings of combined snapper grouper species, followed by Murrell's Inlet, SC, and Miami FL. No Georgia communities made up more than 3% of the snapper grouper landings.

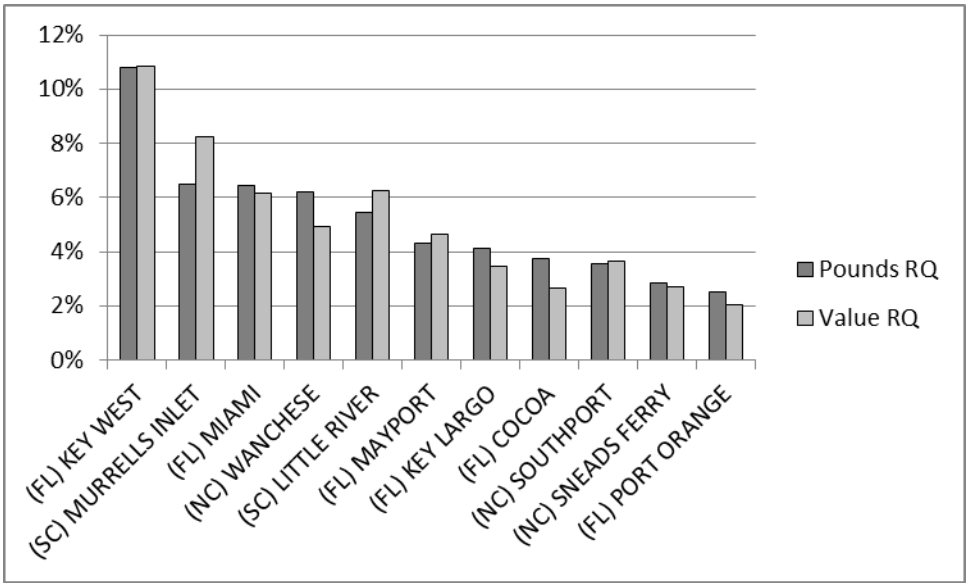


Figure 3-2. The top eleven South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of Snapper Grouper species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

The recreational sector of the snapper grouper fishery is very important throughout the region, and recreational landings estimate vary depending on the region and species. Black sea bass, tilefish, vermilion snapper, silk snapper, red grouper, black grouper and gray triggerfish are some of the more important species for private recreational anglers.

The for-hire recreational fleet is also important in each state, and there is a federal charter permit required for snapper grouper. The distribution of charter permits at the county level is included in Sections 3.4.8-11. Overall, Florida has the largest number of charter permits (Table 3-21). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are in Charleston County and Horry County, and in Georgia most of the permits are associated with communities in Chatham County and Glynn County. In Florida, almost half of the permits are from Monroe County, and a majority of the permits are associated with communities in south Florida (Brevard, Palm Beach and Miami-Dade Counties).

Table 3-21. Federal snapper grouper charter permits in the South Atlantic region (2012).

State	Number of Snapper Grouper Charter Permits
North Carolina	253

South Carolina	105
Georgia	25
Florida	641
TOTAL	**1,024**

3.4.3 Coastal Pelagic Fishing Communities

Detailed demographic information on communities that target coastal migratory pelagic (CMP) species is available in CMP Amendment 18 (GMFMC/SAFMC 2011a). Figure 3-3 shows the top communities ranked by combined pounds and value for king mackerel, Spanish mackerel, and cobia. Cocoa and Fort Pierce have the largest proportion of CMP landings. Only one North Carolina community (Hatteras) had more than 3% of CMP landings, and no South Carolina or Georgia communities had at least 3% of the regional CMP landings.

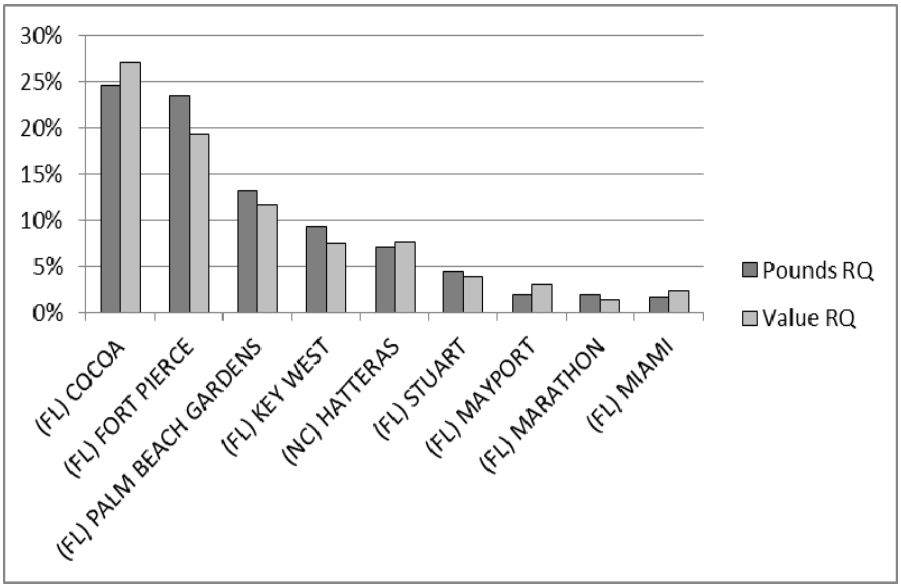


Figure 3-3. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of coastal migratory pelagic species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

The recreational sector of the CMP fishery is very important throughout the region, and recreational landings estimate vary depending on the region and species. There is a federal charter permit required for CMP species. The distribution of charter permits at the county level is included in Sections 3.4.8-11. Overall, Florida has the largest number of charter permits (Table 3-22). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are Charleston and Horry Counties, with some permits associated with

Beaufort County and Georgetown County. Most Georgia permits are in Chatham and Glynn County. Almost half of the Florida permits are associated with Monroe County, followed by Palm Beach, Brevard, and Broward Counties.

Table 3-22. Federal CMP charter permits in the South Atlantic region (2012).

State	Number of CMP Charter Permits
North Carolina	265
South Carolina	114
Georgia	21
Florida	600
TOTAL	**1,006**

3.4.4 Dolphin-Wahoo Fishing Communities

Detailed demographic information on communities that target dolphin and wahoo is available in the Comprehensive ACL Amendment (SAFMC 2011). Figure 3-4 shows the top communities ranked by commercial pounds and value for dolphin and wahoo. Wanchese, NC makes up the significant proportion of commercial dolphin and wahoo landings and value. The value of dolphin and wahoo varies in the communities.

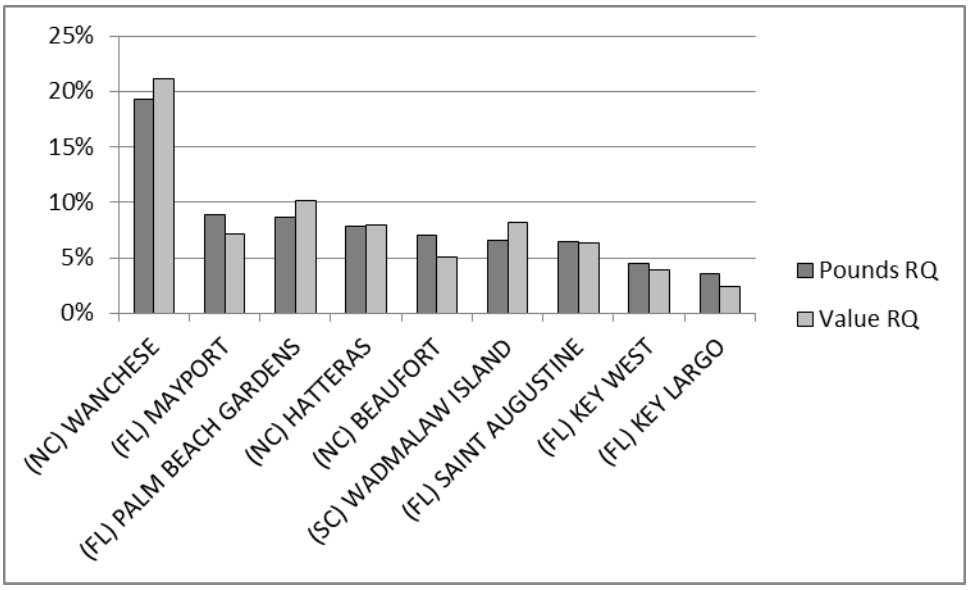


Figure 3-4. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of dolphin and wahoo. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

Although there are commercial landings, almost all landings are from the recreational sector of the dolphin-wahoo fishery and the recreational quota is 97% of the total dolphin-wahoo ACL. Most of the recreational landings are from Florida and distributed between charter and private angling trips.

There is a federal charter permit required for dolphin-wahoo and the distribution of charter permits at the county level is included in Sections 3.4.8-11. Overall, Florida has the largest number of charter permits (Table 3-23). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are in Charleston County, and in Georgia most of the permits are associated with communities in Chatham County and Glynn County. In Florida, almost half of the permits are from Monroe County, and a majority of the permits are associated with communities in south Florida (Brevard, Palm Beach and Broward Counties).

Table 3-23. Federal dolphin-wahoo charter permits in the South Atlantic region (2012).

State	Number of Dolphin-Wahoo Charter Permits
North Carolina	292
South Carolina	111
Georgia	21
Florida	608
TOTAL	**1,032**

3.4.5 Shrimp and Deepwater Shrimp Fishing Communities

Because recent South Atlantic shrimp amendments do not address penaeid shrimp, contemporary descriptions of the social environment of this particular fishery are lacking. Blount (2007) documents changes in the Georgia shrimp fishery highlighting the effects of an increasing global market for shrimp and the stresses placed upon fishermen and their communities. Whether all South Atlantic penaeid shrimp fishermen are experiencing the same types of stress is unknown. Yet, because they are exposed to the same market pressures, it is likely that those same factors are having similar impacts on South Atlantic shrimpers from other states. In fact, Griffith (2011) describes South Carolina shrimp fishermen as experiencing comparable effects from increasing imports and utilizing similar marketing strategies as those used by Georgia shrimp fishermen to combat lower prices and increase sales. These same issues were reflected in recent surveys

conducted among North Carolina fishermen who cited rising fuel costs and low prices for seafood as their primary challenges (Crosson 2007a, 2007b).

While it is difficult to ascertain the current condition of the South Atlantic shrimp fishery from secondary data, over the past few years there has been a decline in the number of permits. Whether this is due to current market forces or the more general economic downturn that has affected the economy overall is unknown, however, the industry is likely facing difficult times as the economy recovers at a slow pace and it still faces high fuel prices and continuing competition from imports for market share.

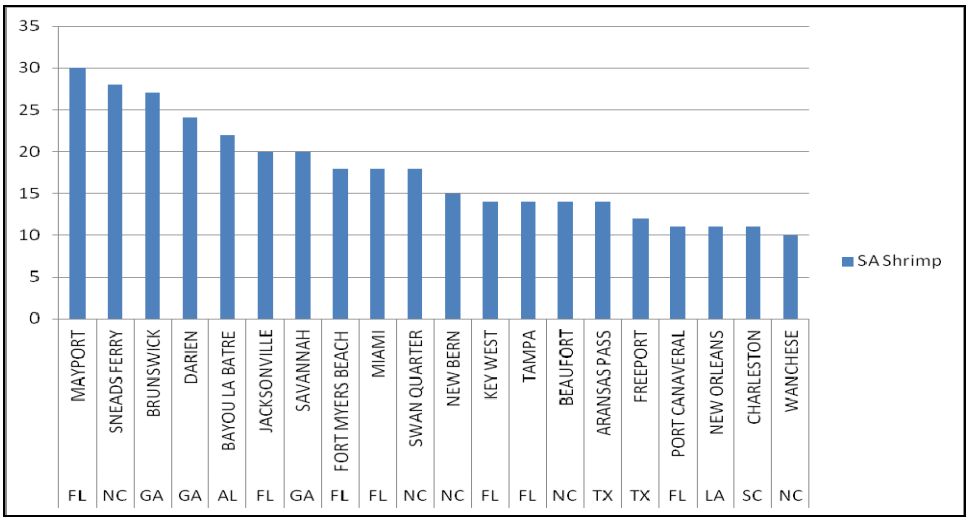


Figure 3-5. The top twenty fishing communities with South Atlantic shrimp permits in 2010 (SERO 2010).

As seen in Fig. 3-5, fishing communities with the majority of South Atlantic shrimp permits are not confined to the this region. Several communities located in the Gulf region are among the top twenty communities with South Atlantic shrimp permits. These Gulf vessels are likely participants in the rock shrimp fishery who seasonally migrate to South Atlantic waters and have so since the mid-1990's and are limited participants in the South Atlantic penaeid shrimp fishery. For South Atlantic states, the majority of permits are in located in Florida, North Carolina and Georgia.

Table 3-24. South Atlantic shrimp permits for top ten communities by South Atlantic state (SERO 2010)

South Carolina	Sum	North Carolina	Sum	Georgia	Sum	Florida	Sum
Charleston	11	Sneads Ferry	28	Brunswick	27	Jacksonville	20
McClellanville	9	Swan Quarter	18	Darien	24	Fort Myers Beach	18
Frogmore	4	New Bern	15	Savannah	20	Miami	18
Georgetown	4	Beaufort	14	Townsend	7	Key West	14
Mount Pleasant	4	Wanchese	10	Valona	4	Tampa	14

Bluffton	3	Belhaven	8	Sunbury	3	Port Canaveral	11
Hilton Head	3	Lowland	8	Lyons	2	Fernandina Beach	9
Edisto Beach	2	Supply	7	Meridian	2	Fort Myers	7
Murrells Inlet	2	Engelhard	5	Saint Marys	2	Hickory Island	5
Port Royal	2	Southport	5	Saint Simons Isl	2	Tarpon Springs	5

The top communities within each state for South Atlantic shrimp permits are listed in Table 3-24, although these are not necessarily permits associated with vessels active in the shrimp fisheries. In fact, it is only when landings by species are reported that those communities most actively involved become apparent.

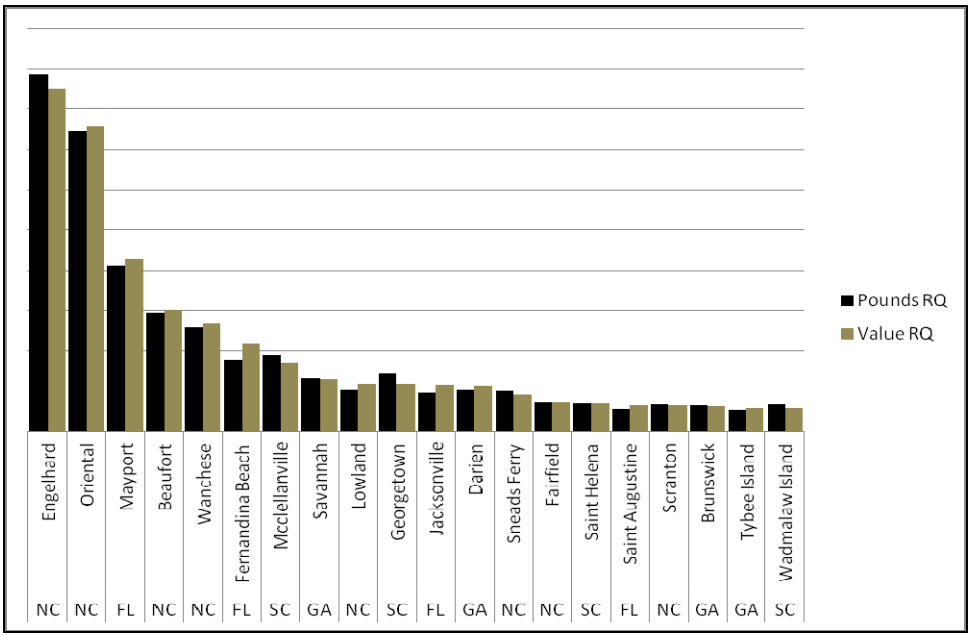


Figure 3-6. Top twenty fishing communities in the South Atlantic by regional quotient (RQ) of brown shrimp landings and value in 2010 (ALS 2011).

Most brown shrimp in the South Atlantic are landed in North Carolina with four communities having the highest regional quotients[1] (Fig. 3-6). Engelhard and Oriental have the highest RQs for pounds and value respectively. Mayport, FL is next while both Beaufort, NC and Wanchese, NC complete the top five. The rest of the communities have less than 5% of the regional quotient of landings and value for brown shrimp.

For white shrimp, the communities with the highest regional quotient tend to be further south in Florida and Georgia as shown in Fig. 3-7. Mayport, FL has the highest RQ of pounds and value of white shrimp landed for the region. The next closest communities are Savannah, GA and

[1] Regional quotient is the share of pounds and value landed for a particular species within a community in relation to all landings and value in the region.

Darien, GA. McClellanville, SC is fourth with Fernandina Beach, FL and Jacksonville, FL even with regard to value of landed pounds but Jacksonville has a higher pounds RQ than Fernandina.

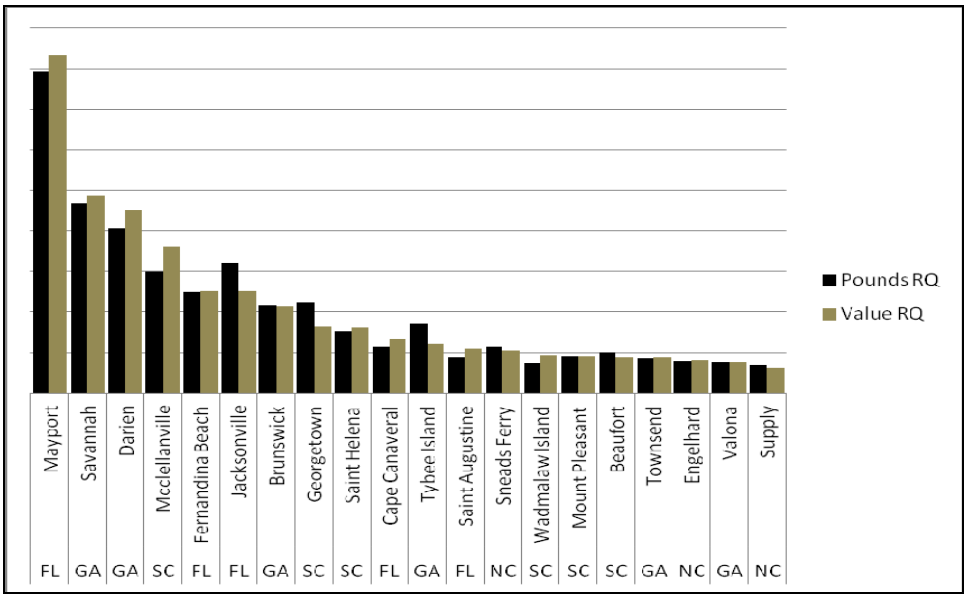


Figure 3-7. Top twenty fishing communities in the South Atlantic by Regional Quotient of white shrimp landings and value (ALS 2011).

For pink shrimp, it is not possible to separate Gulf landings from South Atlantic landings at the community level; therefore, Fig. 3-8 shows Key West as leading all communities in pounds landed and value for regional quotient of pink shrimp. Opa-Locka, FL, near north Miami, is a distant second.

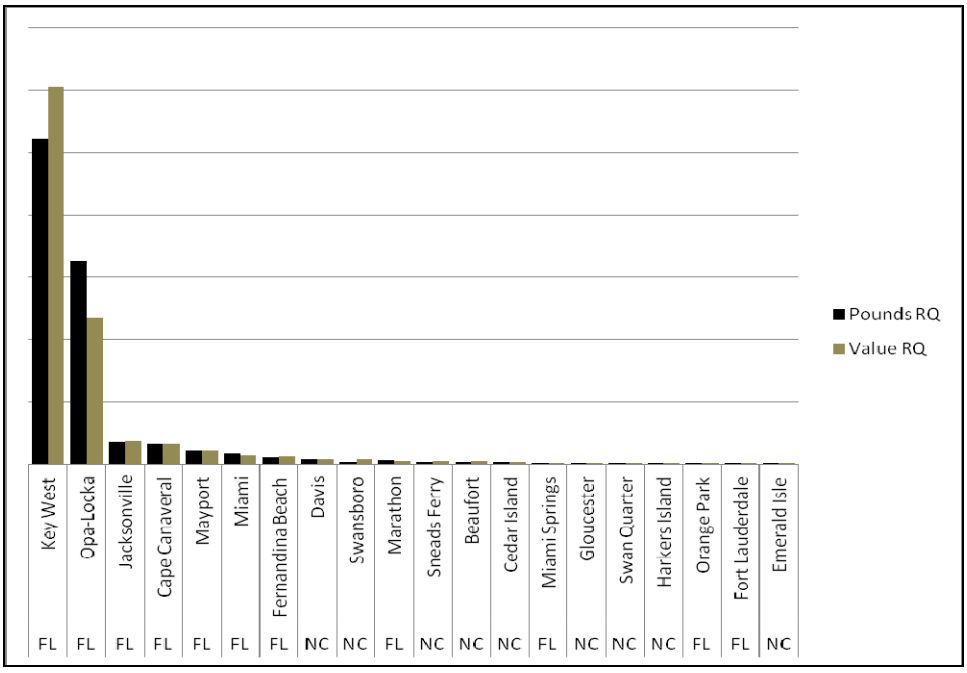


Figure 3-8. Top twenty fishing communities in the South Atlantic by Regional Quotient of pink shrimp landings and value (ALS 2011).

To examine South Atlantic shrimp fishing communities in terms of their fishing engagement and reliance, an index was created for both categories of fishing activity (Colburn and Jepson 2012; Jacob *et al*. 2012). Using a principal component, single solution factor analysis on the variables numbers of commercial permits, value and pounds of landings, two indices were created for each community, which can be ranked on factor scores for each index. Fishing reliance has many of the same variables as engagement but population divides each variable. Each community's factor score is located on the axis radiating out from the center of the graph to its name. Factor scores are connected by colored lines and are standardized, therefore the mean is zero. A threshold of one standard deviation above the mean was chosen. Although most communities are near the threshold in Fig. 3-9, several communities have factor scores on both indices that exceed 1 standard deviation above the mean. The communities of Key West, FL; Marathon, FL; Darien, GA; Beaufort, NC; Wanchese, NC; and McClellan, SC all exceed the threshold of 1 standard deviation above the mean for both commercial fishing engagement and reliance. These communities can be considered dependent upon commercial fishing and therefore more reactive to changes in fishing regulations

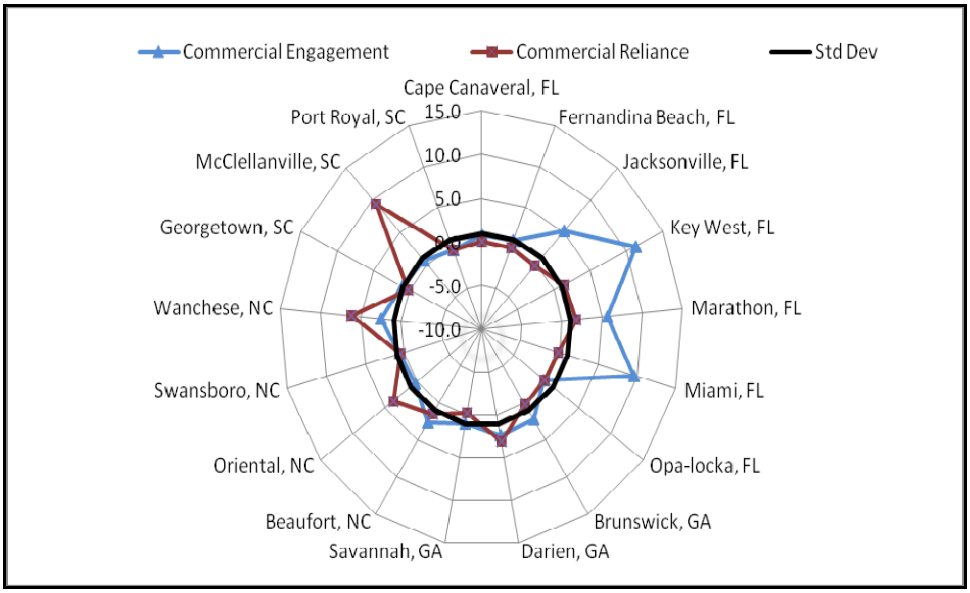


Figure 3-9. Commercial engagement and reliance for the top South Atlantic shrimp communities (SERO 2012).

3.4.6 Golden Crab Fishing Communities

The Golden Crab fishery exists off the coast of southeast Florida and has relatively few vessels and participants. Golden crab permits are under moratorium and currently there are 11 permits, all associated with Palm Beach, Broward, and Monroe Counties in Florida. Almost 80% of regional landings and value are from West Palm Beach, FL and Fort Lauderdale, FL (ALS 2010). The RQ chart is not included because landings information is confidential at the community level.

3.4.7 Spiny Lobster Fishing Communities

Approximately 90-95% of commercial spiny lobster is landed in the Florida Keys annually, and the trap fishery has been established in the communities since at least the 1950s. In recent decades, tourism has become the primary economic driver in the Florida Keys, but commercial fishing has a deeply rooted sociocultural tie to the communities in the Florida Keys. Intergenerational fishing families are common and in communities such as Marathon, the industry is an important part of economy and social environment of the towns. Some long-term commercial fishermen are regarded as community leaders and are actively involved. Overall, the commercial spiny lobster fishery is significant to the Florida Keys communities economically, but likely more so because of its social, cultural and historical value to the area. Detailed demographic information can be found in Spiny Lobster Amendment 10 (GMFMC/SAFMC 2011b). Marathon, Miami, and Key West make up a majority of regional landings and value for spiny lobster (Table 3-c).

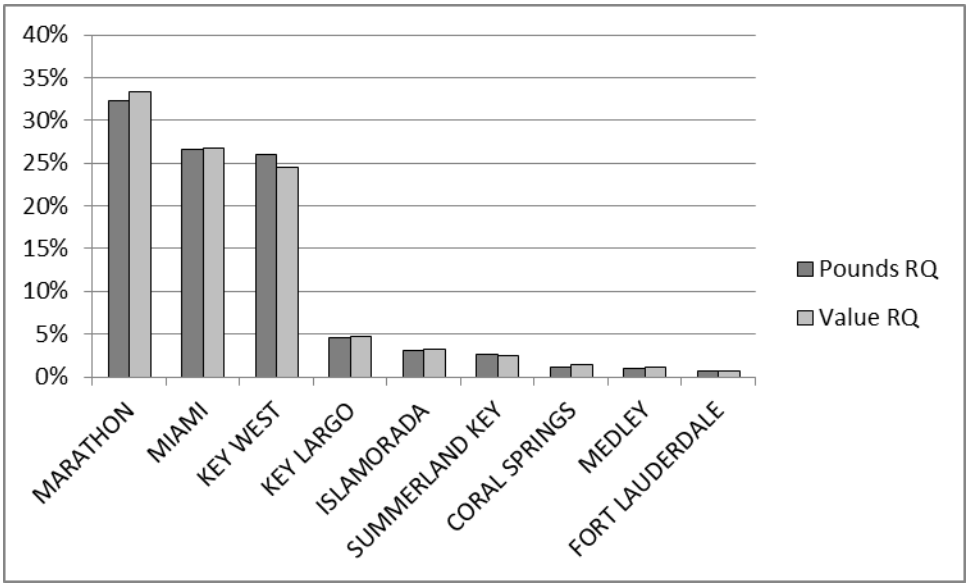


Figure 3-10. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of spiny lobster. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

The recreational sector of the spiny lobster fishery is also economically and socially important to the Florida Keys, and recreational spiny lobster fishing affects in almost every community in Monroe County. However, the actions in this amendment will likely have little impact on the recreational spiny lobster fishery.

3.4.8 North Carolina

There are a number of North Carolina counties classified as being either medium high or high on the social vulnerability scale and within those counties there are numerous fishing communities (Figure 3-11). Those counties that are considered to be either medium high or high on the SoVI are: New Hanover, Onslow, Carteret, Washington, Bertie, Chowan, Pasquotank, and Perquimans.

Many fishermen in North Carolina work under the dual jurisdiction of the Mid-Atlantic Fishery Management Council and the South Atlantic Fishery Management Council.

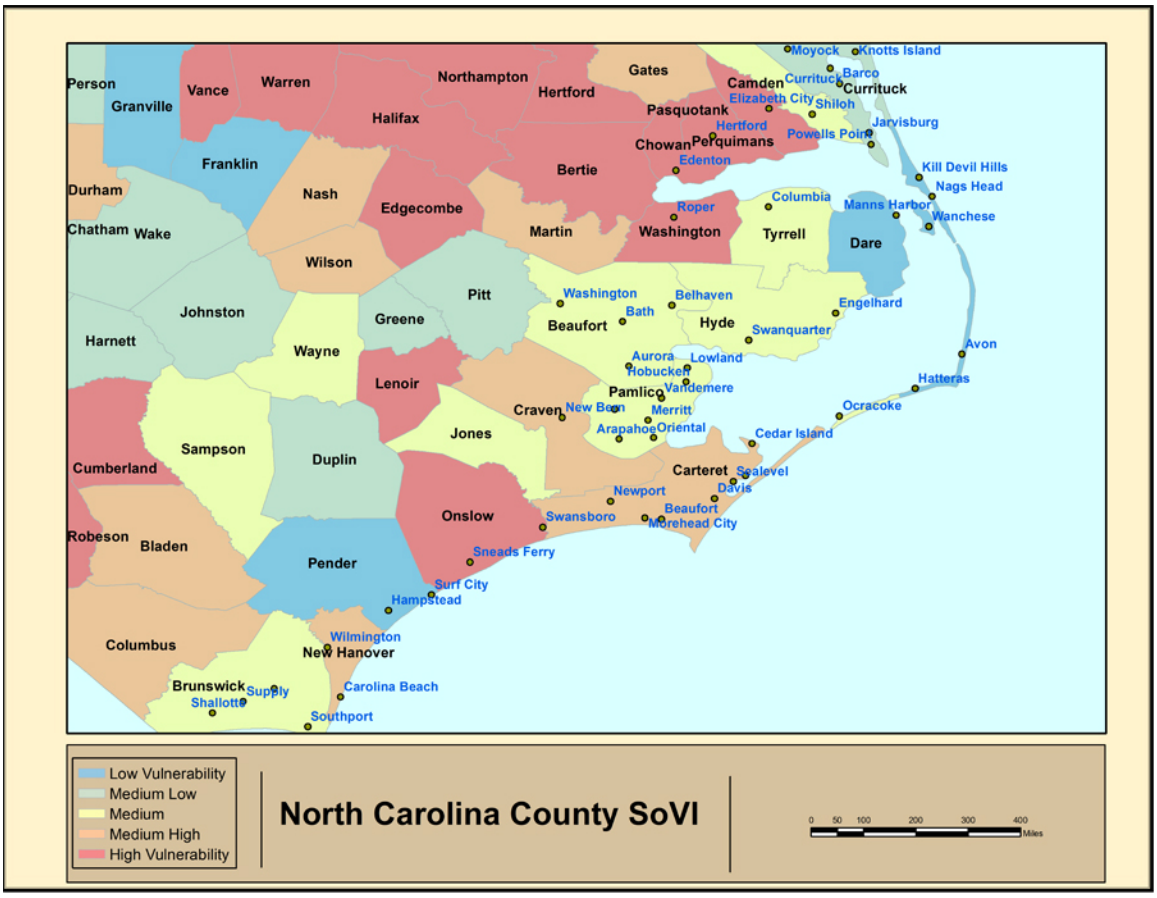


Figure 3-11. The Social Vulnerability Index applied to North Carolina Coastal Counties**.**

Commercial Fishing

There has been a steady decline in the number of federal commercial permits North Carolina and in 2012 there were 1,194 permits to fish commercial species (**Table 3-24**). Brunswick County, Carteret County, New Hanover County and Dare County have the largest number of permits, making up over half of all federal permits in North Carolina. Mackerel permits (Spanish

mackerel and King mackerel) and dolphin wahoo permits are the most commonly held commercial permits in North Carolina. Snapper grouper permits make up about one-tenth of commercial permits in the state.

Table 3-24. Federal commercial fishing permits in North Carolina coastal counties (2012).

County*	Snapper Grouper	Mackerels	Dolphin-Wahoo	Rock Shrimp	Penaeid Shrimp	Spiny Lobster**	Total
Beaufort	0	2	4	1	4	0	**11**
Brunswick	32	56	69	2	17	22	**198**
Carteret	21	30	55	4	12	7	**129**
Craven	0	0	2	12	12	0	**26**
Dare	19	77	108	1	6	2	**213**
Hyde	1	6	6	7	24	1	**45**
New Hanover	18	35	42	0	1	5	**101**
Onslow	11	19	13	17	27	2	**89**
Pamlico	0	2	9	14	17	19	**61**
Pasquotank	0	8	3	0	0	0	**11**
Pender	9	11	10	1	1	2	**34**
Total	**111**	**246**	**321**	**59**	**121**	**60**	**1,194**

* Based on the mailing address of the permit holder.
**Includes non-Florida permits and tailing permits.

Most dealer permits are associated with Carteret, Dare and New Hanover Counties (Table 3-25). Almost all of the dealer permits are snapper grouper and dolphin-wahoo permits.

Table 3-25. Federal dealer permits in North Carolina coastal counties (2012).

County*	Snapper Grouper	Dolphin-Wahoo	Rock Shrimp	Golden Crab	Wreckfish	Total
Beaufort	1	1	0	0	1	**3**
Brunswick	5	5	0	0	0	**10**
Carteret	10	10	1	0	1	**22**
Craven	2	2	2	0	1	**7**
Dare	9	11	2	1	4	**27**
Hyde	1	2	0	0	1	**4**
New Hanover	7	7	0	0	0	**14**
Onslow	4	5	0	0	1	**10**
Pamlico	0	0	0	0	0	**0**
Pasquotank	0	0	0	0	0	**0**
Pender	2	2	0	0	0	**4**
Total	**41**	**45**	**5**	**1**	**9**	**101**

* Based on the mailing address of the permit holder.

Recreational Fishing

Recreational fishing is well developed in North Carolina and, due to natural geography, is not limited to areas along the coast. North Carolina offers several types of private recreational licenses for residents and visitors, and for different durations (10-day, annual, and lifetime). Non-resident recreational license sales are high, indicating how coastal recreational fishing is tied to coastal tourism in the state. In general recreational license sales have remained stable or increased, with the exception of annual non-resident license sales, which have declined in recent years (**Table 3-26**)

Table 3-26. Coastal recreational fishing license sales by year and type.

License Type	2007	2008	2009	2010	2011
Annual Resident	23,793	19,222	19,398	20,254	19,270
Annual non-Resident	179,923	143,810	142,569	141,475	130,743
10-day Resident	40,255	39,110	45,724	47,619	45,467
10-day Non-Resident	131,105	125,564	132,193	137,066	130,026

Source: NC Division of Marine Fisheries

In 2012 there were 663 South Atlantic federal charter permits for dolphin wahoo, mackerel and cobia and snapper grouper registered to individuals in North Carolina coastal counties (**Table 3-27**). A majority of the charter permits are from Dare County, Brunswick County, and Carteret County. It is common for charter vessels to hold all three federal charter permits.

Table 3-27. Federal charter permits in North Carolina coastal counties (2012).

County*	Dolphin Wahoo	Mackerels and Cobia	Snapper Grouper	Total
Beaufort	1	1	1	3
Brunswick	46	46	44	136
Carteret	40	34	34	108
Craven	3	2	2	7
Dare	89	83	78	250
Hyde	4	4	4	12
New Hanover	36	33	29	98
Onslow	6	7	7	20
Pasquotank	3	3	2	8
Pamlico	0	0	0	0

Pender	7	7	7	21
Total	**235**	**220**	**208**	**663**

* Based on the mailing address of the permit holder.

3.4.2 South Carolina

Coastal South Carolina had no counties that were either medium or highly vulnerable (Figure 3-12). This does not mean that communities could not be vulnerable to adverse impacts because of regulatory action. It may suggest that coastal South Carolina is more resilient and capable of absorbing such impacts without substantial social disruption. South Carolina had no communities with landings or value over 3% for any coastal pelagic. While there were no substantial commercial landings within the state, the recreational fishery may be important.

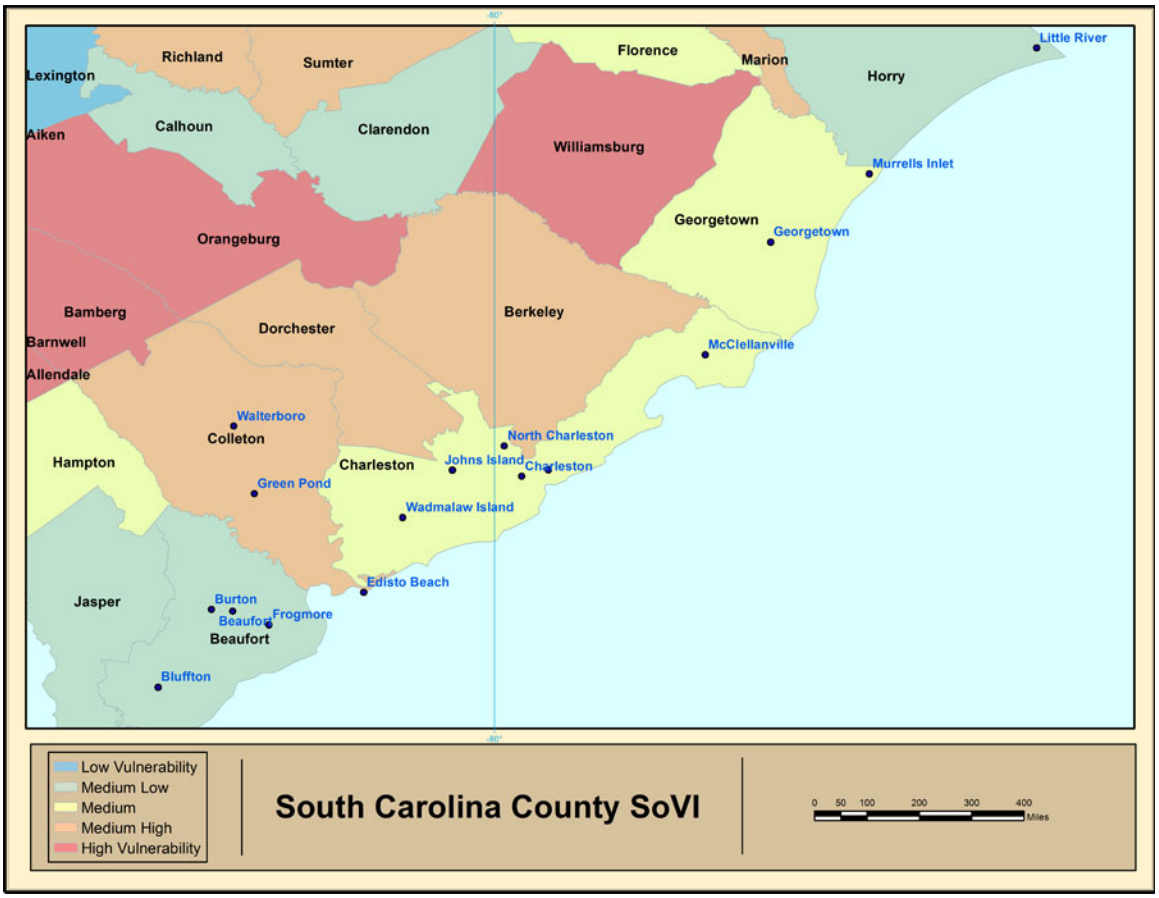


Figure 3-12. The Social Vulnerability Index applied to South Carolina Coastal Counties.

Commercial Fishing

While pockets of commercial fishing activities remain in the state, most are being displaced by the development forces and associated changes in demographics. There are 190 commercial

permits in South Carolina coastal counties (**Table 3-28**). Horry, Georgetown, and Charleston Counties have the majority of finfish permits, and Beaufort County and Charleston County have the highest number of shrimp permits.

Table 3-28(a). Federal commercial finfish permits in South Carolina coastal counties (2012).

County*	Dolphin-Wahoo	King Mackerel	Snapper Grouper	Spanish Mackerel	Wreckfish	Total
Beaufort	0	0	1	0	0	**1**
Berkeley	1	1	1	0	0	**3**
Charleston	17	4	9	2	2	**34**
Georgetown	17	11	12	4	0	**44**
Horry	21	7	20	6	0	**54**
Total	**56**	**23**	**43**	**12**	**2**	**136**

Table 3-28(b). Federal commercial lobster and shrimp permits in South Carolina coastal counties (2012).

County*	Spiny Lobster**	Rock Shrimp	Penaeid Shrimp	Total
Beaufort	0	1	13	**14**
Charleston	0	5	20	**25**
Georgetown	2	0	3	**5**
Horry	8	1	1	**10**
Total	**10**	**7**	**37**	**54**

* Based on the mailing address of the permit holder.
**Includes non-Florida permits and tailing permits.

There are 27 dealer permits registered to South Carolina coastal counties (Table 3-29). Most are in Charleston County. There are no federal dealer permits in Beaufort or Berkeley Counties.

Table 3-29. Federal dealer permits in South Carolina coastal counties (2012).

County*	Dolphin-Wahoo	Snapper Grouper	Wreckfish	Total
Charleston	7	6	2	**15**
Georgetown	2	2	1	**5**
Horry	3	4	0	**7**
Total	**12**	**12**	**3**	**27**

* Based on the mailing address of the permit holder.

Recreational Fishing

Many areas that used to be dedicated to commercial fishing endeavors are now geared towards the private recreational angler and for-hire sector. Most of the charter permits are associated

with vessels from Charleston, Horry, and Georgetown Counties (**Table 3-30**). It is common for charter vessels to have all three federal charter permits.

Table 3-30. Federal charter permits in South Carolina coastal counties (2012).

County*	Dolphin-Wahoo	Mackerels and Cobia	Snapper Grouper	Total
Beaufort	10	17	14	**41**
Berkeley	0	1	1	**2**
Charleston	43	38	36	**117**
Georgetown	18	19	19	**56**
Horry	28	28	25	**81**
Total	**99**	**103**	**95**	**297**

*Based on the mailing address of the permit holder.

The majority of South Carolina saltwater anglers target coastal pelagic species such as king mackerel, Spanish mackerel, tunas, dolphins, and billfish. A lesser number focus primarily on bottom fish such as snapper and groupers and often these species are the specialty of the headboats that run out of Little River, Murrells Inlet, and Charleston. There are 35 coastal marinas in the state and 34 sport fishing tournaments. South Carolina offers private recreational licenses for residents and visitors, and sales of all license types have more than doubled since 2006 (**Table 3-31**).

Table 3-31. Sales of all saltwater recreational license types in South Carolina.

Year	Number of Licenses Sold
2006	106,385
2007	119,255
2008	132,324
2009	124,193
2010	208,204
2011	218,834

Source: SC DNR

3.4.3 Georgia

Overview

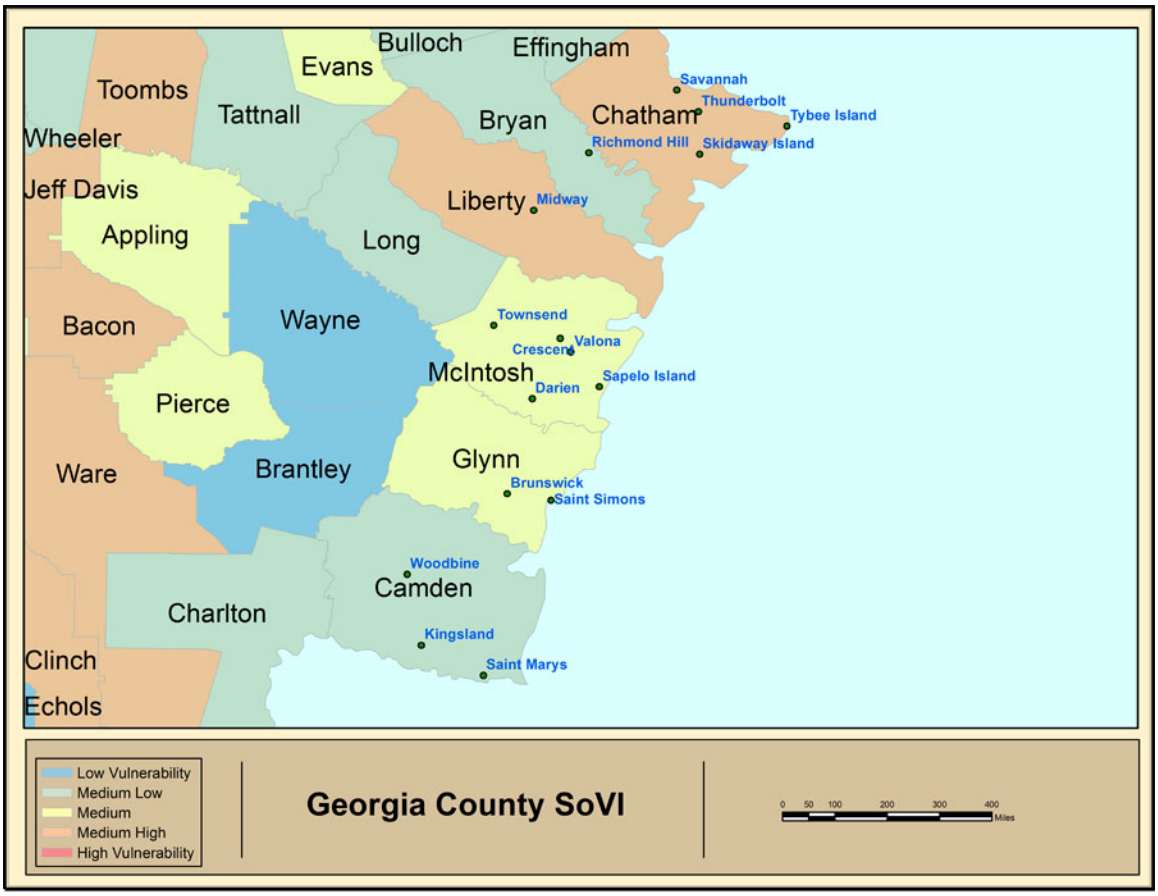


Figure 3-13. The Social Vulnerability Index applied to Georgia Coastal Counties.

There were two counties in Georgia with medium high vulnerability and those were Liberty and Chatham (Figure 3-13). The fishing communities located in those counties are Savannah, Thunderbolt, Tybee Island and Skidaway Island in Chatham County, and Midway in Liberty County.

Commercial Fishing

Overall Georgia has much lower numbers of permits than other states. McIntosh County has the most permits (Table 3-32). Many Georgia fishermen target shrimp or hold state commercial fishing permits.

Table 3-32. Federal commercial fishing permits in Georgia coastal counties (2012).

County*	Dolphin-Wahoo	King Mackerel	Spiny Lobster**	Rock Shrimp	Snapper Grouper	Spanish Mackerel	Penaeid Shrimp	Total

Camden	1	1	4	2	1	1	4	**14**
Chatham	2	1	0	1	1	1	17	**23**
Glynn	1	1	0	2	1	1	15	**21**
Liberty	0	0	0	0	0	0	2	**2**
McIntosh	3	3	4	5	3	2	34	**54**
Total	**7**	**6**	**8**	**10**	**6**	**5**	**72**	**114**

* Based on the mailing address of the permit holder.
**Includes non-Florida permits and tailing permits.

There are only seven federal dealer permits associated with Georgia coastal communities, and only in Glynn and McIntosh County (Table 3-33).

Table 3-33. Federal dealer permits in Georgia coastal communities (2012).

County*	Dolphin-Wahoo	Rock Shrimp	Snapper Grouper	Wreckfish	Total
Glynn	1	1	1	0	**3**
McIntosh	1	1	1	1	**4**
Total	**2**	**2**	**2**	**1**	**7**

* Based on the mailing address of the permit holder.

Recreational Fishing

Most federal charter permits are associated with Chatham and Glynn County (Table 3-34). Private recreational licenses in Georgia are included in a combination saltwater/freshwater license and offered in short-term and long-term licenses. Although license holders may or may not fish for saltwater species, license sales over the past five years (Table 3-35) suggest that in general, private recreational fishing in Georgia has stayed fairly steady with the exception of 2009, when license sales dropped for one year.

Table 3-34. Federal charter permits in Georgia coastal counties (2012).

County	Dolphin-Wahoo	Mackerels and Cobia	Snapper Grouper	Total
Chatham	9	10	9	**28**
Glynn	4	5	5	**14**
McIntosh	1	1	1	**3**
Total	**14**	**16**	**15**	**45**

*****Based on the mailing address of the permit holder.

Table 3-35. Sales of recreational fishing license types that include saltwater in Georgia.

Year	Number of Licenses Sold

2007	592,633
2008	526,294
2009	325,189
2010	567,175
2011	529,850

Source: GA DNR

3.4.4 Florida

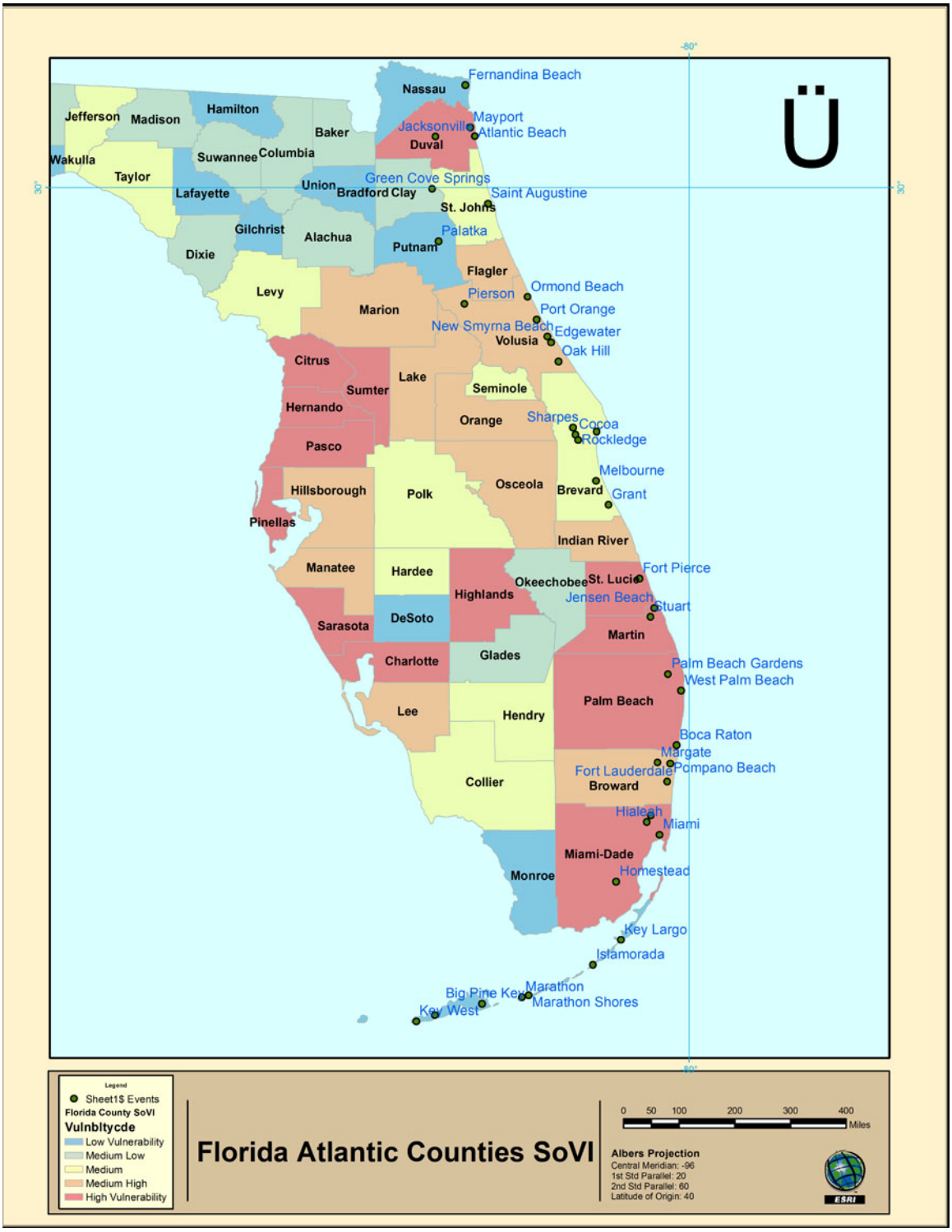


Figure 3-14. The Social Vulnerability Index applied to South Atlantic Florida Counties.

A good portion of Florida's east coast (Figure 3-14) is considered either medium high or highly vulnerable in terms of social vulnerability. In fact, the only counties not included in those two categories are Nassau, St. John's and Monroe.

Commercial and recreational fishermen in the Florida Keys commonly fish both Gulf and Atlantic sides, and work under dual jurisdiction of the South Atlantic Fishery Management Council and the Gulf of Mexico Fishery Management Council.

Commercial Fishing

Despite the high population growth rates and emphasis on a tourism economy in Florida, the commercial fishing sector in Florida is still robust in some areas. There are several important communities that target snapper grouper species such as Mayport, Jacksonville, and Cocoa Beach, along with Key West, Marathon and Tavernier in the Florida Keys. Additional detailed information about Florida fishing communities can be found in the Comprehensive ACL Amendment (SAFMC 2011).

Florida has the largest number of commercial permits in the region (Table 3-36). The southern counties (Monroe, Miami-Dade, Broward, Palm Beach, and Duval) generally have the most commercial permits, especially finfish. The northern counties have the highest number of penaeid shrimp permits in the state. The federal spiny lobster permits are most commonly associated with Monroe County in addition to the more than 900 Florida spiny lobster endorsement holders (pers. comm, FWC).

Table 3-36(a). Federal commercial finfish permits in Florida coastal counties (2012).

County*	Dolphin-Wahoo	King Mackerel	Snapper Grouper	Spanish Mackerel	Wreckfish	Total
Brevard	98	84	28	85	0	**295**
Broward	87	47	13	60	0	**207**
Duval	37	27	27	26	0	**117**
Indian River	53	51	11	54	0	**169**
Martin	62	59	7	72	0	**200**
Miami-Dade	163	82	77	153	0	**475**
Monroe	365	163	217	245	2	**992**
Nassau	8	5	4	5	0	**22**
Palm Beach	173	150	43	156	0	**522**
St Johns	12	6	10	7	0	**35**
St Lucie	60	52	9	69	0	**190**
Volusia	24	15	16	17	3	**75**
Total	**1,142**	**741**	**462**	**949**	**5**	**3,299**

Table 3-36(b). Federal commercial crab, lobster and shrimp permits in Florida coastal counties (2012).

County*	Golden Crab	Spiny Lobster**	Rock Shrimp	Penaeid Shrimp	Total
Brevard	0	25	5	9	**39**
Broward	4	10	4	8	**26**
Duval	0	20	10	32	**62**
Indian River	0	7	0	1	**8**
Martin	0	12	2	2	**16**
Miami-Dade	0	30	3	7	**40**
Monroe	2	137	3	8	**150**
Nassau	0	4	7	13	**24**
Palm Beach	3	21	0	4	**28**
St Johns	0	2	0	4	**6**
St Lucie	0	11	1	2	**14**
Volusia	0	13	0	2	**15**
Total	**9**	**292**	**35**	**92**	**428**

*****Based on the mailing address of the permit holder.
**Includes only federal tailing permits, not Florida crawfish endorsements.

Florida is the only state that has permit holders for all federal dealer permits. Most deals are associated with Monroe, Miami-Dade, and Broward Counties (Table 3-37).

Table 3-37. Federal dealer permits in Florida (2012).

County*	Dolphin-Wahoo	Golden Crab	Rock Shrimp	Snapper Grouper	Wreckfish	Total
Brevard	5	3	4	6	2	**20**
Broward	14	6	0	13	1	**34**
Duval	2	1	2	3	1	**9**
Indian River	2	0	0	2	0	**4**
Martin	2	1	0	2	0	**5**
Miami-Dade	10	2	3	10	6	**31**
Monroe	23	6	5	24	9	**67**
Nassau	0	0	1	0	0	**1**
Palm	7	3	1	6	1	**18**

Beach						
St Johns	2	0	0	2	1	**5**
St Lucie	2	0	0	2	0	**4**
Volusia	6	0	1	7	2	**16**
Total	**75**	**22**	**17**	**77**	**23**	**214**

*****Based on the mailing address of the permit holder.

Recreational Fishing

Recreational fishing is economically and socially important for all Florida coastal counties, and for both residents and tourists. Most charter permits are associated with the southern counties (Table 3-38), but there are at least 20 permits in all counties.

Table 3-38. Federal charter permits in Florida coastal counties (2012).

County*	Dolphin-Wahoo	Mackerels and Cobia	Snapper Grouper	Total
Brevard	66	65	65	**196**
Broward	58	57	59	**174**
Duval	17	16	17	**50**
Indian River	18	18	20	**56**
Martin	10	10	11	**31**
Miami-Dade	39	38	42	**119**
Monroe	285	278	294	**857**
Nassau	6	7	7	**20**
Palm Beach	49	49	63	**161**
St Johns	23	23	23	**69**
St Lucie	7	6	8	**21**
Volusia	30	33	32	**95**
Total	**608**	**600**	**641**	**1,849**

*Based on mailing address of the permit holder.

In 2010/2011, there were approximately 860,000 resident marine recreational licenses and 394,000 non-resident marine recreational licenses sold in Florida (FWC 2012). Eastern Florida recreational anglers took 10 million fishing trips: 5.4 million by private/rental boats, 4.5 million from shore, and 180,000 by party/charter boat (NMFS 2009)

3.4.5 Environmental Justice Considerations

Executive Order 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs,

policies, and activities on minority populations and low-income populations. This executive order is generally referred to as environmental justice (EJ).

To evaluate EJ considerations for the proposed actions, information on poverty and minority rates is examined at the county level. Information on the race and income status for groups at the different participation levels (vessel owners, crew, dealers, processors, employees, employees of associated support industries, etc.) is not available. Because the proposed actions would be expected to affect fishermen and associated industries in several communities along the South Atlantic coast and not just those profiled, it is possible that other counties or communities have poverty or minority rates that exceed the EJ thresholds.

In order to identify the potential for EJ concern, the rates of minority populations (non-white, including Hispanic) and the percentage of the population that was below the poverty line were examined. The threshold for comparison that was used was 1.2 times the state average for minority population rate and percentage of the population below the poverty line. If the value for the community or county was greater than or equal to 1.2 times the state average, then the community or county was considered an area of potential EJ concern. Census data for the year 2000 was used. Estimates of the state minority and poverty rates, associated thresholds, and community rates are provided in **Table 3-39**; note that only communities that exceed the minority threshold and/or the poverty threshold are included in the table**.**

While some communities expected to be affected by this proposed amendment may have minority or economic profiles that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. No adverse human health or environmental effects are expected to accrue to this proposed amendment, nor are these measures expected to result in increased risk of exposure of affected individuals to adverse health hazards. The proposed management measures would apply to all participants in the affected area, regardless of minority status or income level, and information is not available to suggest that minorities or lower income persons are, on average, more dependent on the affected species than non-minority or higher income persons.

Table 3-39. Environmental Justice thresholds (2010 U.S. Census data) for counties in the South Atlantic region. Only coastal counties (east coast for Florida) with minority and/or poverty rates that exceed the state threshold are listed.

State	County	Minority Rate	Minority Threshold*	Poverty Rate	Poverty Threshold*
Florida		**47.4**	**56.88**	**13.18**	**15.81**
	Broward	52.0	-4.6	11.7	4.11
	Miami-Dade	81.9	-34.5	16.9	-1.09
	Orange County	50.3	-2.9	12.7	3.11
	Osceola	54.1	-6.7	13.3	2.51
Georgia		**50.0**	**60.0**	**15.0**	**18.0**
	Liberty	53.2	-3.2	17.5	0.5
South Carolina		**41.9**	**50.28**	**15.82**	**18.98**

State	County	Minority Rate	Minority Threshold*	Poverty Rate	Poverty Threshold*
	Colleton	44.4	-2.5	21.4	-2.42
	Georgetown	37.6	4.3	19.3	-0.32
	Hampton	59.0	-17.1	20.2	-1.22
	Jasper	61.8	-19.9	9.9	-0.92
North Carolina		**39.1**	**46.92**	**15.07**	**18.08**
	Bertie	64.6	-25.50	22.5	-4.42
	Chowan	39.2	-0.1	18.6	-0.52
	Gates	38.8	0.3	18.3	-0.22
	Hertford	65.3	-26.2	23.5	-5.42
	Hyde	44.5	-5.4	16.2	1.88
	Martin	48.4	-9.3	23.9	-5.82
	Pasquotank	43.4	-4.3	16.3	1.78
	Perquimans	27.7	11.4	18.6	-0.52
	Tyrrell	43.3	-4.2	19.9	-1.82
	Washington	54.7	-15.6	25.8	-7.72

*The county minority and poverty thresholds are calculated by comparing the county minority rate and poverty estimate to 1.2 times the state minority and poverty rates. A negative value for a county indicates that the threshold has been exceeded.

All of the fisheries affected by the proposed actions are economically and socially important to coastal counties in the South Atlantic region. The actions in this proposed amendment are expected to incur social and economic benefits to users and communities by implementing management measures that would contribute to conservation of fish stocks and to protection of important habitat. Although there may be some impacts on vessels due to area closures and to permit holders due to reporting requirements, the overall long-term benefits are expected to contribute to the social and economic health of South Atlantic communities.

Finally, the general participatory process used in the development of fishery management measures (e.g., scoping meetings, public hearings, and open South Atlantic Council meetings) is expected to provide sufficient opportunity for meaningful involvement by potentially affected individuals to participate in the development process of this amendment and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the amendment.

3.5 Administrative Environment

3.5.1 The Fishery Management Process and Applicable Laws

3.5.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the U.S. Exclusive Economic Zone (EEZ), an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

Responsibility for Federal fishery management decision-making is divided between the U.S. Secretary of Commerce and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary of Commerce (Secretary) is responsible for collecting and providing the data necessary for the councils to prepare fishery management plans and for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws. In most cases, the Secretary has delegated this authority to NOAA Fisheries Service.

The South Atlantic Council is responsible for conservation and management of fishery resources in Federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 miles offshore from the seaward boundary of the States of North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NOAA Fisheries Service; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. On the South Atlantic Council, there are two public members from each of the four South Atlantic States. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard, State Department, and Atlantic States Marine Fisheries Commission (ASMFC). The South Atlantic Council has adopted procedures whereby the non-voting members serving on the Council Committees have full voting rights at the Committee level but not at the full Council level. South Atlantic Council members serve three-year terms and are recommended by State Governors and appointed by the Secretary of Commerce from lists of nominees submitted by State governors. Appointed members may serve a maximum of three consecutive terms.

Public interests also are involved in the fishery management process through participation on Advisory Panels and through council meetings, which, with few exceptions for discussing personnel matters, are open to the public. The South Atlantic Council uses a Scientific and Statistical Committee to review the data and science being used in assessments and fishery management plans/amendments. In addition, the regulatory process is in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking.

3.5.1.2 State Fishery Management

The state governments of North Carolina, South Carolina, Georgia, and Florida have the authority to manage fisheries that occur in waters extending three nautical miles from their

respective shorelines. North Carolina's marine fisheries are managed by the Marine Fisheries Division of the North Carolina Department of Environment and Natural Resources. The Marine Resources Division of the South Carolina Department of Natural Resources regulates South Carolina's marine fisheries. Georgia's marine fisheries are managed by the Coastal Resources Division of the Department of Natural Resources. The Marine Fisheries Division of the Florida Fish and Wildlife Conservation Commission is responsible for managing Florida's marine fisheries. Each state fishery management agency has a designated seat on the South Atlantic Council. The purpose of state representation at the Council level is to ensure state participation in Federal fishery management decision-making and to promote the development of compatible regulations in state and Federal waters.

The South Atlantic States are also involved through the Atlantic States Marine Fisheries Commission (ASMFC) in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries. It has significant authority, through the Atlantic Striped Bass Conservation Act and the Atlantic Coastal Fisheries Cooperative Management Act, to compel adoption of consistent state regulations to conserve coastal species. The ASFMC also is represented at the Council level, but does not have voting authority at the Council level.

NOAA Fisheries Service' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act) programs. Additionally, it works with the ASMFC to develop and implement cooperative State-Federal fisheries regulations.

3.5.1.3 Enforcement

Both the National Oceanic and Atmospheric Administration (NOAA) Fisheries Office for Law Enforcement (NOAA/OLE) and the United States Coast Guard (USCG) have the authority and the responsibility to enforce South Atlantic Council regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

Neither NOAA/OLE nor the USCG can provide a continuous law enforcement presence in all areas due to the limited resources of NOAA/OLE and the priority tasking of the USCG. To supplement at sea and dockside inspections of fishing vessels, NOAA entered into Cooperative Enforcement Agreements with all but one of the States in the Southeast Region (North Carolina), which granted authority to State officers to enforce the laws for which NOAA/OLE has jurisdiction. In recent years, the level of involvement by the States has increased through Joint Enforcement Agreements, whereby States conduct patrols that focus on Federal priorities and, in

some circumstances, prosecute resultant violators through the State when a state violation has occurred.

NOAA General Counsel issued a revised Southeast Region Magnuson-Stevens Act Penalty Schedule in June 2003, which addresses all Magnuson-Stevens Act violations in the Southeast Region. In general, this Penalty Schedule increases the amount of civil administrative penalties that a violator may be subject to up to the current statutory maximum of $120,000 per violation. NOAA General Counsel requested public comment through December 20 2010, on a new draft policy.

Chapter 4. Environmental Consequences

4.1 Action 1. Expand boundaries of the Oculina Bank HAPC

Alternative 1 (**No Action**). Do not modify the boundaries of the Oculina Bank HAPC. The existing Oculina Bank HAPC is delineated by the following boundaries: on the north by 28°30' N, on the south by 27°30' N., on the east by the 100-fathom (183-m) contour, and on the west by 80°00' W.; and two adjacent satellite sites: the first bounded on the north by 28°30' N., on the south by 28°29' N., on the east by 80°00' W., and on the west by 80°03' W.; and the second bounded on the north by 28°17' N., on the south by 28°16' N., on the east by 80°00 W., and on the west by 80°03' W.

Alternative 2. Modify the northern boundary of the Oculina Bank HAPC.

> **Sub-Alternative 2a**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 4-1**).
>
> **Sub-Alternative 2b**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 4-2**).
>
> **Sub-Alternative 2c**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 70 meter and 100 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 4-3**).
>
> **Sub-Alternative 2d**. Modify the northern boundary of the Oculina Bank HAPC: from the current northern boundary of the Oculina HAPC (28° 30'N) to 29° 43.5'W. The west and east boundaries would follow the 60 meter and 90 meter depth contour lines, respectively, as represented in the simplified polygon (**Figure 4-4**).

Alternative 3. Modify the western boundary of the Oculina Bank HAPC from 28° 4.5'N to the north boundary of the current Oculina HAPC (28° 30'N). The east boundary would coincide with the current western boundary of the Oculina HAPC (80° W). The west boundary could either use the 60 meter contour line, or the 80° 03'W longitude (**Figure 4-5**).

Alternative 4. Allow for transit through the Oculina Bank HAPC based on recommendations by the Law Enforcement Advisory Panel:

- Consult CFR §622.35 (i)(2) for reference to stowing gear and transit (pertains to MPAs but language can be adopted and altered accordingly to be applicable to the deepwater shrimp fisheries).
- If transit is allowed through the HAPC, request that industry increase ping rate for VMS.

- Stowing of gear is recommended by the LE AP instead of corridors for transiting Oculina Bank HAPC, in addition to speed restrictions (no less than 5 knots). In the event minimal speed is not sustainable, vessel must communicate to appropriate contact.

NOTE: IPT recommendation - Remove Alternative 4 under Action 1 and designate this as a separate Action. Suggested wording for the transit provision action:

Action 2. Implement a transit provision through the Oculina Bank HAPC.

Alternative 1 (No Action). Do not implement a transit provision through Oculina Bank HAPC. Currently, possession of rock shrimp in or from the area on board a fishing vessel is prohibited.

Alternative 2. Allow for transit through the Oculina Bank HAPC. When transiting the Oculina Bank, gear must be stowed in accordance with CFR Section 622.35 (i)(2). Vessels must maintain a minimum speed of 5 knots while in transit through the Oculina HAPC. In the event minimal speed is not sustainable, vessel must communicate to appropriate contact.

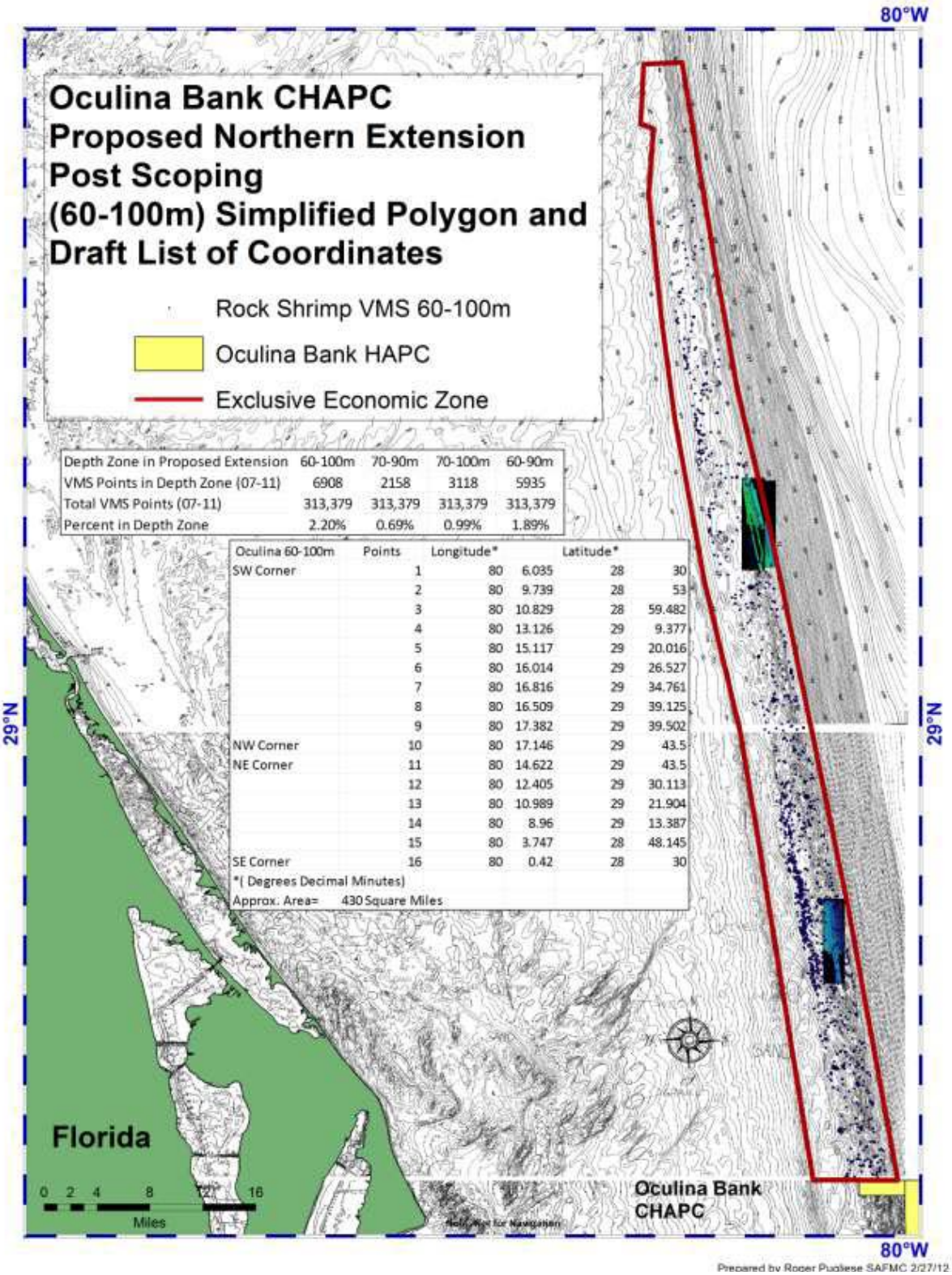
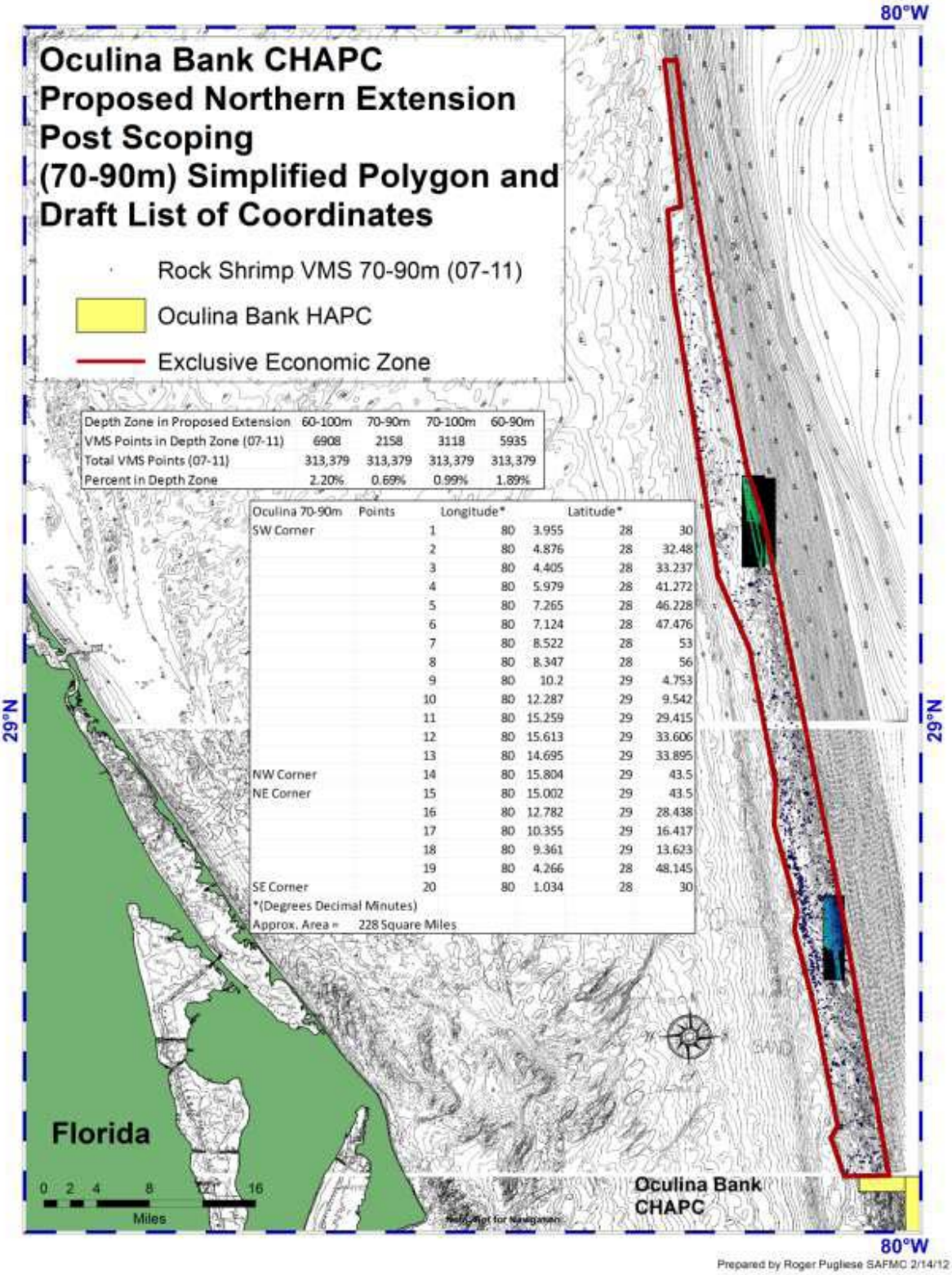


Figure 4-1. Action 1, Sub-Alternative 2a. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 100 meter depth contour lines, as represented in the simplified polygon.



Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 70-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	3.955	28	30
	2	80	4.876	28	32.48
	3	80	4.405	28	33.237
	4	80	5.979	28	41.272
	5	80	7.265	28	46.228
	6	80	7.124	28	47.476
	7	80	8.522	28	53
	8	80	8.347	28	56
	9	80	10.2	29	4.753
	10	80	12.287	29	9.542
	11	80	15.259	29	29.415
	12	80	15.613	29	33.606
	13	80	14.695	29	33.895
NW Corner	14	80	15.804	29	43.5
NE Corner	15	80	15.002	29	43.5
	16	80	12.782	29	28.438
	17	80	10.355	29	16.417
	18	80	9.361	29	13.623
	19	80	4.266	28	48.145
SE Corner	20	80	1.034	28	30

*(Degrees Decimal Minutes)
Approx. Area = 228 Square Miles

Figure 4-2. Action 1, Sub-Alternative 2b. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 90 meter depth contour lines, as represented in the simplified polygon.

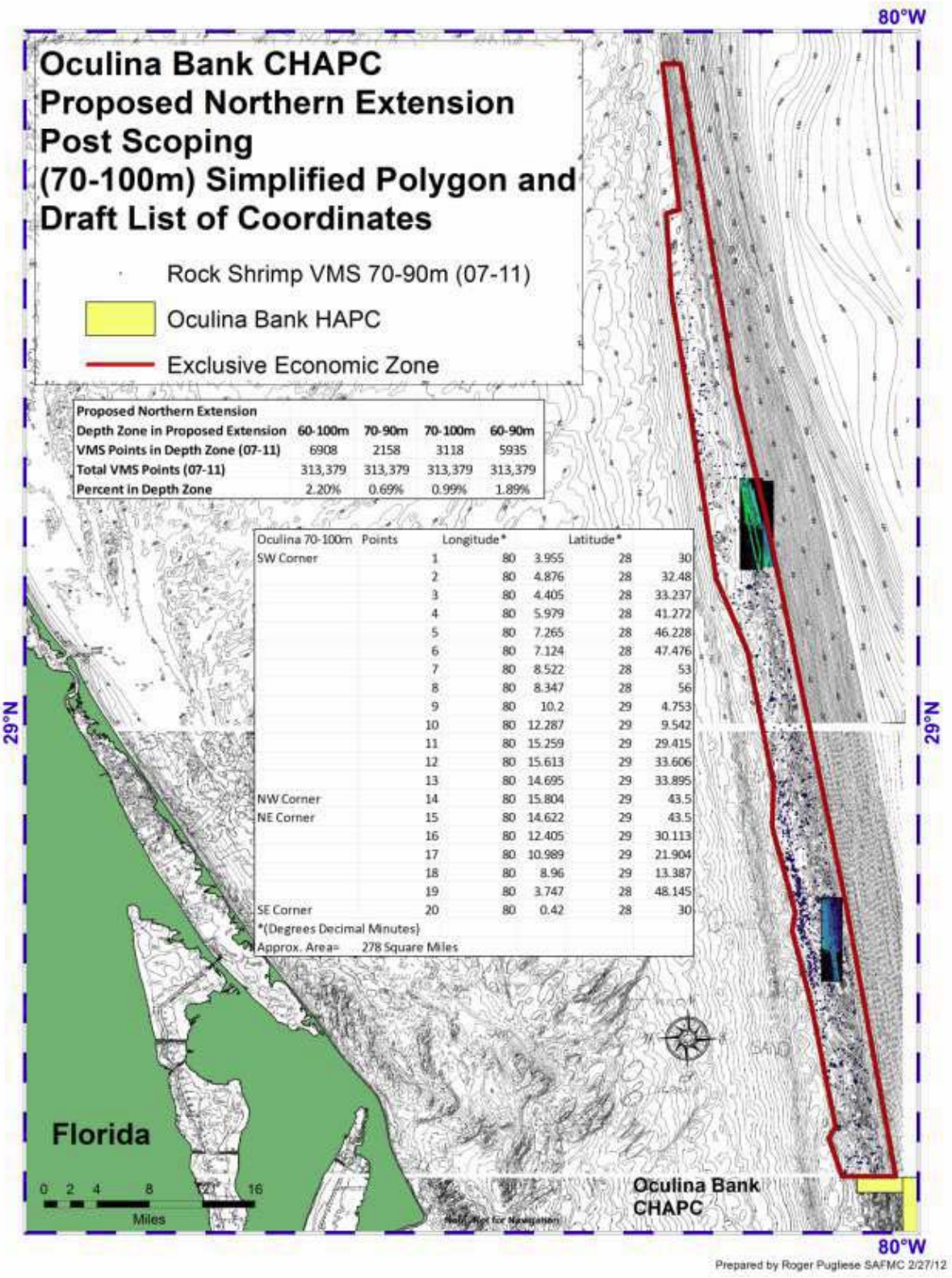
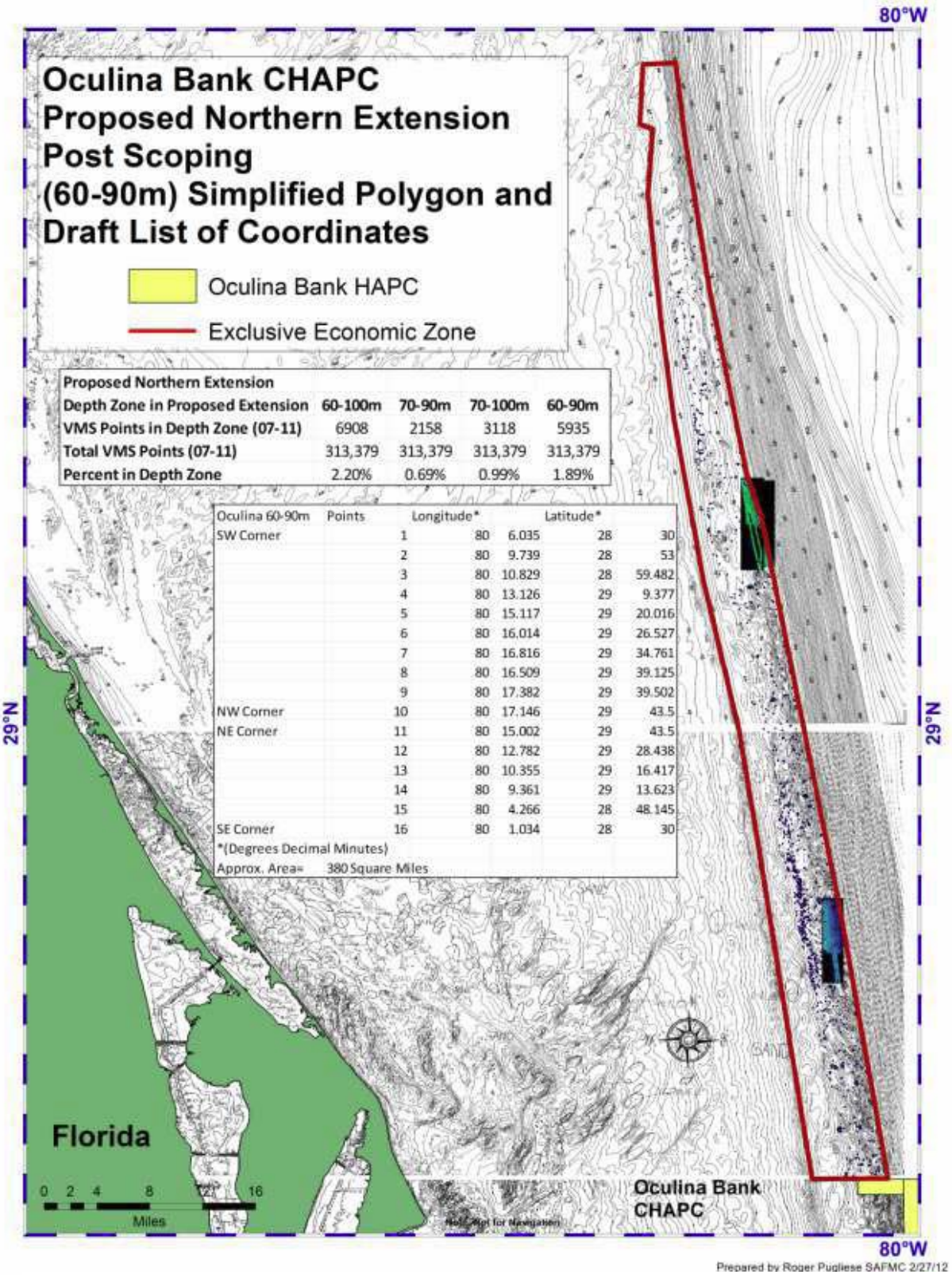


Figure 4-3. Action 1, Sub-Alternative 2c. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 70 meter and 100 meter depth contour lines, as represented in the simplified polygon.



Proposed Northern Extension				
Depth Zone in Proposed Extension	60-100m	70-90m	70-100m	60-90m
VMS Points in Depth Zone (07-11)	6908	2158	3118	5935
Total VMS Points (07-11)	313,379	313,379	313,379	313,379
Percent in Depth Zone	2.20%	0.69%	0.99%	1.89%

Oculina 60-90m	Points	Longitude*		Latitude*	
SW Corner	1	80	6.035	28	30
	2	80	9.739	28	53
	3	80	10.829	28	59.482
	4	80	13.126	29	9.377
	5	80	15.117	29	20.016
	6	80	16.014	29	26.527
	7	80	16.816	29	34.761
	8	80	16.509	29	39.125
	9	80	17.382	29	39.502
NW Corner	10	80	17.146	29	43.5
NE Corner	11	80	15.002	29	43.5
	12	80	12.782	29	28.438
	13	80	10.355	29	16.417
	14	80	9.361	29	13.623
	15	80	4.266	28	48.145
SE Corner	16	80	1.034	28	30

*(Degrees Decimal Minutes)
Approx. Area= 380 Square Miles

Figure 4-4. Action 1, Sub-Alternative 2d. Modification to the northern boundary of the Oculina Bank HAPC. In this northern zone, the west and east boundaries would follow the 60 meter and 90 meter depth contour lines, as represented in the simplified polygon.

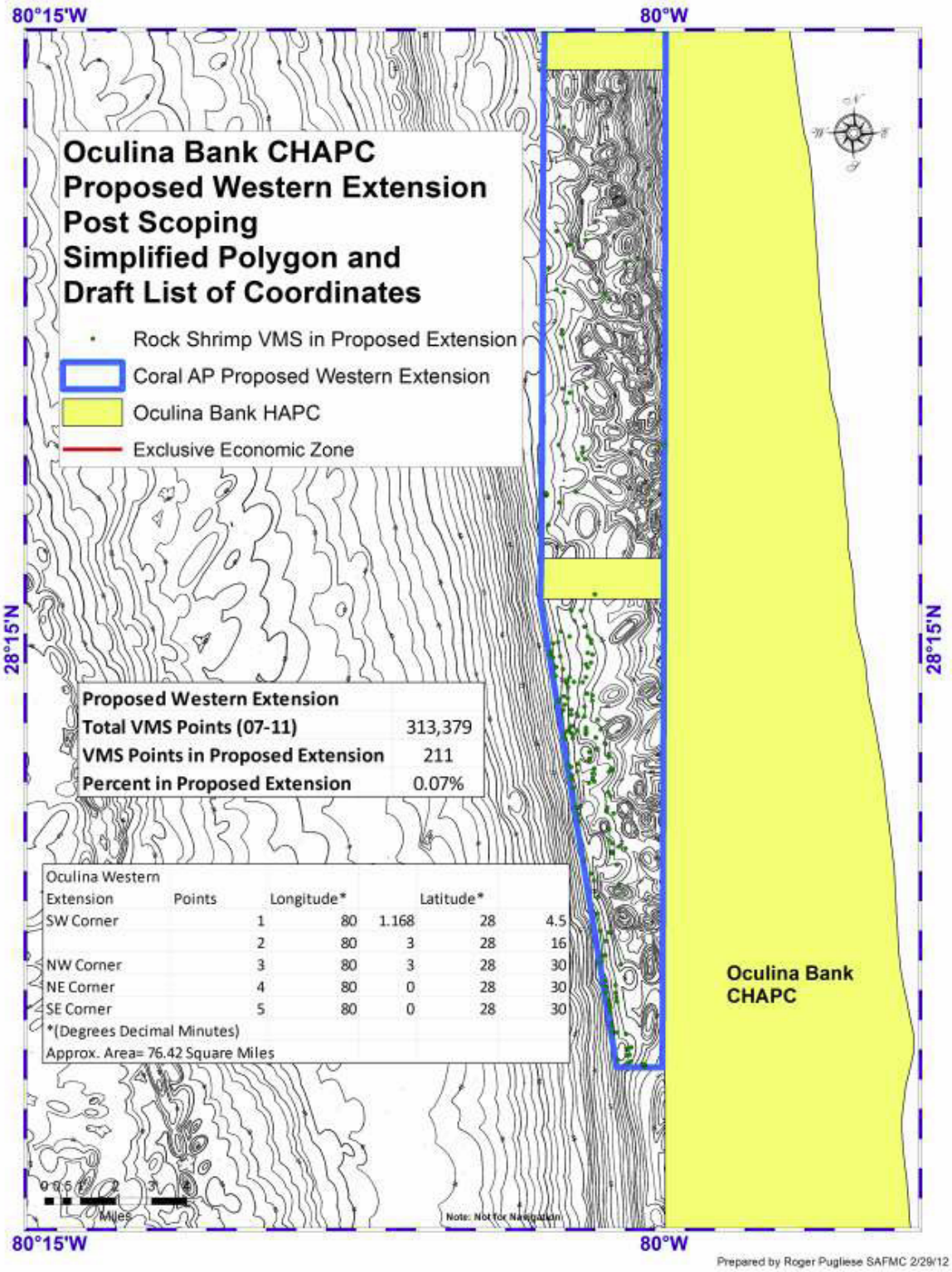


Figure 4-5. Action 1, Alternative 3. Modification to the western boundary of the Oculina Bank HAPC. The west boundary would follow the 80° 03'W longitude between 28° 30'N and 28° 16'N which is the western border of the Oculina HAPC satellite regions, and would follow the 60 meter contour as represented in the simplified polygon.

4.1.1 Biological Effects

Within the Oculina Bank HAPC, the following prohibitions are in place**:** anchoring or use of grapples; trawling, use of fish traps, or bottom-longlines; fishing for or possession of rock shrimp; possession of coral or bottom habitat, including *Oculina.* Under **Alternative 1 (No Action)** these actions would continue to be prohibited. **Alternatives 2,** and associated sub-alternatives and **Alternative 3**, propose increasing the size of the Oculina Bank HAPC and extending the prohibitions to a larger area. As the size of the Oculina HAPC is increased, the biological benefit increases for the coral in the area, including *Oculina*; the species that use the bottom substrate as habitat; and for the rock shrimp populations in the HAPC.

4.1.2 Economic Effects

4.1.3 Social Effects

Closed areas can have significant negative social effects on fishermen if any fishing grounds are no longer open to harvest. Fishermen would need to fish other areas in order to maintain operations, which may result in user conflicts or overcrowding issues. Additionally, increased economic costs associated with travel to other fishing grounds could affect crew employment opportunities on vessels. Long-term social benefits may be associated with the long-term biological benefits of closed areas, as long as the closures are appropriately selected and include a periodic evaluation of effectiveness.

Alternative 1 (No Action) would have minimal social effects because the fleet is already harvesting in open areas and prohibited from working in the closed areas. **Sub-alternatives 2a-2d** under **Alternative 2** and **Alternative 3** would impact the rock shrimp fleet by closing some historic fishing grounds, and larger closed areas would cause more significant impacts. However, closing some areas may have broad social benefits by protecting more coral areas. The transit provision in **Alternative 4** would be beneficial to the rock shrimp fleet by allowing them to access fishing grounds and would have minimal impact on the coral.

4.1.4 Administrative Effects

The expansion of the Oculina HAPC (**Alternative 2** and sub-alternatives, **Alternative 3**) would have a minimal administrative impact. Administrative impacts would be felt through the rule making process, outreach and enforcement. The administrative impacts would differ between the alternatives in the amount of area they cover. It is expected the larger the expansion of the HAPC the more enforcement will be needed. Most of the administrative impacts associated with these alternatives relate to at-sea enforcement.

4.2 Action 2. Expand Stetson-Miami Terrace Coral HAPC to incorporate a *Lophelia* site off Jacksonville

Note: IPT recommendation - reword the language of Action 2 to read: **Action 2.** Expand boundaries of the Stetson-Miami Terrace Coral HAPC.

Alternative 1. (No Action) Do not expand the boundaries of the Stetson-Miami Terrace Coral HAPC. The existing Stetson-Miami Terrace Coral HAPC is delineated by the coordinates identified in CFR §633.35 (n)(iii).

Alternative 2. Expand Stetson-Miami Terrace Coral HAPC in the area west of the existing boundary approximately by the 200 meter depth contour between latitude 30°45.0' to the north and latitude 29°52.0' to the south (**Figure 4-6**).

Alternative 3. Modify the Coral AP recommendation for expanding the Stetson-Miami Terrace Coral HAPC to include area of mapped habitat within the expansion, and exclude areas of royal red fishery activity based on VMS data (**Figure 4-7**).

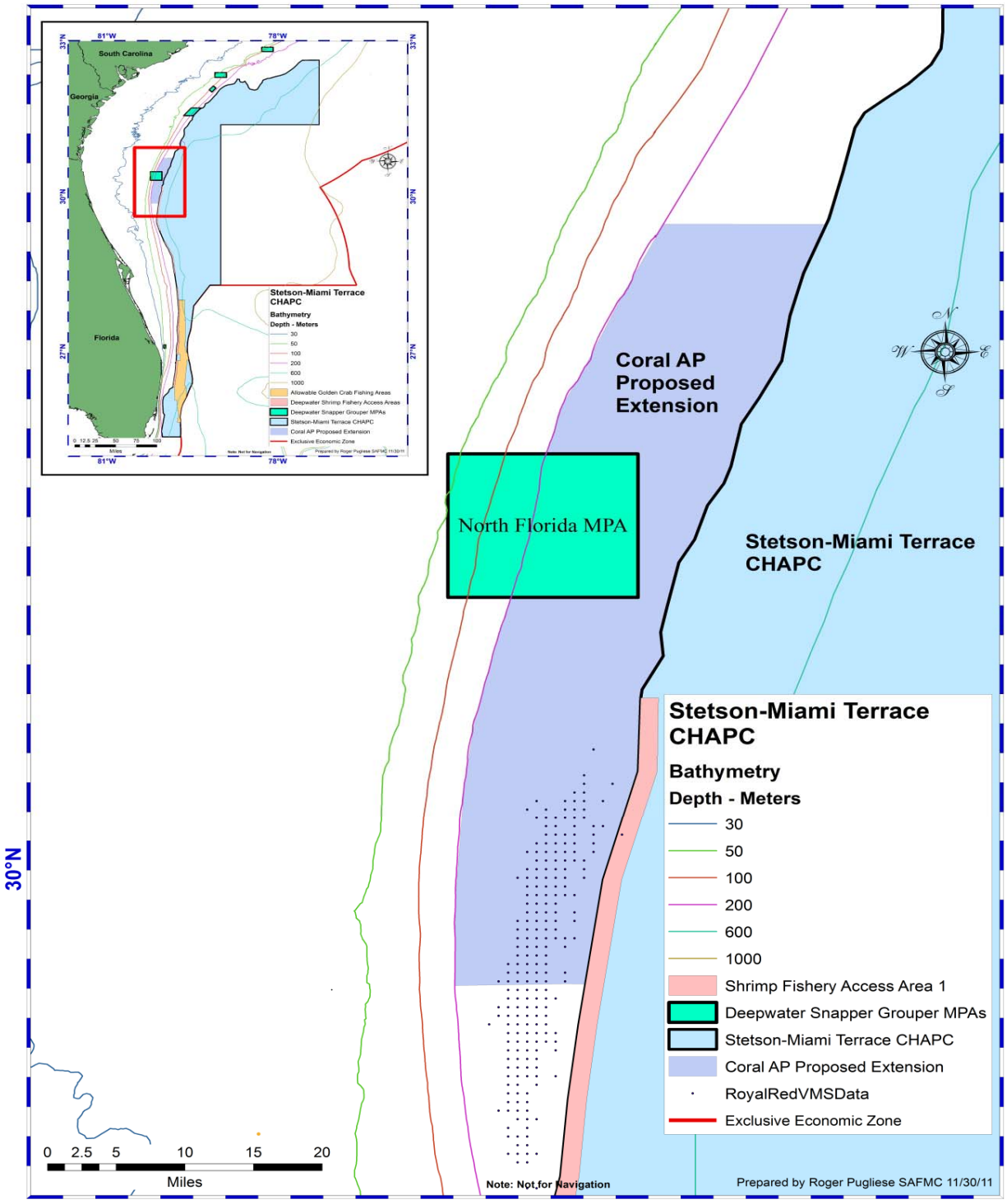


Figure 4-6. Action 2, Alternative 2, the Coral Advisory Panel's original proposed expansion of the Stetson-Miami Terrace HAPC western boundary.

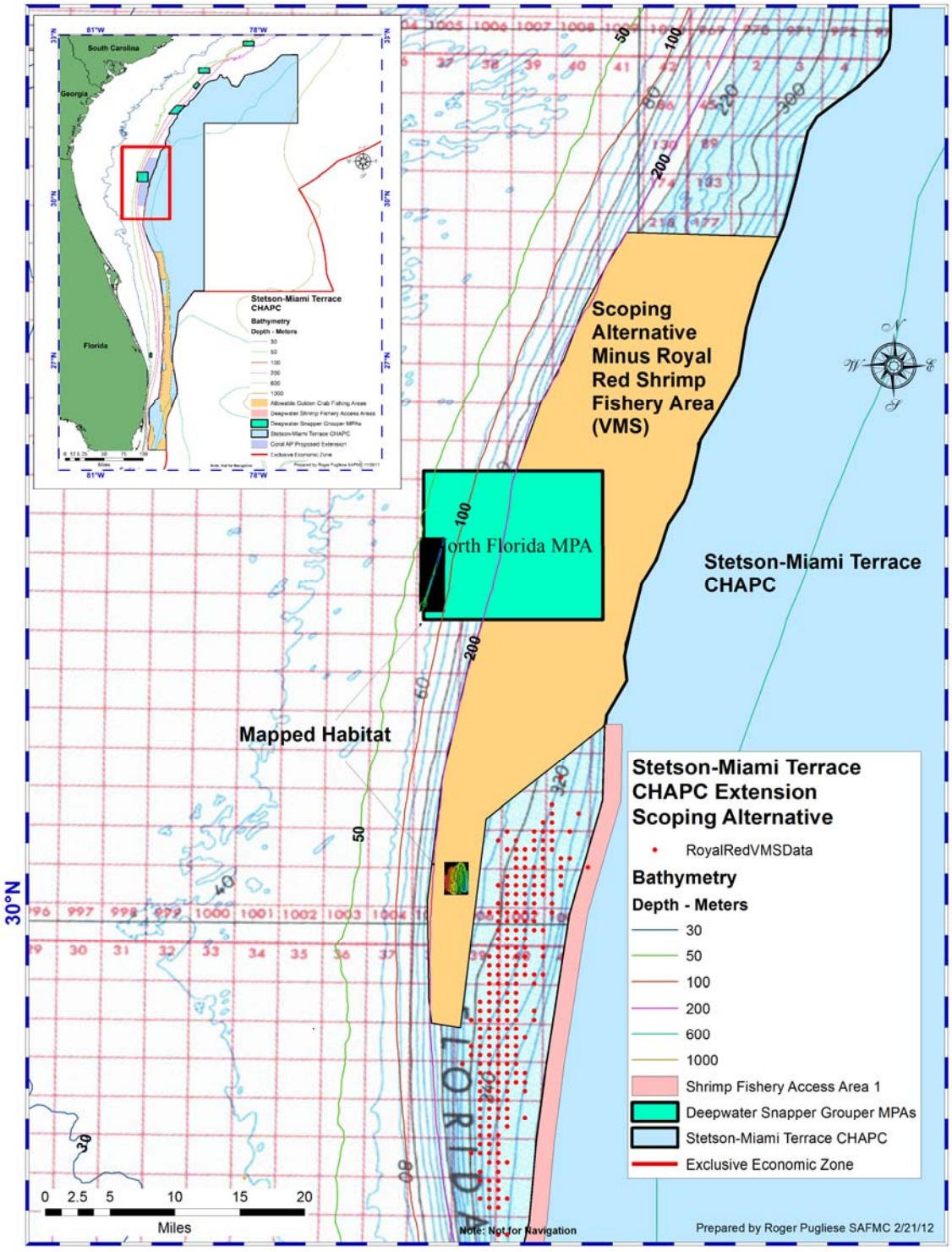


Figure 4-7. Action 2, Alternative 3, modifications to the Coral AP's recommendation for expanding the Stetson-Miami Terrace Coral HAPC based on suggestions from shrimp industry representatives during the CE-BA 3 public scoping process. This figure includes area of mapped habitat within the Coral AP's proposed extension and excludes areas of royal red fishery activity based on VMS data.

4.2.1 Biological Effects

The Stetson Miami Terrace Coral HAPC (60, 937 square kilometers, 23,528 square miles) is the largest of the five deepwater Coral HAPCs implemented through the Comprehensive Ecosystem Based Amendment 1 (CE-BA 1). It encompasses three of the former proposed Coral HAPCs off the coasts of South Carolina, Georgia, and East Florida to the Miami Terrace off of Biscayne Bay, and extends the western boundary to the 400-meter depth contour.

Below are descriptions of the main areas encompassed by this proposed Coral HAPC.

Stetson Reef - Stetson Reef is characterized by hundreds of pinnacles along the eastern Blake Plateau offshore South Carolina and over 200 coral mounds. This area supports a 152 meter-tall (500 feet) pinnacle in 822 meters (2,697 feet) of water where recent submersible dives discovered live bushes of *Lophelia* coral, sponges, gorgonians, and black coral bushes. This represents one of the tallest *Lophelia* coral lithoherms known.

Savannah and East Florida Lithoherms - This site is characterized by numerous lithoherms at depths of 550 meters (1,804 feet) with relief up to 60 meters (197 feet) that provide live-bottom habitat. Submersible dives found that these lithoherms provided habitat for large populations of massive sponges and gorgonians in addition to smaller macroinvertebrates which have not been studied in detail. Some ridges have nearly 100% cover of sponges. Although few large fish have been observed at this site, a swordfish, several sharks, and numerous blackbelly rosefish were noted. Further south, echosounder transects along a 222-kilometer (138-mile) stretch off northeastern and central Florida (depth 700-800 meters; 2,297-2,625 feet) mapped nearly 300 coral mounds from 8 to 168 meters tall (26-551 feet).

Miami Terrace - The Miami Terrace and Escarpment is a Miocene-age terrace off southeast Florida that supports high relief hardbottom habitats and rich benthic communities in 200-600 meter (1,969 feet) depths. Dense aggregations of 50 to 100 wreckfish were observed, in addition to blackbelly rosefish, skates, sharks, and dense schools of jacks. *Lophelia* mounds are also present at the base of the escarpment, within the Straits of Florida, but little is known of their abundance, distribution, or associated fauna. The steep escarpments, especially near the top of the ridges, are rich in corals, octocorals, and sponges.

Alternative 1 (No Action) would not modify the Coral HAPC coordinates for the Stetson Miami Terrace Coral HAPC. **Alternative 2** would provide greater biological benefits to species caught within the expanded area. **Alternative 3** would have provide greater biological benefits to all species caught within the expanded area with the exception of royal red species.

Alternative 2 and **Alternative 3** would be expected to result in positive biological impacts to the deepwater coral habitat in these areas. Given the slow growth of deepwater corals, any impacts would be expected to result in long-term biological losses of deepwater coral habitat as well as the species that utilize this habitat. Under these alternatives, habitats within the Stetson-Miami Terrace proposed Coral HAPC expansion would be protected from damaging fishing gear such as bottom longline, which would have positive biological impacts on the species in the area.

It is reasonable to expect that when a fishing vessel uses bottom tending gear, anchors, or grapples and chains in the deepwater Coral HAPCs, it would result in a taking/killing of prohibited coral or live rock. Corals covered by the Coral FMP are considered to be non-renewable resources. Fishing gear that comes in contact with the seafloor inevitably disturb the seabed and pose the most immediate direct threat to deepwater coral

ecosystems. Fishing gear that impact the seafloor include bottom trawls, bottom longlines, bottom gillnets, dredges, and pots/traps (Chuenpagdee et al., 2003; Morgan and Chuenpagdee, 2003). Bottom tending gear and anchors, grapples, and chains can break fragile corals, dislodge reef framework, and scar corals, opening lesions for infection. Impacts of gear damage are not limited to direct crushing of live coral but also include effects of the attached chains which will abrade and denude coral structures. Stress caused by abrasion may result in a decline in health or stability of the reef or live bottom system. In shallow water, coral will respond through polyp retraction, altered physiology or behavior, and when sheered by anchor chains provide a point for infection. It is thought deepwater corals may respond similarly (John Reed, pers. comm. 2007). Damage inflicted by bottom tending gear, anchors, chains, and grapples is not limited to living coral and hardbottom resources but extends to disruption of the balanced and highly productive nature of the coral and live/hardbottom ecosystems.

4.2.2 Economic Effects

4.2.3 Social Effects

The potential social effects of expanding closed areas are discussed in Section 4.1.3. **Alternative 1 (No Action)** would likely have minimal social effects because this would maintain access to shrimp harvest areas. The proposed extension of the Stetson-Miami Terrace Coral HAPC under **Alternative 2** could have negative social effects on the royal red and rock shrimp fleet if historic fishing grounds are no longer available. **Alternative 3** would likely have minimal impacts on the deepwater shrimp fleet because this would maintain access to harvest areas.

4.2.4 Administrative Effects

The expansion of the Stetson Miami Terrace Coral HAPC (Alternative 2 and Alternative 3) would have a minimal administrative impact. Administrative impacts would be felt through the rule making process, outreach and enforcement. The administrative impacts would differ between the alternatives in the amount of area they cover. It is expected the larger the expansion of the Coral HAPC the more enforcement will be needed. Most of the administrative impacts associated with these alternatives relate to at-sea enforcement.

4.3 Action 3. Expand Cape Lookout Coral HAPC

Alternative 1. (No Action) The existing Cape Lookout Coral HAPC is identified by the following coordinates:

Latitude	Longitude
34°24’37”	75°45’11”
34°10’26”	75°58’44”
34°05’47”	75°54’54”
34°21’02”	75°41’25”

Alternative 2. Extend the northern boundary to encompass the area identified by the following coordinates (**Figure 4-8**):

Latitude	Longitude
34°24.6166’	75°45.1833’
34°23.4833’	75°43.9667’
34°27.9’	75°42.75’
34°27.0’	75°41.5’

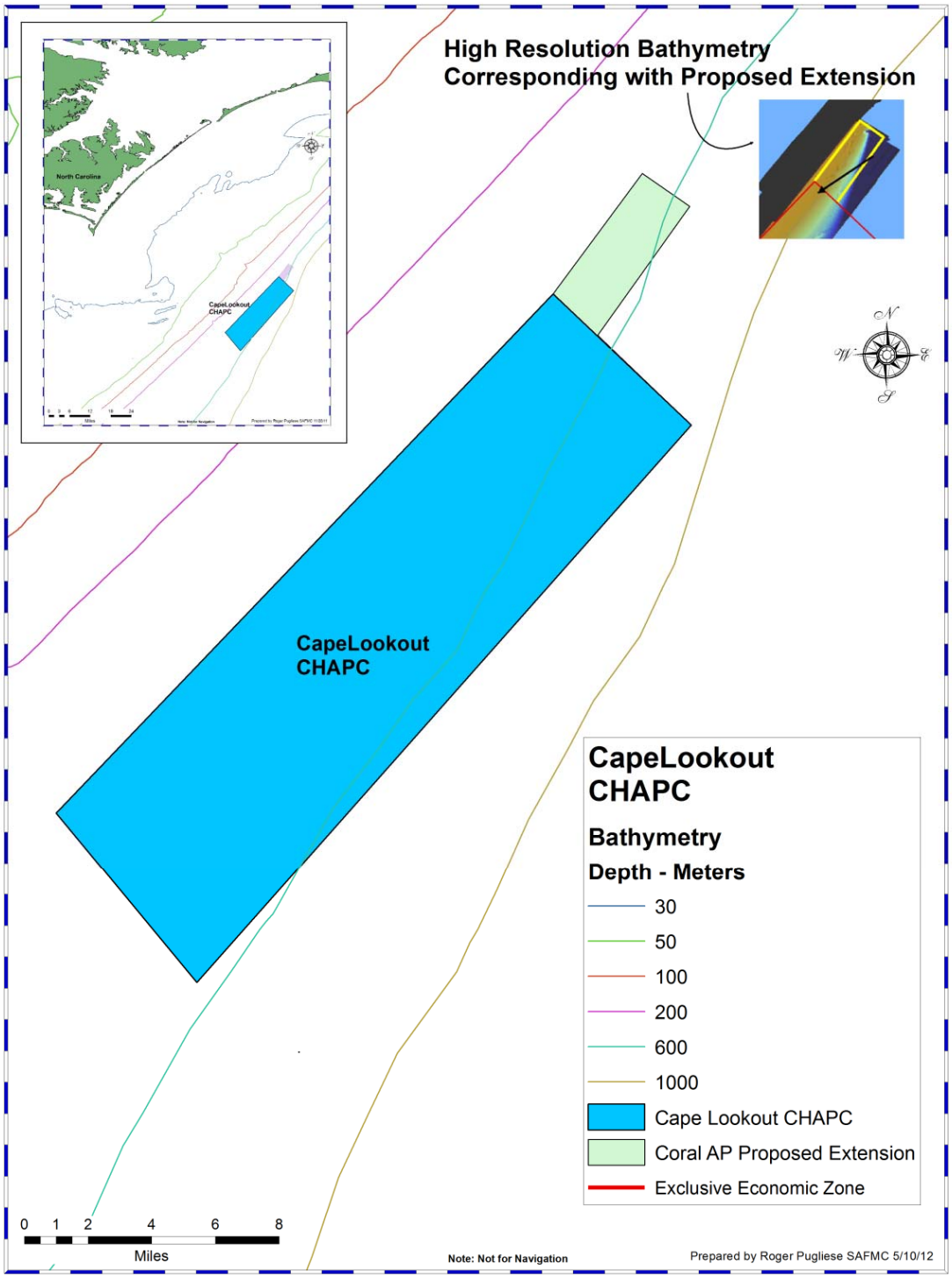


Figure 4-8. Action 3, Alternative 2. Coral Advisory Panel's proposed expansion of the Cape Lookout Coral HAPC northern boundary.

4.3.1 Biological Effects

The Comprehensive Ecosystem Based Amendment 1 implemented the Cape Lookout Coral HPAC in which the use of bottom longlines, trawls (mid-water and bottom), dredge, pots, or traps; use of anchor and chain, or use of grapple and chain by all fishing vessels; and possession of any species regulated by the Coral FMP are prohibited. These are the same regulations currently in place within the Oculina HAPC (with the exception of mid-water trawls). Under Alternative 1, these same prohibitions would apply. Alternative 2 proposes to expand the original Cape Lookout Coral HPAC along the Northern boundary. This would increase the size of the Cape Lookout Coral HAPC from 316 square kilometers to 324 square kilometers. This expansion would benefit deepwater coral ecosystems and has been proposed based on new information of deepwater corals in the area.

It is reasonable to expect that when a fishing vessel uses bottom tending gear, anchors, or grapples and chains in the deepwater Coral HAPCs, it would result in a taking/killing of prohibited coral or live rock. Corals covered by the Coral FMP are considered to be non-renewable resources. Fishing gear that comes in contact with the seafloor inevitably disturb the seabed and pose the most immediate direct threat to deepwater coral ecosystems. Fishing gear that impact the seafloor include bottom trawls, bottom longlines, bottom gillnets, dredges, and pots/traps (Chuenpagdee et al., 2003; Morgan and Chuenpagdee, 2003). Bottom tending gear and anchors, grapples, and chains can break fragile corals, dislodge reef framework, and scar corals, opening lesions for infection. Impacts of gear damage are not limited to direct crushing of live coral but also include effects of the attached chains which will abrade and denude coral structures. Stress caused by abrasion may result in a decline in health or stability of the reef or live bottom system. In shallow water, coral will respond through polyp retraction, altered physiology or behavior, and when sheered by anchor chains provide a point for infection. It is thought deepwater corals may respond similarly (John Reed, pers. comm. 2007). Damage inflicted by bottom tending gear, anchors, chains, and grapples is not limited to living coral and hardbottom resources but extends to disruption of the balanced and highly productive nature of the coral and live/hardbottom ecosystems.

4.3.2 Economic Effects

4.3.3 Social Effects

The potential social effects of expanding closed areas are discussed in Section 4.1.3. **Alternative 1 (No Action)** would likely have minimal social effects because this would maintain access to shrimp harvest areas. The proposed extension of the Cape Lookout Coral HAPC under **Alternative 2** could have negative social effects on the royal red and rock shrimp fleet if historic fishing grounds are no longer available.

4.3.4 Administrative Effects

The expansion of the Cape Lookout Coral HAPC (**Alternative 2**) would have a minimal administrative impact. Administrative impacts would be felt through the rule making process, outreach and enforcement. The administrative impacts would differ between the alternatives in the amount of area they

cover. It is expected the larger the expansion of the Coral HAPC the more enforcement will be needed. Most of the administrative impacts associated with these alternatives relate to at-sea enforcement.

4.4 Action 4. Designate Habitat Areas of Particular Concern for speckled hind and warsaw grouper

Alternative 1. No Action. Essential Fish Habitat (EFH)-HAPCs for species in the South Atlantic snapper grouper management unit have been defined as shown below:

Areas which meet the criteria for 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-HAPCs for golden tilefish include 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-HAPCs for blueline tilefish include 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 and East Hump MPA.

Alternative 2. Designate new and/or expanded MPAs as EFH-HAPCs for speckled hind and warsaw grouper.

Note: IPT recommends inclusion of the following information:

Essential Fish Habitat is defined in the Magnuson-Stevens Act as "all waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity". Regional Fishery Management Councils are directed to describe and identify EFH for each federally managed species, attempt to minimize the extent of adverse effects on habitat caused by fishing and non-fishing activities, and identify actions to encourage conservation and enhancement of those habitats. It is required that EFH be based on the best available scientific information.

The definition for EFH may include habitat for an individual species or an assemblage of species, whichever is appropriate within each FMP. For the purpose of interpreting the definition of EFH: "waters" includes aquatic areas and their associated physical, chemical, and biological properties that are utilized by fish. When appropriate this may include areas used historically. Water quality, including but not limited to nutrient levels, oxygen concentration, and turbidity levels is also considered to be a component of this definition. Examples of "waters" that may be considered EFH, include open waters, wetlands, estuarine habitats, riverine habitats, and wetlands hydrologically connected to productive water bodies.

"Necessary", relative to the definition of EFH, means the habitat required to support a sustainable fishery and a healthy ecosystem, while "spawning, breeding, feeding, or growth to maturity" covers a species full life cycle. In the context of this definition the term "substrate" includes sediment, hardbottom, structures underlying the waters, and associated biological communities. These communities could encompass mangroves, tidal marshes, mussel beds, cobble with attached fauna, mud and clay burrows, coral reefs, and submerged aquatic vegetation. Migratory routes such as rivers and passes serving as passageways to and from anadromous fish spawning grounds should also be considered EFH. Included in the interpretation of "substrate" are artificial reefs and shipwrecks (if providing EFH), and partially or entirely submerged structures such as jetties.

The NOAA Fisheries Service assists the Councils in implementing EFH by assessing the quality of available data in a four-level system:

Level 1: species distribution data for all or part of its geographic range;
Level 2: data on habitat-related densities or relative abundance of the species;
Level 3: data on growth, reproduction, and survival rates within habitats; and
Level 4: production rates by habitat.

In addition to EFH the Councils must identify EFH- HAPCs within EFH. In determining which areas should be designated as HAPCs the area must meet one or more of the following criteria:

1) Ecological function provided by the habitat is important;
2) Habitat is sensitive to human-induced environmental degradation;
3) Development activities are or will be stressing the habitat type; and
4) Habitat type is rare.

The Final EFH Rule requires FMPs to include maps that display, within the constraints of available information, the geographic locations of EFH or the geographic boundaries within which EFH for each species and life stage is found. Maps should identify the different types of habitat designated as EFH to the extent possible. Maps should explicitly distinguish EFH from non-EFH areas and should be incorporated into a geographic information system (GIS) to facilitate analysis and presentation. While GIS, in combination with models that examine habitat requirements, can be used as a tool for designating EFH, data availability do not support such use at this time for the South Atlantic. Instead, the best use of GIS within the South Atlantic is visualizing where EFH occurs within the constraints of available information.

Mapping efforts require accuracy standards for location and thematic content as well as designation of minimum mapping units (i.e., the smallest area that the map will depict for a thematic category, such as seagrass). Mapping standards for EFH have not yet been set. While technological improvements within the surveying and remote sensing communities are rapidly increasing location and thematic accuracy,

designation of minimum mapping units for EFH has not progressed similarly since enactment of the EFH Final Rule. Within the South Atlantic, especially for estuaries, the data available for mapping the locations of EFH are not at a geographic scale suitable for use in most EFH consultations. For example, data on the location of salt marshes that have a minimum mapping unit of one acre usually will not show fringe marshes, which are the subject of many EFH consultations. As additional information becomes available, it is advisable to develop minimum mapping units for the specific habitat types that are designated as EFH. These standards also might be tiered to account for geographic realm (e.g., riverine, estuarine, coastal, and offshore areas), life stages, data rich versus data poor species, and number of species within a FMP.

4.4.1 Biological Effects

Under **Alternative 1**, these EFH-HAPCs would remain and the biological benefits from them will be maintained. Designating the MPAs proposed in Action 5 as EFH –HAPCs for snapper grouper species would be expected to have a minimal biological impact. As marine protected areas, fishing actitives will be restricted and the HAPC designation may further restrict activities in the MPAs. Absent specific details on what EFH and EFH-HAPCs would be designated or where each is located, additional substantive discussion of the expected biological effects is not possible.

4.4.2 Economic Effects

4.4.3 Social Effects

There will be few direct social effects expecting to result from establishment or expansion of EFH-HAPCs, and these would most likely result from future actions that are associated with such designations. In some cases, protection of habitat as in **Alternative 2** could later lead to harvesting restrictions in areas where harvesting presently takes place or other actions which may impose similar constraints on snapper grouper fishermen. **Alternative 1 (No Action)** would be less likely to result in negative short-term impacts on fishermen than **Alternative 2.**

4.4.4 Administrative Effects

No additional administrative costs or effort would be required under **Alternative 1 (No Action).** Designating the MPAs proposed in Action 5 as EFH –HAPCs for snapper grouper species would incur a relatively large administrative burden. Coordination between the Regional offices, Councils, and state agencies would require significant funding, and time. Absent specific details on what EFH and EFH-HAPCs would be designated or where each is located, additional substantive discussion of the expected administrative effects is not possible.

4.5 Action 5. Establish Marine Protected Areas for additional protections for speckled hind and warsaw grouper

Speckled hind and warsaw grouper actions will be updated after the June 2012 Council mtg.

During the March 2012 Council meeting, the Snapper Grouper Committee discussed the approach to be taken regarding possible establishment of Marine Protected Areas (MPAs) to reduce mortality of speckled hind and warsaw grouper. The Council provided the following guidance to staff on timing and approach:

DECISION #1. Type of Closures to be evaluated.
Evaluate Alternatives 3 and 4:

> **Alternative 3.** Area closures where all bottom fishing is prohibited (same type of MPAs currently in place).
>
> **Alternative 4.** Temporary area closures that would remain in place until we get an assessment for speckled hind and warsaw grouper and the results indicate some relaxation of regulations is warranted.

DECISION #2. Approaches for developing potential area closures (MPAs).
Alternatives are sufficient; the Council directed staff to look at Tortugas and other areas that may be providing protection.

> **Alternative 1.** Use the known distribution (sites of occurrence) of speckled hind and warsaw grouper as reflected in data from analyses in Regulatory Amendment 11 (this was also used for the Scoping Document) and additional known sites of occurrence provided by fishermen and from scoping during CEBA-3.
>
> Note: Alternative 1 would result in protection based on where these two species were observed, sampled, or caught in the past.
>
> **Alternative 2.** Use the known habitat distribution of speckled hind and warsaw grouper similar to what was done for deepwater corals (areas of similar habitat would be expected to contain the species and once sampled, they are found).
>
> Note: Alternative 2 would result in protection based on the habitat distribution of these two species.

DECISION #3. Guidance on what percentage (of occurrence or habitat) is "appropriate" to be closed.
Evaluate alternatives 3, 4 and 5:

> **Alternative 3.** Establish a goal of 20%.
>
> **Alternative 4.** Establish a goal of 30%.
>
> **Alternative 5.** Establish a goal of 40%.

DECISION #4. Who develops alternative sites?
Staff are providing the capability for the Council, Advisory Panels (APs), and public to modify existing MPAs (first) and then draw new MPAs (second) and in each case calculating the percentage of known distribution or known habitat included. Staff are proposing that this approach be used with the SSC during their April 3-5, 2012 meeting in Savannah, GA; with the Snapper Grouper AP during their April 18-19, 2012 meeting in Charleston, SC; and with the public during 5 workshops the Council has recommended staff convene. Two of the workshops will be held prior to the June 11-15, 2012 Council meeting in Orlando, FL, and the remaining 3 will be held afterwards.

DECISION #5. Guidance on measuring impacts: what percentage of reduction in catches of speckled hind and warsaw grouper is recommended?
Analyze a 20%, 30%, & 40% reduction in catches.

4.5.1 Biological Effects

4.5.2 Economic Effects

4.5.3 Social Effects

The potential social effects of closed areas are discussed in Section 4.1.3. The closed areas under this action would be implemented to minimize mortality of warsaw grouper and speckled hind and would be more site-specific, which may reduce some of the expected social impacts. Additionally, if no closed areas are implemented (**Alternative 1 (No Action)**) and these two species continue to be impacted as bycatch, both could be considered for listing under the Endangered Species Act (ESA), which may result in more restrictive measures for the commercial and recreational sectors of the snapper grouper fishery. There would likely be negative social impacts on fishermen if access to fishing grounds is no longer available.

4.5.4 Administrative Effects

4.6 Action 6. Modify permits and data reporting for for-hire vessels

Data Collection actions will be updated after the June 2012 Council mtg.

Alternative 1 (No Action). Retain existing permits and data reporting systems for the for-hire sector.

Alternative 2. Data Collection Committee motion says modify as per Attachment 4, which is the CFR excerpt pasted below:

***** Code of Federal Regulations: Title 50
§ 622.2 Definitions and acronyms. Science and Research Director (SRD), for the purposes of this part, means the Science and Research Director, Southeast Fisheries Science Center, NMFS (see Table 1 of § 600.502 of this chapter).
§ 622.4 Permits and fees.
(a) Permits required. To conduct activities in fisheries governed in this part, valid permits, licenses, and endorsements are required as follows:
(1) Charter vessel/headboat permits. (i) For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess, in or from the EEZ, species in any of the following species groups, a valid charter vessel/headboat permit for that species group must have been issued to the vessel and must be on board--
(A) Gulf coastal migratory pelagic fish.
(B) South Atlantic coastal migratory pelagic fish.
(C) Gulf reef fish.
(D) South Atlantic snapper-grouper.
(E) Atlantic dolphin and wahoo. (See paragraph (a)(5) of this section for the requirements for operator permits in the dolphin and wahoo fishery.)
(ii) See paragraph (r) of this section regarding a limited access system for charter vessel/headboat permits for Gulf reef fish and Gulf coastal migratory pelagic fish.
(iii) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the bag limits.
§ 622.5 Recordkeeping and reporting. Participants in fisheries governed in this part are required to keep records and report as follows.
(b) Charter vessel/headboat owners and operators—
(1) Coastal migratory pelagic fish, reef fish, snapper-grouper, and Atlantic dolphin and wahoo. The owner or operator of a vessel 2 for which a charter vessel/headboat permit for Gulf coastal migratory pelagic fish, South Atlantic coastal migratory pelagic fish, Gulf reef fish, South Atlantic snapper-grouper, or Atlantic dolphin and wahoo has been issued, as required under § 622.4(a)(1), or whose vessel fishes for or lands such coastal migratory pelagic fish, reef fish, snapper-grouper, or Atlantic dolphin or wahoo in or from state waters adjoining the applicable Gulf, South Atlantic, or Atlantic EEZ, and who is selected to report by the SRD, must maintain

a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2) of this section.
(2) Reporting deadlines--(i) Charter vessels. Completed fishing records required by paragraph (b)(1) of this section for charter vessels must be submitted to the SRD weekly, postmarked not later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.
(ii) Headboats. Completed fishing records required by paragraph (b)(1) of this section for headboats must be submitted to the SRD monthly and must either be made available to an authorized statistical reporting agent or be postmarked not later than 7 days after the end of each month. Information to be reported is indicated on the form and its accompanying instructions.

Amendment, Proposed Changes:
I. Timing
(2) Reporting deadlines--(i) Charter vessels and headboats. Completed fishing records required by paragraph (b)(1) of this section for charter vessels and headboats must be submitted to the SRD weekly, or at intervals shorter than a week if notified by the SRD. These records must be electronically stamped or postmarked not later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.
Option 1. Weekly.
Option 2. Daily.
Option 3. Weekly or at intervals shorter than a week if notified by the SRD.

4.6.1 Biological Effects

Alternative 1 (No Action) would retain existing data reporting systems for the for-hire sector. This would include those data collection measures implemented by Amendment 15B including a requirement for private recreational vessels, if selected, that fish in the exclusive economic zone (EEZ), to maintain and submit fishing records; to carry observers and install an electronic logbook (ELB) and/or video monitoring equipment provided by NMFS. Currently, harvest and bycatch in the private and for-hire charter vessel sector has been consistently monitored by MRFSS since its inception. The survey uses a combination of random digit dialed telephone intercepts of coastal households for effort information and dock-side intercepts for individual trips for catch information to statistically estimate total catch and discards by species for each sub-region, state, mode, primary area and wave. Bycatch is enumerated by disposition code for each fish caught but not kept (B2). Prior to 2000, sampling of the charter vessel sector resulted in highly variable estimates of catch. However, since 2000, a new sampling methodology has been implemented. A 10% sample of charter vessel captains is called weekly to obtain trip level information. In addition, the standard dockside intercept data are collected from charter vessels and charter vessel clients are sampled through the standard random digital dialing of coastal households. Precision of charter vessel effort estimates has improved by more than 50% due to these changes (Van Voorhees *et al.* 2000). Additional improvements are scheduled for MRFSS in the next few years.

Harvest from headboats is monitored by NOAA Fisheries Service at SEFCs's Beaufort Laboratory. Collection of discard data began in 2004. Daily catch records (trip records) are filled out by the headboat operators; or in some cases by NOAA Fisheries Service approved headboat samplers based on personal communication with the captain or crew. Headboat trips are subsampled for data on species lengths and weights. Biological samples (scales, otoliths, spines, reproductive tissues, stomachs) are obtained as time

permits. Lengths of discarded fish are occasionally obtained but these data are not part of the headboat database.

Included in the no-action **Alternative 1 (No Action)** would be the measures proposed in Amendment 15B, which has been approved and implemented by the Secretary. The Council's preferred alternative would allow for the implementation of interim programs to monitor and assess bycatch in the South Atlantic snapper grouper fishery until the ACCSP Release, Discard and Protected Species (Bycatch) Module can be fully funded. The interim programs or first phase of the alternative would allow for the collection of bycatch information utilizing a variety of methods and sources when this amendment is implemented as follows:

1. Require that selected vessels carry observers funded by the agency.
2. Require selected vessels employ electronic logbooks or video monitoring funded by the agency.
3. Utilize bycatch information collected in conjunction with grant-funded programs such as MARFIN and Cooperative Research Program (CRP). Require that raw data are provided to NOAA Fisheries Service and the Council.
4. Request that bycatch data collected by states are provided to NOAA Fisheries Service and the Council. Many states may have collected data on snapper grouper bycatch in the past. Furthermore, some states may be currently collecting bycatch data through studies that are conducted in state waters.
5. Develop outreach and training programs to improve reporting accuracy by fishermen.

Alternative 1 (No Action) would not require that for-hire vessels to use the SAFIS system or vessel monitoring systems (VMS). This would include those data collection measures in place as well as those implemented by Amendment 15B including a requirement for private recreational vessels, if selected, that fish in the exclusive economic zone (EEZ), to maintain and submit fishing records; to carry observers and install an electronic logbook (ELB) and/or video monitoring equipment provided by NOAA Fisheries Service.

Alternatives 2 would require that data be submitted to the Science Center more frequently than the current situation. There are no direct biological impacts from establishing more frequent reporting. However, indirect impacts resulting from **Alternatives 2** would provide a better understanding of the composition and magnitude of catch and bycatch; enhance the quality of data provided for stock assessments; increase the quality of assessment output; provide better estimates of interactions with protected species; and lead to better decisions regarding additional measures that might be needed to reduce bycatch. Management measures that affect gear and effort for a target species can influence fishing mortality in other species. Therefore, enhanced catch and bycatch monitoring would provide better data that could be used in multi-species assessments.

4.6.2 Economic Effects

4.6.3 Social Effects

The social effects of changing permits and reporting requirements for the for-hire sector will most likely be associated with changes in frequency and method of reporting. In general, more frequent reporting may

have some negative effects on vessel owners and captains by imposing additional time and money requirements. If frequency of reporting is increased from twice a month to weekly (for example), this may result in additional burdens, but will be expected to generate broad social benefits in that more frequent reporting would be expected to improve quota monitoring, allowing NOAA Fisheries to better track landings and calculate expected closures. This improved monitoring would also be expected to reduce the likelihood of the recreational sector exceeding the ACL and the associated AMs. Improvements in monitoring would be beneficial to the for-hire fleet by minimizing the negative social effects of AMs such as early closures, reduced trip limits, or reduced ACL in the subsequent year ("pay-backs"). Monitoring improvements and reduced risk of exceeding an ACL would also be expected to contribute to sustainability in the fisheries and maintenance of the fish stocks. The method of reporting (paper mail, fax, or electronically) will affect vessel owners who do not already use computer systems in their businesses. Electronic reporting would be expected to produce the most accurate means of tracking landings.

4.6.4 Administrative Effects

4.7 Action 7. Modify permits and data reporting for commercial vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the commercial sector.

Alternative 2. Modify permits and data-reporting for commercial vessels similarly to how this was done in SG Amendment 18A (Council chose No Action as their preferred at that time).

> **Sub-Alternative 2a.** Require all vessels with a Federal snapper grouper commercial permit to have an electronic logbook tied to the vessel's GPS onboard the vessel.
>
> (Note: Sub-Alternative 2a would require 100% of vessels to have an electronic logbook; whereas, current data reporting programs only require electronic logbooks if selected.)
>
> **Sub-Alternative 2b.** Provide the option for fishermen to submit their logbook entries electronically via an electronic version of the logbook made available online.
>
> **Sub-Alternative 2c.** Require that commercial landings and catch/effort data be submitted in accordance with ACCSP standards, using the SAFIS system.

4.7.1 Biological Effects

Alternative 1 (No Action) would retain existing data reporting systems for the commercial sector (**Table 1-3**) including new regulations implemented through Amendment 15B which include, a requirement for private recreational vessels that fish in the exclusive economic zone (EEZ), if selected by NOAA Fisheries Service, to maintain and submit fishing records; requires a vessel that fishes in the EEZ, if selected by NOAA Fisheries Service, to carry an observer and install an electronic logbook (ELB) and/or video monitoring equipment provided by NOAA Fisheries Service. For the South Atlantic snapper grouper commercial fishery current regulations (50CFR § 622.5) require commercial and recreational for-hire participants in the South Atlantic snapper grouper fishery who are selected by the Southeast Science and Research Director (SRD) to maintain and submit a fishing record on forms provided by the SRD. Bycatch data on protected species are currently collected in the commercial snapper grouper fishery through the supplementary discard form. In 1990, the SEFSC initiated a logbook program for vessels with federal permits in the snapper grouper fishery from the Gulf of Mexico and South Atlantic. In 2001, a separate bycatch reporting logbook was added to include numbers on the average size of discarded fish by species. The discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders. The sample selections are made each year and the selected fishermen/vessels are required to complete and submit the form for the trips they make during the following calendar year. Fishermen are not selected for the next four years after they submit a discard form for a year. However, over a five-year period, 100% of snapper grouper permit holders will have been required to report in one of the five years.

Alternative 1 (No Action) would continue to obtain fishing effort information as well as protected species interactions via a logbook. Discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders. The sample selections are made in July of each year and the selected fishermen/vessels are required to complete and submit the form for the trips they make during August through July of the following year. Fishermen are not selected for the next four years after they submit a discard form for a year. However, over a five-year period, 100% of snapper grouper permit holders will have been required to report in one of the five years. In addition, information is collected on protected species interactions. The key advantage of logbooks is the ability to use them to cover all fishing activity relatively inexpensively. However, in the absence of any observer data, there are concerns about the accuracy of logbook data in collecting bycatch information. Biases associated with logbooks primarily result from inaccuracy in reporting of species that are caught in large numbers or are of little economic interest (particularly of bycatch species), and from low compliance rates. Many fishermen may perceive that accurate reporting will result in restricted fishing effort or access. This results in a disincentive for reporting accurate bycatch data and an incentive to under-report or not report. Therefore, logbook programs are more useful in recording information on infrequently caught species and providing estimates of total effort by area and season that can then be combined with observer data to estimate total bycatch.

Commercial quotas are monitored by the NOAA Fisheries Service Southeast Fisheries Science Center (SEFSC). Landings information are obtained from dealers. Dealer selections are made for a calendar year based on the production for the previous year. Selected dealers are notified that they must report landings by the 5th of a following month, even if no purchases were made. The SEFSC provides periodic reports to NOAA Fisheries Service Southeast Regional Office (SERO) and the Council (at least prior to each Council meeting). In addition, timing of possible closures are estimated. Periodically, quota monitoring data are compared to general canvas landings data for the same dealers. The purpose is to determine if selected dealers provide an acceptable percentage of total reported landings. The review of the general canvass landings data are also used to identify new dealers handling quota species. If new dealers are identified or if the percentage of landings accounted for by selected dealers drops below a specified percentage, additional dealers would be required to report landings.

Dealers have two options for submitting data: (1) a paper form faxed to SEFSC or (2) online reporting. To enter and use the online system, the dealer uses a valid user login ID and password. This system is secure and only users with valid user IDs and passwords can access it. Furthermore, the user ID and password is unique for each dealer and will only allow access to the data entered by an individual using that password. All entries are logged on a tracking database and each time a user enters the system and makes a change to the data, that entry, and the changes are recorded, along with the date and time the changes were made. Instructions are provided to the dealers on how to use the online system.

Some data are also collected through cooperative research projects. Cooperative research with the commercial and recreational sectors on bycatch was identified as a high priority item at the Southeast Bycatch Workshop during May 2006. There is clearly a need to characterize the entire catch of commercial fishermen and compare differences in abundance and species diversity to what is caught in fishery-independent gear. As we move towards a multi-species management approach, these types of data are essential. In addition, estimates of release mortality are needed for stock assessments but currently this is not being measured for fishery-dependent data. It is anticipated that additional cooperative research projects will be funded in the future to enhance the database on bycatch in the snapper grouper fishery in the South Atlantic.

Cooperative research projects between science and industry are being used to a limited extent to collect bycatch information on the snapper grouper fishery in the South Atlantic. For example, Harris and Stephen (2005) characterized the entire (retained and discarded) catch of reef fishes from a selected commercial fisherman in the South Atlantic including total catch composition and disposition of fishes that were released. The Gulf and South Atlantic Fisheries Foundation, Inc. obtained funding to conduct a fishery observer program within the snapper grouper vertical hook-and-line (bandit rig) fishery of the South Atlantic United States. Through contractors they randomly placed observers on cooperating vessels to collect a variety of data quantifying the participation, gear, effort, catch, and discards within the fishery.

Research funds for observer programs, as well as gear testing and testing of electronic devices are also available each year in the form of grants from the Foundation, Marine Fisheries Initiative (MARFIN), Saltonstall-Kennedy (S-K) program, and the Cooperative Research Program (CRP). Efforts are made to emphasize the need for observer and logbook data in requests for proposals issued by granting agencies. A condition of funding for these projects is that data are made available to the Councils and NOAA Fisheries Service upon completion of a study.

Included in **Alternative 1 (No Action)** would be the measures proposed in Amendment 15B, which was recently implemented. The Council's preferred alternative would allow for the implementation of interim programs to monitor and assess bycatch in the South Atlantic snapper grouper fishery until the ACCSP Release, Discard and Protected Species (Bycatch) Module can be fully funded. The interim programs or first phase of the alternative would allow for the collection of bycatch information utilizing a variety of methods and sources when this amendment is implemented as follows:

1. Require that selected vessels carry observers (It is the Council's intent that NOAA Fisheries Service and grant-funded programs would cover the cost of observers on snapper grouper vessels.)
2. Require selected vessels employ electronic logbooks or video monitoring (It is the Council's intent that NOAA Fisheries Service and grant-funded programs cover the cost of purchase and installation of these units.)
3. Utilize bycatch information collected in conjunction with grant-funded programs such as MARFIN and Cooperative Research Program (CRP). Require that raw data are provided to NOAA Fisheries Service and the Council.
4. Request that bycatch data collected by states are provided to NOAA Fisheries Service and the Council. Many states may have collected data on snapper grouper bycatch in the past. Furthermore, some states may be currently collecting bycatch data through studies that are conducted in state waters.
5. Develop outreach and training programs to improve reporting accuracy by fishermen.

Alternative 1 (No Action) would not require that commercial vessels with a snapper grouper permit to use the SAFIS system or vessel monitoring systems (VMS).

Alternatives 2 and associated sub-alternatives identify options for monitoring catch and effort, which are more specific that what was specified in Amendment 15B. There are no direct biological impacts from establishing a standardized reporting methodology to estimate bycatch. However, indirect impacts resulting from **Alternatives 2** and associated sub-alternatives would provide a better understanding of the composition and magnitude of catch and bycatch; enhance the quality of data provided for stock

assessments; increase the quality of assessment output; provide better estimates of interactions with protected species; and lead to better decisions regarding additional measures that might be needed to reduce bycatch. Management measures that affect gear and effort for a target species can influence fishing mortality in other species. Therefore, enhanced catch and bycatch monitoring would provide better data that could be used in multi-species assessments.

Alternatives 2 and the associated sub-alternatives differ in type, amount, and quality of data they would provide. **Sub-alternative 2a** would require that logbooks be submitted electronically through the vessels GPS system. **Sub-alternative 2b** would give fishermen the option to submit their logbooks electronically through the GPS. **Sub-alternative 2c** would require commercial landings and catch/effort data be submitted in accordance with ACCSP standards, using the SAFIS system.

SAFIS is a real-time, web-based reporting system for commercial landings on the Atlantic coast. It is comprised of three applications:

- Electronic Dealer Reports (eDR) - A forms based application collecting from the dealers (landings) including condition and price.
- Electronic Trip Reports (eTRIPS) - A Web-based application collecting data from fisherman (catch and effort) including gears used, fishing areas, and catch disposition.
- SAFIS Management System (SMS) - A Web-based application providing administrative tools to SAFIS administrators for management of user accounts, participants, permits etc.

Data reported through SAFIS is fed into the ACCSP Data Warehouse. Beneficial biological impacts would be provided by **Alternatives 2, Sub-Alternative 2c** if data are provided more quickly from the fishermen and dealers to NMFS and fishery managers. In addition to monitoring quotas in a more timely fashion than under the current quota monitoring system, the SAFIS has the potential to improve the quality of data and stock assessments.

4.7.2 Economic Effects

4.7.3 Social Effects

Changes in permits and reporting requirements for commercial vessels may have some negative effects on vessel owners and captains by imposing additional time and money requirements. However, improved reporting would also be expected to generate broad social benefits in that more accurate reporting would be expected to improve quota monitoring, allowing NOAA Fisheries to better track landings and calculate expected closures. This improved monitoring would also be expected to reduce the likelihood of the commercial sectors of fisheries exceeding the ACL and the associated AMs. Improvements in monitoring would be beneficial to commercial vessels by minimizing the negative social effects of AMs such as early closures, reduced trip limits, or reduced ACL in the subsequent year ("pay-backs"). Monitoring improvements and reduced risk of exceeding an ACL would also be expected to contribute to sustainability in the fisheries and maintenance of the fish stocks. Under **Alternative 1 (No Action)** there would be minimal short-term impacts on commercial fishermen but would reduce long-term social benefits associated with more accurate and timely data expected under **Alternative 2**. Electronic reporting requirements (**Sub-alternative 2a**) would affect vessel owners who do not already use computer systems

in their businesses, but the option (not requirement) to report electronically (**Sub-alternative 2b**) would provide flexibility to fishermen who currently do not own the proper equipment. **Sub-alternative 2c** would allow data to be incorporated into the ACCSP system and used to track quotas.

4.7.4 Administrative Effects

Under **Alternative 1 (No Action)** no administrative impacts would be incurred outside of the status-quo. **Alternatives 2** and the associated sub-alternatives would each result in an increased administrative burden; however that burden would not extend beyond the scope of data management and analysis. The resultant increased data management workload would be considered a minimal to moderate adverse administrative impact.

4.8 Action 8. Modify bycatch and discard reporting

Alternative 1 (No Action). Adopt the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology. Until this module is fully funded, require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects. After the ACCSP Bycatch Module is implemented, continue the use of technologies to augment and verify observer data. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

Alternative 2. Adopt the Atlantic Coastal Cooperative Statistics Program Release, Discard and Protected Species Module as the preferred methodology. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

Alternative 3. Require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects. Require that commercial vessels with a snapper grouper permit, for-hire vessels with a for-hire permit, and private recreational vessels if fishing for snapper grouper species in the EEZ, if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by NOAA Fisheries.

4.8.1 Biological Effects

4.8.2 Economic Effects

4.8.3 Social Effects

Some short-term negative social effects would be expected if bycatch monitoring added time or financial burden to fishermen, but overall an improved bycatch monitoring system would likely produce broad, long-term social benefits if the information could be effective in reducing bycatch and minimizing quota overages.

4.8.4 Administrative Effects

Chapter 5. Council's Choice for the Preferred Alternative

Chapter 6. Cumulative Effects

6.1 Biological

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

The Council on Environmental Quality (CEQ) cumulative effects guidance states that this step is done through three activities. The three activities and the location in the document are as follows:

I. The direct and indirect effects of the proposed actions **(Chapter 4)**;
II. Which resources, ecosystems, and human communities are affected **(Chapter 3)**; and
III. Which effects are important from a cumulative effects perspective **(information revealed in this Cumulative Effects Analysis (CEA)**?

2. Establish the geographic scope of the analysis.

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Council's area of jurisdiction. The extent of boundaries also would depend upon the degree of fish immigration/emigration and larval transport; whichever has the greatest geographical range. The ranges of affected species are described in **Section 3.2.1. Section 3.1.3** describes the essential fish habitat designation and requirements for species affected by this amendment.

3. Establish the timeframe for the analysis.

Establishing a timeframe for the CEA is important when the past, present, and reasonably foreseeable future actions are discussed. It would be advantageous to go back to a time when there was a natural, or some modified (but ecologically sustainable) condition. However, data collection for many fisheries began when species were already fully exploited. Therefore, the timeframe for analyses should be initiated when data collection began for the various fisheries. In determining how far into the future to analyze cumulative effects, the length of the effects will depend on the species and the alternatives chosen.

4. Identify the other actions affecting the resources, ecosystems, and human communities of concern (the cumulative effects to the human communities are discussed in Section 4).

Listed are other past, present, and reasonably foreseeable actions occurring in the South Atlantic region. These actions, when added to the proposed management measures, may result in cumulative effects on the biophysical environment.

I. Fishery-related actions

A. Past

B. Present

In addition to snapper grouper fishery management issues being addressed in this amendment, several other snapper grouper amendments have been developed concurrently and are in the process of approval and implementation.

Amendment 18A to the Snapper Grouper FMP (SAFMC 2011f) contains measures to limit participation and effort in the black sea bass fishery, reduce bycatch in the black sea bass pot fishery, changes to the rebuilding strategy and other necessary changes to the management of black sea bass as a result of the ongoing stock assessment. In addition, Amendment 18A includes alternatives to improve data collection. The South Atlantic Council approved Amendment 18A in December 2011.

Regulatory Amendment 11 to the Snapper Grouper FMP (Regulatory Amendment 11; SAFMC 2011b) was approved by the South Atlantic Council at their August 9, 2011, meeting. If approved, Regulatory Amendment 11 would remove the current deepwater closure beyond 240 ft for six deepwater snapper grouper species.

The Comprehensive ACL Amendment (SAFMC 2011c) includes ACLs and AMs for federally managed species not undergoing overfishing in four FMPs (Snapper Grouper, Dolphin Wahoo, Golden Crab, and *Sargassum*. Actions contained within the Comprehensive ACL Amendment include: (1) Removal of species from the snapper grouper fishery management unit; (2) designating ecosystem component species; (3) allocations; (4) management measures to limit recreational and commercial sectors to their ACLs; (5) AMs; and (5) any necessary modifications to the range of regulations. The South Atlantic Council approved the Comprehensive ACL Amendment in September 2011. Regulations for the Comprehensive ACL Amendment will be in place on April 16, 2012.

Amendment 20A to the Snapper Grouper FMP (Amendment 20A; SAFMC 2011e) would distribute shares from inactive participants in the wreckfish individual transferable quota (ITQ) to active shareholders. The South Atlantic Council approved Amendment 20A in December 2011.

Amendment 24 to the Snapper Grouper FMP (Amendment 24; SAFMC 2011d) considers a rebuilding plan for red grouper, which is overfished and undergoing overfishing. The South Atlantic Council approved Amendment 24 in December 2011.

Regulatory Amendment 12 to the Snapper Grouper FMP (Regulatory Amendment 12; SAFMC 2012) includes alternatives to adjust the golden tilefish ACL based on the results of a new assessment, which indicates golden tilefish are no longer experiencing overfishing and are not overfished. Regulatory Amendment 12 also includes an action to adjust the recreational AM.

C. Reasonably Foreseeable Future

Amendment 20B to the Snapper Grouper FMP are currently under development. The amendment will include a formal review of the current wreckfish ITQ program, and will update/modify that program according to recommendations gleaned from the review. The amendments will also update the wreckfish ITQ program to comply with Reauthorized Magnuson-Stevens requirements.

II. Non-Council and other non-fishery related actions, including natural events

5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.

In terms of the biophysical environment, the resources/ecosystems identified in earlier steps of the CEA are the fish populations directly or indirectly affected by the regulations. This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components.

6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

This step is important in outlining the current and probable stress factors on snapper grouper species identified in the previous steps. The goal is to determine whether these species are approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold (CEQ 1997). Sustainability thresholds can be identified for some resources, which are levels of impact beyond which the resources cannot be sustained in a stable state. Other thresholds are established through numerical standards, qualitative standards, or management goals. The CEA should address whether thresholds could be exceeded because of the contribution of the proposed action to other cumulative activities affecting resources.

Fish populations

Quantitative definitions of overfishing and overfished for golden tilefish are identified in Amendments 11 and 12 to the Snapper Grouper FMP (SAFMC 1998). Numeric values of thresholds overfishing and overfished for golden tilefish were updated/modified in Amendment 15B (SAFMC 2008b). These values include maximum sustainable yield (MSY), the fishing mortality rate that produces MSY (F_{MSY}), the biomass or biomass proxy that supports MSY (B_{MSY}), the minimum stock size threshold below which a stock is considered to be overfished (MSST), the maximum fishing mortality threshold above which a stock is considered to be undergoing overfishing (MFMT), and optimum yield (OY). Amendment 15b to the Snapper Grouper FMP also provided new definitions of MSST for golden tilefish. Amendment 15b became effective in December 2009.

Climate change

Global climate changes could have significant effects on South Atlantic fisheries. However, the extent of these effects is not known at this time. Possible impacts include temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (Kennedy et al. 2002).

It is unclear how climate change would affect snapper grouper species in the South Atlantic. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, the distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Climate change may significantly impact snapper grouper

species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur.

7. Define a baseline condition for the resources, ecosystems, and human communities.

The purpose of defining a baseline condition for the resource and ecosystems in the area of the proposed action is to establish a point of reference for evaluating the extent and significance of expected cumulative effects. The SEDAR assessments show trends in biomass, fishing mortality, fish weight, and fish length going back to the earliest periods of data collection. For some species such as snowy grouper, assessments reflect initial periods when the stock was above B_{MSY} and fishing mortality was fairly low. However, some species such were heavily exploited or possibly overfished when data were first collected. As a result, the assessment must make an assumption of the biomass at the start of the assessment period thus modeling the baseline reference points for the species.

For a detailed discussion of the baseline conditions of each of the species addressed in this amendment the reader is referred to those stock assessment and stock information sources referenced in **Item Number 6** of this CEA.

8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities (Table 6-1).

Table 6-1. The cause and effect relationship of fishing and regulatory actions within the time period of the Cumulative Effects Analysis (CEA).

Time period/dates	Cause	Observed and/or Expected Effects
Pre-January 12, 1989	Habitat destruction, growth overfishing of vermilion snapper.	Damage to snapper grouper habitat, decreased yield per recruit of vermilion snapper.
January 1989	Trawl prohibition to harvest fish (SAFMC 1988a & b).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
Pre-January 1, 1992	Overfishing of many snapper grouper species.	Spawning stock ratio of these species is estimated to be less than 30% indicating that they are overfished.
January 1992	Prohibited gear: fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. Size/Bag limits: 10" TL vermilion snapper (recreational only); 12" TL vermilion snapper (commercial only); 10 vermilion snapper/person/day; aggregate grouper bag limit of 5/person/day; and 20" TL gag, red, black, scamp, yellowfin, and yellowmouth grouper size limit (SAFMC 1991a).	Reduce mortality of snapper grouper species.
Pre-June 27, 1994	Damage to *Oculina* habitat.	Noticeable decrease in numbers and species diversity in areas of *Oculina* off FL

Time period/dates	Cause	Observed and/or Expected Effects
July 1994	Prohibition of fishing for and retention of snapper grouper species (HAPC renamed OECA; SAFMC 1993)	Initiated the recovery of snapper grouper species in OECA.
1992-1999	Declining trends in biomass and overfishing continue for a number of snapper grouper species including golden tilefish.	Spawning potential ratio for golden tilefish is less than 30% indicating that they are overfished.
July 1994	Commercial quota for golden tilefish; commercial trip limits for golden tilefish; include golden tilefish in grouper recreational aggregate bag limits.	
February 24, 1999	All S-G without a bag limit: aggregate recreational bag limit 20 fish/person/day, excluding tomtate and blue runners. Vessels with longline gear aboard may only possess snowy, warsaw, yellowedge, and misty grouper, and golden, blueline and sand tilefish.	
October 23, 2006	Snapper grouper FMP Amendment 13C (SAFMC 2006)	Commercial vermilion snapper quota set at 1.1 million pounds gw; recreational vermilion snapper size limit increased to 12" TL to prevent vermilion snapper overfishing.
Effective February 12, 2009	Snapper grouper FMP Amendment 14 (SAFMC 2007)	Use marine protected areas (MPAs) as a management tool to promote the optimum size, age, and genetic structure of slow growing, long-lived deepwater snapper grouper species (e.g., speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish). Gag and vermilion snapper occur in some of these areas.
Effective March 20, 2008	Snapper grouper FMP Amendment 15A (SAFMC 2008a)	Establish rebuilding plans and SFA parameters for snowy grouper, black sea bass, and red porgy.
Effective Dates Dec 16, 2009, to Feb 16, 2010.	Snapper grouper FMP Amendment 15B (SAFMC 2008b)	End double counting in the commercial and recreational reporting systems by prohibiting the sale of bag-limit caught snapper grouper, and minimize impacts on sea turtles and smalltooth sawfish.
Effective Date July 29, 2009	Snapper grouper FMP Amendment 16 (SAFMC 2009a)	Protect spawning aggregations and snapper grouper in spawning condition by increasing the length of the spawning season closure, decrease discard mortality by requiring the use of dehooking tools, reduce overall harvest of gag and vermilion snapper to end overfishing.

Time period/dates	Cause	Observed and/or Expected Effects
Effective Date January 4, 2010	Red Snapper Interim Rule	Prohibit commercial and recreational harvest of red snapper from January 4, 2010, to June 2, 2010 with a possible 186-day extension. Reduce overfishing of red snapper while long-term measures to end overfishing are addressed in Amendment 17A.
Effective Date December 4, 2010	Snapper Grouper FMP Amendment 17A (SAFMC 2010a).	SFA parameters for red snapper; ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; accountability measures. Establish rebuilding plan for red snapper.
Effective Date January 31, 2011	Snapper Grouper Amendment 17B (SAFMC 2010b)	ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; AMs, for species undergoing overfishing.
Target 2012	Snapper Grouper FMP Amendment 18A (SAFMC 2011f)	Prevent overexploitation in the black sea bass fishery.
Target 2011	Comprehensive ACL Amendment (SAFMC 2011c)	ACLs ACTs, and AMs for species not experiencing overfishing; accountability measures; an action to remove species from the fishery management unit as appropriate; and management measures to limit recreational and commercial sectors to their ACTs.
Target 2011	Regulatory Amendment 11 (SAFMC 2011b)	Re-addresses the deepwater area closure implemented in Amendment 17B
Effective Date July 15, 2011	Regulatory Amendment 9 (SAFMC 2011a)	Harvest management measures for black sea bass; commercial trip limits for gag, vermilion and greater amberjack
Target 2012	Amendment 20A (Wreckfish) (SAFMC 2011e)	Redistribute inactive wreckfish shares.
Target 2012	Amendment 24 (Red Grouper) (SAFMC 2011d)	Establishes a rebuilding plan for red grouper, specifies ABC, and establishes ACL, ACT and revises AMs for the commercial and recreational sectors.
Target 2012	Regulatory Amendment 12 (SAFMC 2012)	Adjusts the golden tilefish ACL based on the results of a new stock assessment and modifies the recreational golden tilefish AM.
Target 2013	Snapper Grouper Amendment 22 (under dev)	Develop a long-term management program for red snapper in the South Atlantic.

9. Determine the magnitude and significance of cumulative effects.

10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

11. Monitor the cumulative effects of the selected alternative and adopt management.

The effects of the proposed action are, and will continue to be, monitored through collection of data by NOAA Fisheries Service, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

6.2 Socioeconomic

Chapter 7. Other Things to Consider

7.1 Unavoidable Adverse Effects

There are several unavoidable adverse effects on the socioeconomic environment that may result from the implementation of Comprehensive Ecosystem-Based Amendment 3(CE-BA 3). A brief summary of those effects follows:

7.2 Effects of the Fishery on Essential Fish Habitat

The biological impacts of the proposed actions are described in **Chapter 4**, including impacts on habitat. No actions proposed in this amendment are anticipated to have any adverse impact on essential fish habitat (EFH) or EFH-Habitat of Particular Concern (EFH-HAPC) for managed species including species in the snapper grouper complex. Any additional impacts of fishing on EFH identified during the public hearing process will be considered, therefore the South Atlantic Fishery Management Council (South Atlantic Council) has determined no new measures to address impacts on EFH are necessary at this time. The South Atlantic Council's adopted habitat policies, which may directly affect the area of concern, are available for download through the Habitat/Ecosystem section of the South Atlantic Council's website: http://map.mapwise.com/safmc/Default.aspx?tabid=56.

NOTE: The Final EFH Rule, published on January 17, 2002, (67 FR 2343) replaced the interim Final Rule of December 19, 1997 on which the original EFH and EFH-HAPC designations were made. The Final Rule directs the Councils to periodically update EFH and EFH-HAPC information and designations within fishery management plans. As was done with the original Habitat Plan (SAFMC 1998c), a series of technical workshops were conducted by Council staff and a draft plan that includes new information has been completed pursuant to the Final EFH Rule. For more detailed information, see **Appendix C**.

7.3 Damage to Ocean and Coastal Habitats

The actions proposed in CE-BA 3 would not result in any adverse impacts to ocean and coastal habitats.

The alternatives and proposed actions are not expected to have any adverse effect on the ocean and coastal habitat. Management measures implemented in the original Snapper Grouper FMP through Amendment 7 to the Snapper Grouper FMP (SAFMC 1994a) combined have significantly reduced the impact of the snapper grouper fishery on essential fish habitat (EFH). The South Atlantic Council has reduced the impact of the fishery and protected EFH by

prohibiting the use of poisons and explosives; prohibiting use of fish traps and entanglement nets in the EEZ; banning use of bottom trawls on live/hard bottom habitat north of Cape Canaveral, Florida; restricting use of bottom longline to depths greater than 50 fathoms north of St. Lucie Inlet; and prohibiting use of black sea bass pots south of Cape Canaveral, Florida. These gear restrictions have significantly reduced the impact of the fishery on coral and live/hard bottom habitat in the South Atlantic Region.

Additional management measures in Amendment 8 to the Snapper Grouper FMP (SAFMC 1997), including specifying allowable bait nets and capping effort, have protected habitat by making existing regulations more enforceable. Establishing a controlled effort program limited overall fishing effort and to the extent there is damage to the habitat from the fishery (e.g. black sea bass pots, anchors from fishing vessels, impacts of weights used on fishing lines and bottom longlines), limited such impacts.

In addition, measures in Amendment 9 to the Snapper Grouper FMP (SAFMC 1998b), that include further restricting longlines to retention of only deepwater species and requiring that black sea bass pots have escape panels with degradable fasteners, reduce the catch of undersized fish and bycatch and ensure that the pot, if lost, will not continues to "ghost" fish. Amendment 13C to the Snapper Grouper FMP (SAFMC 2006) increased mesh size in the back panel of pots, which has reduced bycatch and retention of undersized fish.

Amendment 15B to the Snapper Grouper FMP (SAFMC 2008b) includes an action that would implement sea turtle bycatch release equipment requirements and sea turtle and smalltooth sawfish handling protocols and/or guidelines in the permitted commercial and for-hire snapper grouper fishery effective February 15, 2010.

Amendment 16 to the Snapper Grouper FMP (SAFMC 2009a) included an action, which is intended to reduce bycatch by requiring fishermen use dehooking devices effective July 29, 2009.Limiting the overall fishing mortality reduces the likelihood of over-harvesting of species with the resulting loss in genetic diversity, ecosystem diversity, and sustainability.

Measures adopted in the Coral and Shrimp FMPs have further restricted access by fishermen that had potential adverse impacts on essential snapper grouper habitat. These measures include the designation of the Oculina Bank HAPC and the Rock Shrimp closed area (see the Shrimp and Coral FMP/Amendment documents for additional information).

The South Atlantic Council's Comprehensive Habitat Amendment (SAFMC 1998c) contains measures that expanded the Oculina Bank HAPC and added two additional satellite HAPCs. Amendment 14 to the Snapper Grouper (SAFMC 2007), established marine protected areas where fishing for or retention of snapper grouper species is prohibited.

7.4 Relationship of Short-Term Uses and Long-Term Productivity

7.5 Irreversible and Irretrievable Commitments of Resources

Irreversible commitments are defined as commitments that cannot be reversed, except perhaps in the extreme long-term, whereas irretrievable commitments are lost for a period of time. None of the actions proposed by this amendment would result in irreversible or irretrievable commitments of resources.

7.6 Unavailable or Incomplete Information

The Council on Environmental Quality, in its implementing regulations for the National Environmental Policy Act, addressed incomplete or unavailable information at 40 CFR 1502.22 (a) and (b). That regulation has been considered. There are two tests to be applied: 1) Does the incomplete or unavailable information involve "reasonable foreseeable adverse effects…;" and 2) is the information about these effects "essential to a reasoned choice among alternatives…".

Chapter 8. Other Applicable Law

8.1 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedures Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, NMFS is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect, with some exceptions. This amendment complies with the provisions of the APA through the South Atlantic Fishery Management Council's (South Atlantic Council) extensive use of public meetings, requests for comments, and consideration of comments. The proposed rule associated with this amendment will have a request for public comments, which complies with the APA.

8.2 Information Quality Act

The Information Quality Act (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-443)) which took effect October 1, 2002, directed the Office of Management and Budget (OMB) to issue government-wide guidelines that "provide policy and procedural guidelines to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies". OMB directed each federal agency to issue its own guidelines, establish administrative mechanisms allowing affected persons to seek and obtain correction of information that does not comply with OMB guidelines, and report periodically to OMB on the number and nature of complaints.

The NOAA Section 515 Information Quality Guidelines require a series of actions for each new information product subject to the Information Quality Act (IQA). This document has used the best available information and made a broad presentation thereof. The process of public review of this document provides an opportunity for comment and challenge to this information, as well as for the provision of additional information.

The information contained in this document was developed using best available scientific information. Therefore, this Amendment and Environmental Assessment are in compliance with the IQA.

8.3 Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act (CZMA) of 1972 requires that all federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. While it is the goal of the South Atlantic Council to have management measures that complement those of the states, federal and state administrative procedures vary and regulatory changes are unlikely to be fully instituted at the same time. Based on the analysis of the environmental consequences of the

proposed action in **Chapter 4**, the South Atlantic Council has concluded this amendment would improve federal management of golden tilefish and is consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina. This determination has been submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management Programs in the States of Florida, South Carolina, Georgia, and North Carolina.

8.4 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 U.S.C. Section 1531 et seq.) requires that federal agencies must ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or the habitat designated as critical to their survival and recovery. The ESA requires NOAA Fisheries Service to consult with the appropriate administrative agency (itself for most marine species, and the U.S. Fish and Wildlife Service for all remaining species) when proposing an action that may affect threatened or endangered species or adversely modify critical habitat. Consultations are necessary to determine the potential impacts of the proposed action. They are concluded informally when proposed actions may affect but are "not likely to adversely affect" threatened or endangered species or designated critical habitat. Formal consultations, resulting in a biological opinion, are required when proposed actions may affect and are "likely to adversely affect" threatened or endangered species or adversely modify designated critical habitat.

The IPT, Council Staff, and Council reviewed the actions proposed in Regulatory Amendment 12 and concluded that there were no impacts on threatened or endangered species of their habitat designated as critical to their survival and recovery. An ESA determination was made that the proposed actions will not affect protected species in the action area in ways that have not been addressed in previous ESA consulations.

8.5 Executive Order 12612: Federalism

E.O. 12612 requires agencies to be guided by the fundamental federalism principles when formulating and implementing policies that have federalism implications. The purpose of the Order is to guarantee the division of governmental responsibilities between the Federal government and the States, as intended by the framers of the Constitution. No federalism issues have been identified relative to the actions proposed in this amendment and associated regulations. Therefore, preparation of a Federalism assessment under E.O. 13132 is not necessary.

8.6 Executive Order 12866: Regulatory Planning and Review

E.O. 12866, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact

Review (RIR) for all fishery regulatory actions that implement a new FMP or that significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society associated with proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the RFA. A regulation is significant if it is likely to result in an annual effect on the economy of at least $100,000,000 or if it has other major economic effects.

In accordance with E.O. 12866, the following is set forth by the Council based on the RIR (Appendix A): (1) this rule is not likely to have an annual effect on the economy of more than $100 million or to adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) this rule is not likely to create any serious inconsistencies or otherwise interfere with any action take or planned by another agency; (3) this rule is not likely to materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; (4) this rule is not likely to raise novel or policy issues arising out of legal mandates, or the principles set forth in the Executive Order; and (5) this rule is not controversial.

8.7 Executive Order 12962: Recreational Fisheries

E.O. 12962 requires federal agencies, in cooperation with States and Tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, the order establishes a seven member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with Federal agencies, States, and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

The alternatives considered in this amendment are consistent with the directives of E.O. 12962.

8.8 Executive Order 13089: Coral Reef Protection

E.O. 13089, signed by President William Clinton on June 11, 1998, recognizes the ecological, social, and economic values provided by the Nation's coral reefs and ensures that federal agencies are protecting these ecosystems. More specifically, the Order requires federal agencies to identify actions that may harm U.S. coral reef ecosystems, to utilize their program and authorities to protect and enhance the conditions of such ecosystems, and to ensure that their actions do not degrade the condition of the coral reef ecosystem.

The alternatives considered in this amendment are consistent with the directives of E.O. 13089.

8.9 Executive Order 13158: Marine Protected Areas

E. O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of Marine Protected Areas (MPAs). The E.O. defined MPAs 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". It directs federal agencies to work closely with state, local, and non-governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources".

The alternatives considered in this amendment are consistent with the directives of E.O. 13158.

8.10 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas. It also prohibits the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NOAA Fisheries Service) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea otters, polar bears, manatees, and dugongs.

Part of the responsibility that NOAA Fisheries Service has under the MMPA involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as "depleted". A conservation plan is then developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; development and

implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries; and studies of pinniped-fishery interactions. The MMPA requires a commercial fishery to be placed in one of three categories, based on the relative frequency of incidental, serious injuries and mortalities of marine mammals. Category I designates fisheries with frequent, serious injuries and mortalities incidental to commercial fishing; Category II designates fisheries with occasional, serious injuries and mortalities; and Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities.

Under the MMPA, to legally fish in a Category I and/or II fishery, a fisherman must take certain steps. For example, owners of vessels or gear engaging in a Category I or II fishery are required to obtain a marine mammal authorization by registering with the Marine Mammal Authorization Program (50 CFR 229.4). They are also required to accommodate an observer if requested (50 CFR 229.7(c)), and they must comply with any applicable take reduction plans.

The golden tilefish component of the snapper grouper fishery in the South Atlantic is listed as a Category III fishery in the 2012 Final List of Fisheries (LOF)(76 FR 73912; November 29, 2011). No incidentally killed or injured marine mammal species has been documented in this fishery.

8.11 Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act (MBTA) implemented several bilateral treaties for bird conservation between the United States and Great Britain, the United States and Mexico, the United States and Japan, and the United States and the former Union of Soviet Socialists Republics. Under the MBTA, it is unlawful to pursue, hunt, take, capture, kill, possess, trade, or transport any migratory bird, or any part, nest, or egg of a migratory bird, included in treaties between the countries, except as permitted by regulations issued by the Department of the Interior (16 U.S.C. 703-712). Violations of the MBTA carry criminal penalties. Any equipment and means of transportation used in activities in violation of the MBTA may be seized by the United States government and, upon conviction, must be forfeited to the government.

Executive Order 13186 directs each federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement a memorandum of understanding (MOU) with the U.S. Fish and Wildlife Service (USFWS) to conserve those bird populations. In the instance of unintentional take of migratory birds, NOAA Fisheries Service would develop and use principles, standards, and practices that will lessen the amount of unintentional take in cooperation with the USFWS. Additionally, the MOU would ensure that National Environmental Policy Act (NEPA) analyses evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern.

An MOU is currently being developed, which will address the incidental take of migratory birds in commercial fisheries under the jurisdiction of NOAA Fisheries Service. NOAA Fisheries Service must monitor, report, and take steps to reduce the incidental take of seabirds that occurs in fishing operations. The United States has already developed the U.S. National

Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries. Under that plan many potential MOU components are already being implemented.

The alternatives considered in this amendment are consistent with the directives of E.O. 13186.

8.12 National Environmental Policy Act

This amendment to the South Atlantic Snapper Grouper FMP has been written and organized in a manner that meets NEPA requirements, and thus is a consolidated NEPA document, including a final Environmental Assessment as described in NOAA Administrative Order (NAO) 216-6, Section 6.03.a.2.

Purpose and Need for Action
The purpose and need for this action are described in **Section 1.4.**

Alternatives
The alternatives for this action are described in **Section 2.0.**

Affected Environment
The affected environment is described in **Section 3.0**.

Impacts of the Alternatives
The impacts of the alternatives on the environment are described in **Section 4.0.**

8.13 National Marine Sanctuaries Act

Under the National Marine Sanctuaries Act (NMSA) (also known as Title III of the Marine Protection, Research, and Sanctuaries Act of 1972), as amended, the U.S. Secretary of Commerce is authorized to designate National Marine Sanctuaries to protect distinctive natural and cultural resources whose protection and beneficial use requires comprehensive planning and management. The National Marine Sanctuary Program is administered by the Sanctuaries and Reserves Division of the NOAA. The Act provides authority for comprehensive and coordinated conservation and management of these marine areas. The National Marine Sanctuary Program currently comprises 13 sanctuaries around the country, including sites in American Samoa and Hawaii. These sites include significant coral reef and kelp forest habitats, and breeding and feeding grounds of whales, sea lions, sharks, and sea turtles. The two main sanctuaries in the South Atlantic exclusive economic zone are Gray's Reef and Florida Keys National Marine Sanctuaries.

The alternatives considered in this Regulatory Amendment are not expected to have any adverse impacts on the resources managed by the Gray's Reef and Florida Keys National Marine Sanctuaries.

8.14 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act (PRA) is to minimize the burden on the public. The Act is intended to ensure that the information collected under the proposed action is needed and is collected in an efficient manner (44 U.S.C. 3501 (1)). The authority to manage information collection and record keeping requirements is vested with the Director of the Office of Management and Budget (OMB). This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications. PRA requires NOAA Fisheries Service to obtain approval from the OMB before requesting most types of fishery information from the public.

8.15 Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 (5 U.S.C. 601 et seq.) requires federal agencies to assess the impacts of regulatory actions implemented through notice and comment rulemaking procedures on small businesses, small organizations, and small governmental entities, with the goal of minimizing adverse impacts of burdensome regulations and record-keeping requirements on those entities. Under the RFA, NOAA Fisheries Service must determine whether a proposed fishery regulation would have a significant economic impact on a substantial number of small entities. If not, a certification to this effect must be prepared and submitted to the Chief Counsel for Advocacy of the Small Business Administration. Alternatively, if a regulation is determined to significantly impact a substantial number of small entities, the Act requires the agency to prepare an initial and final Regulatory Flexibility Analysis to accompany the proposed and final rule, respectively. These analyses, which describe the type and number of small businesses, affected, the nature and size of the impacts, and alternatives that minimize these impacts while accomplishing stated objectives, must be published in the *Federal Register* in full or in summary for public comment and submitted to the chief counsel for advocacy of the Small Business Administration. Changes to the RFA in June 1996 enable small entities to seek court review of an agency's compliance with the Act's provisions.

The Initial Regulatory Flexibility Analysis (IRFA) is included as Appendix B.

8.16 Small Business Act

Enacted in 1953, the Small Business Act requires that agencies assist and protect small-business interests to the extent possible to preserve free competitive enterprise. The objectives of the act are to foster business ownership by individuals who are both socially and economically disadvantaged; and to promote the competitive viability of such firms by providing business development assistance including, but not limited to, management and technical assistance, access to capital and other forms of financial assistance, business training, and counseling, and access to sole source and limited competition federal contract opportunities, to help firms achieve competitive viability. Because most businesses associated with fishing are considered

small businesses, NOAA Fisheries Service, in implementing regulations, must make an assessment of how those regulations will affect small businesses.

8.17 Public Law 99-659: Vessel Safety

Public Law 99-659 amended the Magnuson-Stevens Fishery Conservation and Management Act to require that a Fishery Management Plan (FMP) or FMP amendment must consider, and may provide for, temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to a fishery for vessels that would be otherwise prevented from participating in the fishery because of safety concerns related to weather or to other ocean conditions.

No vessel would be forced to participate in South Atlantic fisheries under adverse weather or ocean conditions as a result of the imposition of management regulations proposed in this amendment.

No concerns have been raised by South Atlantic fishermen or by the U.S. Coast Guard that the proposed management measures directly or indirectly pose a hazard to crew or vessel safety under adverse weather or ocean conditions. Therefore, this amendment proposes neither procedures for making management adjustments due to vessel safety problems nor procedures to monitor, evaluate, or report on the effects of management measures on vessel or crew safety under adverse weather or ocean conditions.

Chapter 9. List of Preparers

Table 8-1. List of Amendment 18B preparers.

Name	Agency/Division	Area of Amendment Responsibility
Karla Gore	NMFS/SF	IPT Lead/Fishery Biologist
Anna Martin	SAFMC	IPT Lead/Fishery Biologist
Rick DeVictor	NMFS/SF	Fishery Biologist
David Dale	NMFS/HC	EFH Specialist
Amanda Frick	NMFS/PR	Geographer
Andy Herndon	NMFS/PR	Biologist
Stephen Holiman	NMFS/SF	Economist
Tony Lamberte	NMFS/SF	Economist
Jack McGovern	NMFS/SF	Fishery Scientist
Kate Michie	NMFS/SF	Fishery Management Plan Coordinator
Monica Smit-Brunello	NOAA/GC	Attorney Advisor
Brian Cheuvront	SAFMC	Fishery Economist
Kari MacLauchlin	SAFMC	Social Scientist
Myra Brouwer	SAFMC	Fishery Biologist
Gregg Waugh	SAFMC	Deputy Executive Director

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Table 8-2. List of Amendment 18B interdisciplinary plan team members.

Name	SAFMC	Title
Karla Gore	NMFS/SF	IPT Lead/Fishery Biologist
Anna Martin	SAFMC	IPT Lead/Fishery Biologist
John Carmichael	SAFMC	SAFMC Data Program Managers
Brian Cheuvront	SAFMC	Economist
Anik Clemens	NMFS/SF	Technical Writer Editor
David Dale	NMFS/HC	EFH Specialist
Rick DeVictor	NMFS/SF	IPT Lead/Fishery Biologist
Otha Easley	NMFS/LE	Supervisory Criminal Investigator
Nick Farmer	NMFS/SF	Data Analyst
Amanda Frick	NMFS/PR	Geographer
Andy Herndon	NMFS/PR	Fishery Biologist (Protected Resources)
Stephen Holiman	NMFS/SF	Economist
David Keys	NMFS	Regional NEPA Coordinator
Tony Lamberte	NMFS/SF	Economist
Jennifer Lee	NMFS/PR	Fishery Biologist (Protected Resources)
Kari MacLauchlin	SAFMC	Social Scientist
Myra Brouwer	SAFMC	Fishery Biologist
Jack McGovern	NMFS/SF	Fishery Biologist
Kate Michie	NMFS/SF	Fishery Biologist
Janet Miller	NMFS/SF	Program Specialist (Permits)
Larry Perruso	NMFS/EC	Economist
Roger Pugliese	SAFMC	Sr. Fishery Biologist
Noah Silverman	NMFS/SF	NEPA Specialist
Monica Smit-Brunello	NOAA/GC	Attorney
Andy Strelcheck	NMFS/SF	Fishery Biologist
Gregg Waugh	SAFMC	Deputy Executive Director

NMFS = National Marine Fisheries Service, SAFMC = South Atlantic Fishery Management Council, SF = Sustainable Fisheries Division, PR = Protected Resources Division, SERO = Southeast Regional Office, HC = Habitat Conservation Division, GC = General Counsel, Eco=Economics

Chapter 10. List of Agencies, Organizations, and Persons Consulted

Responsible Agency

Comprehensive Ecosystem-Based Amendment 3:
South Atlantic Fishery Management Council
4055 Faber Place Drive, Suite 201
Charleston, South Carolina 29405
(843) 571-4366 (TEL)
Toll Free: 866-SAFMC-10
(843) 769-4520 (FAX)
safmc@safmc.net

Environmental Impact Statement:
NMFS, Southeast Region
263 13th Avenue South
St. Petersburg, Florida 33701
(727) 824-5301 (TEL)
(727) 824-5320 (FAX)

List of Agencies, Organizations, and Persons Consulted

SAFMC Law Enforcement Advisory Panel
SAFMC Coral Advisory Panel
SAFMC Shrimp Advisory Panel
SAFMC Deepwater Shrimp Advisory Panel
SAFMC Snapper Grouper Advisory Panel
SAFMC Scientific and Statistical Committee
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
North Carolina Sea Grant
South Carolina Sea Grant
Georgia Sea Grant
Florida Sea Grant
Atlantic States Marine Fisheries Commission
Gulf and South Atlantic Fisheries Development Foundation
Gulf of Mexico Fishery Management Council
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

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