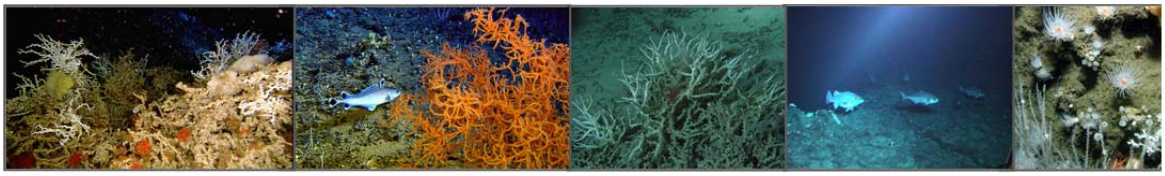
Comprehensive Ecosystem-Based Amendment 3



AMENDMENT 26 TO THE FISHERY MANAGEMENT PLAN FOR THE SNAPPER GROUPER FISHERY OF THE SOUTH ATLANTIC REGION
AMENDMENT 3 TO THE FISHERY MANAGEMENT PLAN FOR THE DOLPHIN AND WAHOO FISHERY OF THE ATLANTIC
AMENDMENT 21 TO THE FISHERY MANAGEMENT PLAN FOR COASTAL MIGRATORY PELAGIC RESOURCES IN THE GULF OF MEXICO AND ATLANTIC REGION
AMENDMENT 7 TO THE FISHERY MANAGEMENT PLAN FOR THE GOLDEN CRAB FISHERY OF THE SOUTH ATLANTIC REGION

Environmental Impact Statement **Regulatory Flexibility Act Analysis** **Regulatory Impact Review**

Fishery Impact Statement

February 2013

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
$\mathbf{B_{MSY}}$	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
$\mathbf{B_{OY}}$	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
$\mathbf{B_{CURR}}$	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
$\mathbf{F_{30\%SPR}}$	fishing mortality that will produce a static SPR = 30%
$\mathbf{F_{CURR}}$	the current instantaneous rate of fishing mortality
$\mathbf{F_{MSY}}$	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
$\mathbf{F_{OY}}$	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
SAFMC	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 Fishery Management Plans:
Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab
with Environmental Impact Statement, Regulatory Flexibility Act Analysis, Regulatory Impact Review, and Fishery Impact Statement

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Proposed actions:	Improve bycatch data collection methods.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council Environmental Impact Statement – National Marine Fisheries Service
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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

The Action in Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) addresses improvements in bycatch data collection methods in commercial, for-hire, and recreational fisheries of the South Atlantic.

The Action in CE-BA 3 would:

- Modify bycatch and discard reporting for commercial, for-hire, and recreational vessels in fisheries for snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab

The Environmental Impact Statement has been prepared to analyze the effects of the actions considered in the following amendments to the Fishery Management Plan (FMP):

- FMP for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP)
- FMP for the Dolphin and Wahoo Fishery of the Atlantic (Dolphin and Wahoo FMP)
- FMP for the Golden Crab Fishery of the South Atlantic Region (Golden Crab FMP)
- FMP for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (Coastal Migratory Pelagics FMP)

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Comprehensive Ecosystem-Based Amendment 3
List of Actions

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting.

SUMMARY

for
Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3)

South Atlantic region - Amends the Snapper Grouper and Golden Crab Fishery Management Plans

South Atlantic, Mid-Atlantic and New England regions - Amends the Dolphin and Wahoo Fishery Management Plan

Gulf of Mexico, South Atlantic and Mid-Atlantic regions - Amends the Coastal Migratory Pelagic Resources Fishery Management Plan

What Action is the South Atlantic Council Proposing in CE-BA 3?

The action in CE-BA 3 would:

- Modify bycatch and discard reporting.

Which Fisheries Would be Affected by CE-BA 3?

The action in CE-BA 3 would affect fisheries for snapper grouper, dolphin and wahoo, coastal migratory pelagics (in the South Atlantic Council area only), and golden crab.

Why is the South Atlantic Fishery Management Council (South Atlantic Council) taking Action?

Action 1 considers improvements to bycatch reporting in fisheries for snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab by adopting standards in the Atlantic Cooperative Statistics Program (ACCSP) bycatch module. Better bycatch and discard data 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 to reduce bycatch.

The IPT proposed wording for the Purpose and Need:

Purpose for Action

CE-BA 3 would improve bycatch/discard data collection methods to better quantify all sources of fishing mortality in South Atlantic fisheries.

Need for Action

The ***need*** for CE-BA 3 is to improve data collection methods that will allow for a better quantification of the type and magnitude of bycatch, improve the quality of stock assessments, and allow for better management measures that will reduce bycatch in South Atlantic fisheries.

What Are the Alternatives for the Action Being Considered?

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

> ***Proposed Action in Comprehensive Ecosystem-Based Amendment 3***
>
> 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

Alternative 1 (No Action). The Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module is currently the required methodology. Until these standards are 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 standards are 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 exclusive economic zone (EEZ), if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by the National Marine Fisheries Service.

> **Table S-1** illustrates the current data collection programs and their relation to the standards of the ACCSP.

Alternative 2. Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

Alternative 3. Implement aspects of the Atlantic Coastal Cooperative Statistics Program (ACCSP) that are not currently being done.

IPT Recommendation for rewording **Alternatives 2** and **Alternative 3**:

Alternative 2. Require that commercial vessels with: a Commercial Atlantic Dolphin Wahoo Permit, a Spanish Mackerel Commercial Permit, King Mackerel Commercial Permit and a King Mackerel Commercial Gillnet Permit; for-hire vessels with a Charter/Headboat Permit for Dolphin/Wahoo, Charter/Headboat Permit for Coastal Migratory Pelagics (CMP); and private recreational vessels if fishing for dolphin/wahoo or CMP 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 the National Marine Fisheries Service (NMFS).

Alternative 3. Implement mandatory observer coverage as described by the ACCSP standards.

Sub-alternative 3a. Snapper-Grouper

Sub-alternative 3b. Coastal Migratory Pelagics

Sub-alternative 3c. Dolphin Wahoo

Sub-alternative 3d. Golden Crab

What's currently in place to monitor bycatch and discard reporting?

Bycatch and discard reporting is currently being done through a variety of different means for the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries (see Section 4 for a complete description). ACCSP standards, which are further described in **Appendix H**, include:

- Quantitative standards for commercial fisheries
  - including 2-5% observer coverage
  - mandatory self-reporting systems;
- Quantitative recreational reporting
  - recreational intercept surveys;
  - observer data to collect recreational data, where possible;
  - mandatory reporting of marine mammal interactions in Category I or II fisheries;
  - minimum ACCSP data elements included on data reporting forms;
  - training programs for at-sea samplers;
  - pilot studies for new data collection programs;
  - training and outreach programs on bycatch

With the exception of observer coverage, the ACCSP standards have been met for the snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries.

Table S-1. Current bycatch and discard data collection methods and their relation to the ACCSP standards.

ACCSP Standards	Current Reporting Requirements	Level of Coverage
Quantitative Standards for Commercial Fishing		
Observer Program (2-5% coverage) *"Targeted at-sea sampling programs ("observer") and collection of bycatch data through established*	**Snapper-Grouper:** Current regulations require observers, if selected. **Golden Crab:** Current regulations require observers, if selected. There is no developed observer program for golden crab.	**Snapper-Grouper:** As part of a pilot program, less than 1% of the commercial snapper grouper vessels were selected for coverage each year

fisherman self-reporting systems comprise the primary methods used to quantify bycatch." The ACCSP standard for observer coverage is 5% of total trips for high priority fisheries; and 2% of total trips for all other fisheries. Data should be collected at the haul level for commercial fisheries.	**Dolphin Wahoo:** There is no requirement to carry observers. **Coastal Migratory Pelagics:** There is no requirement to carry observers.	during 2007-2010. **Golden Crab:** 0% coverage **Dolphin Wahoo:** 0% coverage **Coastal Migratory Pelagics:** Some portion of Spanish mackerel gillnet and king mackerel gillnet covered by shark observers and state gillnet observers (i.e. North Carolina).
Mandatory Fishermen Self-Reporting Systems Collection of self-reported data through established systems are important sources of supplemental data.	**Snapper-Grouper:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and protected species. Currently being collected for 41% of the fishery. *Commercial Logbook:* Collects information on catch. **Dolphin Wahoo:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and protected species. *Commercial Logbook:* Collects information on catch. **Coastal Migratory Pelagics:** *Commercial Supplemental Discard Logbook***:** Collects bycatch data on discards and protected species. *Commercial Logbook***:** Collects information on catch. **Golden Crab:** *Golden Crab Trip Report*: Mandatory trip reporting that includes discarded species.	**Snapper-Grouper:** Discard Logbook designed to sample 20% of vessels, currently getting reports from 41% of snapper grouper fishery. **Dolphin Wahoo:** Discard Logbook samples 20% of vessels. **Coastal Migratory Pelagics:** Discard Logbook samples 20% of vessels. **Golden Crab:** Discards a component of logbooks that all fishermen complete.

Qualitative Standards for Commercial Fishing		
Port Interviewing	**Snapper-Grouper:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Dolphin Wahoo:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Coastal Migratory Pelagics:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Golden Crab:** Port Sampler Program collects information on catch, life history information and collection of otoliths.	About 300 trips sampled in the South Atlantic each year through the ACCSP Trip Interview Program (TIP). (See Chapter 4 for a description of the TIP program.)
Entanglement/Stranding Reports NMFS stranding and entanglement networks serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS Southeast Fisheries Science Center (SEFSC) is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Quantitative Standards for For-Hire Fishing *"for quantitative bycatch data for for-hire fisheries include existing charter boat angler intercept surveys and an at-sea sampling program for headboats, which may be supplemented with intercept sampling."*		
At-Sea Samplers Data should be collected at the drop level (each time gear is wet) for for-hire fisheries.	**Snapper-Grouper:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Dolphin Wahoo:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels.	The SEFSC indicates that observers are placed on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina. This applies to the

	Coastal Migratory Pelagics: Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Golden Crab:** There is no for hire sector.	snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire sector for golden crab.
Intercept Surveys	**Snapper Grouper:** NMFS Headboat Survey; MRIP Charter Program **Dolphin Wahoo:** NMFS Headboat Survey; MRIP Charter Program **Coastal Migratory Pelagics:** NMFS Headboat Survey; MRIP Charter Program **Golden Crab:** Not applicable/No recreational or for-hire fishery.	The SEFSC indicates that NMFS Headboat Survey port agents sample about 17% of the headboat trips in North Carolina, 5% in South Carolina and 8% from Georgia to Florida. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire sector for golden crab.
Qualitative Standards for For-Hire Fishing		
Call-In Reports	Call in numbers have been set up for fishermen to report stranding and protected species interactions as well as fishery enforcement violations.	1-800-WHALE-HELP to report dead, injured or entangled marine mammals. Sea turtle hotline is set-up to report stranding or entangled sea turtles. Enforcement hotline (1-800-853-1964) to report enforcement violations.
Entanglement Stranding Reports NMFS stranding and entanglement networks	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region for both sea turtles and marine mammals. The NMFS SEFSC is the base for the Southeast United States Marine	About 650-700 strandings are responded to each year in the South Atlantic. Data are

serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals.	Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	reported to the SEFSC.
Add Ons	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd. Video Monitoring Pilot Project (2011); Mandatory Electronic Reporting Amendment (in prep, 2013)	Pilot projects further described in Chapter 4.
Quantitative Standards for Private Recreational Fishing		
Recreational intercept surveys	**Snapper-Grouper:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Dolphin Wahoo:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Coastal Migratory Pelagics:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Golden Crab:** There is no recreational golden crab fishery.	The number of discards are estimated through phone interviews and dockside intercepts. Level of coverage likely varies each year. Data for 2012 are not complete.
Recreational Observer Program, where possible Data should be collected at the drop level (each time gear is wet) for recreational boat mode fisheries.	**Snapper-Grouper:** None for private recreational; Headboat Observer program **Dolphin Wahoo:** None for private recreational; Headboat Observer program **Coastal Migratory Pelagics:** None for private recreational; Headboat Observer program **Golden Crab:** There is no recreational golden crab fishery.	N/A

Verification of angler reports, where possible	**Snapper-Grouper:** Dockside Interviews done by MRIP, charter and private **Dolphin Wahoo:** Dockside Interviews done by MRIP, charter and private **Coastal Migratory Pelagics:** Dockside Interviews done by MRIP, charter and private **Golden Crab:** There is no recreational golden crab fishery.	Dockside interviews are conducted to verify angler reports. Data for 2012 are not complete.
Qualitative Data Collection (Data collected from opportunistic sources)		
Marine Mammal Authorization Program: Collection of Marine Mammal Authorization Program (MMAP) reports from Category I and II commercial fisheries. The Marine Mammal Protection Act (MMPA) requires Category I and II fisheries to report any injuries or mortalities that occur incidental to their fishing operations. Reports must be made within 48 hours of the end of a fishing trip.	**Snapper-Grouper:** Most of the fishery is Category III. The black sea bass pot component of the South Atlantic snapper grouper fishery is part of the Atlantic mixed species trap/pot fishery, a Category II fishery, in the 2012 List of Fisheries (76 FR 73912 November 29, 2011); although there has never been a documented interaction between marine mammals and black sea bass trap/pot gear in the South Atlantic. **Dolphin Wahoo:** Not applicable because fishery is Category III under the MMPA. **Coastal Migratory Pelagics:** Category II (Spanish Mackerel and king mackerel gillnet) so must report these interactions by law. **Golden Crab:** Not applicable because fishery is Category III under the MMPA.	
Stranding/entanglement data from commercial, for-hire, and recreational fisheries Data should include assessment of human	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.

interaction; physical contact between marine species and fishing gear; vessel/boat strikes; and other human-related causes.	management decisions through consultation with the Office of Protected Resources.	
Port Interviews to verify voluntary data collected in commercial fisheries	Life history information (weight, length, otoliths) are considered voluntary data. These data are collected by port samplers by agreement with the fishermen.	
Other ACCSP Elements		
Training and Outreach Progams should be developed to improve reporting accuracy by fishermen, when needed.	The NMFS Southeast Regional Office issues public announcements, Southeast Fishery Bulletins, or News Releases on different topics, including use of turtle exclusion devices, bycatch reduction devices, use of methods and devices to minimize harm to turtles and sawfish, information intended to reduce harm and interactions with marine mammals, and other methods to reduce bycatch for the convenience of constituents in the southern United States.	
ACCSP data elements on reporting forms	Based on the information in the ACCSP guidance document, it is expected that the reporting forms contain adequate information. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.	
Training programs for At-Sea samplers	Observers go through a rigorous training program as described by the National Observer Program. It is expected the training is sufficient based on the ACCSP standards. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.	
Pilot Studies for new data collection programs	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd Video Monitoring Pilot Project (2011); Headboat Pilot Study; Charterboat Pilot Study; MRIP Pilot Studies; Mandatory Electronic Reporting Amendment (in prep, 2013)	

Summary of Effects

Biological: The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states that fishery management plans shall: Establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority: (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided; assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish.

With regard to bycatch reporting National Standard 9 at § 600.350 states:
(1) *Promote development of a database on bycatch and bycatch mortality in the fishery to the extent practicable.* A review and, where necessary, improvement of data collection methods, data sources, and applications of data must be initiated for each fishery to determine the amount, type, disposition, and other characteristics of bycatch and bycatch mortality in each fishery for purposes of this standard and of section 303(a)(11) and (12) of the Magnuson-Stevens Act.

In accordance with the Magnuson-Stevens Act, a standardized reporting methodology is in place to collect bycatch information in the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries (see **Section 4**). Furthermore, actions have been taken in amendments to fishery management plans to these fisheries to reduce bycatch **(Appendix F)**.

Alternative 1 (No Action) would continue programs, (**Table S-1**) in place to collect information on catch and bycatch in South Atlantic fisheries for snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab. When funding is available, **Alternative 1** would implement the standards associated with the ACCSP bycatch module.

ACCSP standards include:
Quantitative standards for commercial fisheries:
- including 2-5% observer coverage
- mandatory self-reporting systems;

Quantitative recreational reporting:
- recreational intercept surveys
- observer data to collect recreational data, where possible;
- mandatory reporting of marine mammal interactions in Category I or II fisheries
- minimum ACCSP data elements included on data reporting forms
- training programs for at-sea samplers
- pilot studies for new data collection programs
- training and outreach programs on bycatch .

With the exception of the level of observer coverage for commercial fisheries, the ACCSP standards have been met for the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries under **Alternative 1 (No Action)**. In contrast to **Alternative 1**, **Alternative 2** would implement any ACCSP bycatch standards that were not in place under

Action 1 (No Action) as the preferred methodology for assessing and monitoring bycatch in the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries in the South Atlantic. An examination of the bycatch data collection methodologies currently in place under **Action 1 (No Action)** reveals that the only bycatch methodology that does not meet the 2012 ACCSP bycatch standards is a commercial observer program for the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries. However, there is currently a requirement for both snapper grouper and golden crab vessels to carry an observer if selected. **Alternative 2** would improve bycatch reporting through enhancement of observer coverage and would have positive biological effects.

Under **Alternative 2**, positive indirect biological effects could be expected for fisheries in the South Atlantic; however, if funds were taken from other programs in the Southeast, implementation of the ACCSP bycatch standards for an observer program may have negative biological effects or unforeseen impacts. **Alternative 3** would allow data to be collected using any means as long as the resulting data meet or exceed the ACCSP standards. Examples of activities that would meet or exceed the ACCSP standards may include more pilot projects on observer program, video monitoring, or implementing observer coverage that exceeds the 2-5% level. The indirect biological benefits could be greater than those under **Alternative 2** if the data exceed ACCSP standards and equal to the indirect biological benefits if the data meet ACCSP standards.

Economic: The alternatives under **Action 1** are not expected to have significant, negative economic impacts to the fishermen unless the methods selected to implement bycatch and discard reporting resulted in something other than minimal time commitments. When ACCSP bycatch standards are fully adopted, the agency would incur impacts associated with the cost of observer coverage as described by the ACCSP standards. Until the ACCSP standards are implemented, it is impossible to know the potential impact to individual fishermen or overall.

Social: While there are reporting requirements and standards currently in place under **Alternative 1**, the complete implementation of ACCSP standards under **Alternatives 2** and **3** would be expected to increase social benefits discussed.

There may be some negative impacts on the fleets as a result of any increase in monitoring. Increased observer coverage may result in observers on vessels that have not had any observers on board, and some captains and crew may feel uncomfortable or that they are being unfairly monitored by the federal government (similar to concerns about vessel monitoring system requirements). However, **Alternatives 2** and **3** are expected to overall improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions.

Administrative: Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows. Currently the agency and its partners are involved in many data collection activities that meet the ACCSP standards for bycatch (**Table S-1**). **Alternative 2** could increase the administrative impacts relative to **Alternative 1 (No Action)** as it would require an observer program be implemented for the commercial sector of the snapper grouper, dolphin wahoo, coastal migratory pelagic and golden crab fisheries. Based on the description of the no action

alternative (Table 4-1), the only ACCSP standard not being met is the implementation of a commercial observer program at a 2-5% coverage level. Currently, snapper grouper and golden crab vessels are required to carry an observer, if selected. Dolphin wahoo and coastal migratory pelagics fisheries do not have the same requirements. An observer program could have a significant administrative burden on the agency, associated with the structure of the program, training and debriefing observers, education and outreach to fishermen, data analysis, and costs.

Table S-2 shows that an agency funded observer program at 2% and 5% levels (as specified in the ACCSP bycatch standards) is estimated to cost between $900,000 - $1.5 million and $2.2 million - $3.9 million, respectively. This value is based on observer cost estimates of between $850-$1,500 dollars per observer day. These daily observer costs of $1,500 per day include but are not limited to: travel, safety gear, sampling gear, observer training, vessel compensation, satellite phones, observer coordination, data entry, program administration, other supplies and facility costs associated with the observer program. It is unknown what is covered in the $850 per day cost.

Table S-2. Cost of implementing commercial observer program according to ACCSP bycatch standards. Estimated cost per observer day is $850 (Frank Helies Gulf and South Atlantic Fisheries Foundation) and $1,500 (Elizabeth Scott-Dentin SEFSC).

Fishery	Coverage	Trips	Days	Cost @ $850/Day	Cost @ $1,150/Day
Snapper Grouper	2%	280	472	$401,316	$708,204
	5%	700	1,180	$1,003,289	$1,770,510
Dolphin-Wahoo	2%	52	116	$98,947	$174,612
	5%	130	291	$247,367	$436,530
Coastal Migratory Pelagics	2%	367	434	$368,696	$650,640
	5%	919	1,084	$921,740	$1,626,600
Golden Crab	2%	3	12	$10,365	$18,291
	5%	9	30	$25,912	$45,728
Total Four Fisheries	2%	703	1,034	$879,323	$1,551,747
	5%	1,757	2,586	$2,198,308	$3,879,368

Not only would the cost of an observer program be burdensome to the agency, it would require coordination with partners including the U.S. Coast Guard, law enforcement, and contracts with observer providers which may further increase the administrative burden. Under **Alternative 3**, the agency would have the ability to develop bycatch and discard reporting methodologies that meet or exceed the ACCSP standards. Examples could be an observer program with larger coverage, more pilot projects or other projects. The administrative impacts of **Alternative 3** would be greater than those of **Alternative 2** or **Alternative 1**. However, at this point, it is difficult to determine the exact administrative impacts of **Alternative 3** on fishery participants or the agency because it is unclear which bycatch reporting methods would be selected.

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 improve data collection for better fishery management in the South Atlantic.

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 regulations to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment through regulations 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.

South Atlantic Fishery Management Council

- Is responsible for conservation and management of fish stocks
- Consists of 13 voting members: 8 appointed by the Secretary of Commerce, 1 representative from each of the 4 South Atlantic states, the Southeast Regional Director of NMFS; and 4 non-voting members
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West with the exception of Coastal Migratory Pelagics which is from New York to Florida and Dolphin Wahoo which is from Maine to Florida
- Develops management plans and recommends regulations to NMFS for implementation

1.3 Where is the Project Located?

Management of the federal snapper grouper, dolphin wahoo, golden crab, and coastal migratory pelagic fisheries located off the South Atlantic in the 3-200 nautical mile U.S. Exclusive Economic Zone (**Figure 1-1**) is conducted under the fisheries' respective Fishery Management Plans (FMPs). The FMPs and their amendments were developed under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), other applicable federal laws, and executive orders and affect the management of 73 species of snapper grouper, dolphin and wahoo, golden crab, and 3 species of coastal migratory pelagics.

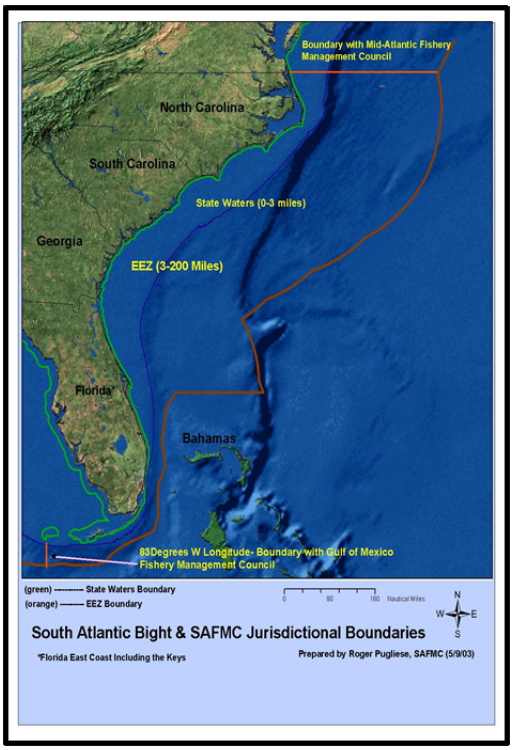

Figure 1-1. Jurisdictional boundaries of the South Atlantic Council.

1.4 Why is the South Atlantic Council Considering Action?

Action 1 considers improvements to bycatch reporting in fisheries for snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab by adopting the ACCSP bycatch standards. The magnitude and composition of bycatch is an important component of total fishing mortality and stock assessments for these species. Better bycatch and discard data 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 to reduce bycatch.

IPT recommendation for Purpose and Need:

Purpose for Action

CE-BA 3 would improve bycatch/discard data collection methods to better quantify all sources of fishing mortality in South Atlantic fisheries.

Need for Action

The ***need*** for CE-BA 3 is to improve data collection methods that will allow for a better quantification of the type and magnitude of bycatch, improve the quality of stock assessments, and allow for better management measures that will reduce bycatch in South Atlantic fisheries.

Chapter 2. Proposed Actions

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

Proposed Action in Comprehensive Ecosystem-Based Amendment 3

1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

2.1 Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

Alternative 1 (No Action). The Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module is currently the required methodology. Until these standards are 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 standards are 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 exclusive economic zone (EEZ), if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by the National Marine Fisheries Service.

Table 2-1 illustrates the current data collection programs and their relation to the standards of the ACCSP.

Alternative 2. Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

Alternative 3. Implement aspects of the Atlantic Coastal Cooperative Statistics Program (ACCSP) that are not currently being done.

IPT Recommendation for the Alternative 2 and Alternative 3:

Alternative 2. Require that commercial vessels with: a Commercial Atlantic Dolphin Wahoo Permit, a Spanish Mackerel Commercial Permit, King Mackerel Commercial Permit and a King Mackerel Commercial Gillnet Permit; for-hire vessels with a Charter/Headboat Permit for Dolphin/Wahoo, Charter/Headboat Permit for Coastal Migratory Pelagics (CMP); and private recreational vessels if fishing for dolphin/wahoo or CMP 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 the National Marine Fisheries Service (NMFS).

Alternative 3. Implement mandatory observer coverage as described by the ACCSP standards.

Sub-alternative 3a. Snapper-Grouper

Sub-alternative 3b. Coastal Migratory Pelagics

Sub-alternative 3c. Dolphin Wahoo

Sub-alternative 3d. Golden Crab

Table 2-1. Current bycatch and discard data collection methods and their relation to the ACCSP standards.

ACCSP Standards	Current Reporting Requirements	Level of Coverage
Quantitative Standards for Commercial Fishing		
Observer Program (2-5% coverage) *"Targeted at-sea sampling programs ("observer") and collection of bycatch data through established fisherman self-reporting systems comprise the primary methods used to quantify bycatch."* The ACCSP standard for observer coverage is 5% of total trips for high priority fisheries; and 2% of total trips for all other fisheries. Data should be collected at the haul level for commercial fisheries.	**Snapper-Grouper:** Current regulations require observers, if selected. **Golden Crab:** Current regulations require observers, if selected. There is no developed observer program for golden crab. **Dolphin Wahoo:** There is no requirement to carry observers. **Coastal Migratory Pelagics:** There is no requirement to carry observers.	**Snapper-Grouper:** As part of a pilot program, less than 1% of the commercial snapper grouper vessels were selected for coverage each year during 2007-2010. **Golden Crab:** 0% coverage **Dolphin Wahoo:** 0% coverage **Coastal Migratory Pelagics:** Some portion of Spanish mackerel gillnet and king mackerel gillnet covered by shark observers and state gillnet observers (i.e. North Carolina).

Mandatory Fishermen Self-Reporting Systems Collection of self-reported data through established systems are important sources of supplemental data.	**Snapper-Grouper:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and protected species. Currently being collected for 41% of the fishery. *Commercial Logbook:* Collects information on catch. **Dolphin Wahoo:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and protected species. *Commercial Logbook:* Collects information on catch. **Coastal Migratory Pelagics:** *Commercial Supplemental Discard Logbook*: Collects bycatch data on discards and protected species. *Commercial Logbook*: Collects information on catch. **Golden Crab:** *Golden Crab Trip Report*: Mandatory trip reporting that includes discarded species.	**Snapper-Grouper:** Discard Logbook designed to sample 20% of vessels, currently getting reports from 41% of snapper grouper fishery. **Dolphin Wahoo:** Discard Logbook samples 20% of vessels. **Coastal Migratory Pelagics:** Discard Logbook samples 20% of vessels. **Golden Crab:** Discards a component of logbooks that all fishermen complete.
Qualitative Standards for Commercial Fishing		
Port Interviewing	**Snapper-Grouper:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Dolphin Wahoo:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Coastal Migratory Pelagics:** Port Sampler Program collects information on catch, life history information and collection of otoliths.	About 300 trips sampled in the South Atlantic each year through the ACCSP Trip Interview Program (TIP). (See Chapter 4 for a description of the TIP program.)

	Golden Crab: Port Sampler Program collects information on catch, life history information and collection of otoliths.	
Entanglement/Stranding Reports NMFS stranding and entanglement networks serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS Southeast Fisheries Science Center (SEFSC) is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Quantitative Standards for For-Hire Fishing *"for quantitative bycatch data for for-hire fisheries include existing charter boat angler intercept surveys and an at-sea sampling program for headboats, which may be supplemented with intercept sampling."*		
At-Sea Samplers Data should be collected at the drop level (each time gear is wet) for for-hire fisheries.	**Snapper-Grouper:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Dolphin Wahoo:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Coastal Migratory Pelagics:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Golden Crab:** There is no for hire sector.	The SEFSC indicates that observers are placed on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire sector for golden crab.
Intercept Surveys	**Snapper Grouper:** NMFS Headboat Survey; MRIP Charter Program **Dolphin Wahoo:** NMFS Headboat Survey; MRIP Charter Program	The SEFSC indicates that NMFS Headboat Survey port agents sample about 17% of the headboat trips in North Carolina, 5% in South Carolina

	Coastal Migratory Pelagics: NMFS Headboat Survey; MRIP Charter Program **Golden Crab:** Not applicable/No recreational or for-hire fishery.	and 8% from Georgia to Florida. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire sector for golden crab.
Qualitative Standards for For-Hire Fishing		
Call-In Reports	Call in numbers have been set up for fishermen to report stranding and protected species interactions as well as fishery enforcement violations.	1-800-WHALE-HELP to report dead, injured or entangled marine mammals. Sea turtle hotline is set-up to report stranding or entangled sea turtles. Enforcement hotline (1-800-853-1964) to report enforcement violations.
Entanglement Stranding Reports NMFS stranding and entanglement networks serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region for both sea turtles and marine mammals. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Add Ons	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd. Video Monitoring Pilot Project (2011); Mandatory Electronic Reporting Amendment (in prep, 2013)	Pilot projects further described in Chapter 4.

Quantitative Standards for Private Recreational Fishing		
Recreational intercept surveys	**Snapper-Grouper:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Dolphin Wahoo:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Coastal Migratory Pelagics:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Golden Crab:** There is no recreational golden crab fishery.	The number of discards are estimated through phone interviews and dockside intercepts. Level of coverage likely varies each year. Data for 2012 are not complete.
Recreational Observer Program, where possible Data should be collected at the drop level (each time gear is wet) for recreational boat mode fisheries.	**Snapper-Grouper:** None for private recreational; Headboat Observer program **Dolphin Wahoo:** None for private recreational; Headboat Observer program **Coastal Migratory Pelagics:** None for private recreational; Headboat Observer program **Golden Crab:** There is no recreational golden crab fishery.	N/A
Verification of angler reports, where possible	**Snapper-Grouper:** Dockside Interviews done by MRIP, charter and private **Dolphin Wahoo:** Dockside Interviews done by MRIP, charter and private **Coastal Migratory Pelagics:** Dockside Interviews done by MRIP, charter and private	Dockside interviews are conducted to verify angler reports. Data for 2012 are not complete.

	Golden Crab: There is no recreational golden crab fishery.	
Qualitative Data Collection (Data collected from opportunistic sources)		
Marine Mammal Authorization Program: Collection of Marine Mammal Authorization Program (MMAP) reports from Category I and II commercial fisheries. The Marine Mammal Protection Act (MMPA) requires Category I and II fisheries to report any injuries or mortalities that occur incidental to their fishing operations. Reports must be made within 48 hours of the end of a fishing trip.	**Snapper-Grouper:** Most of the fishery is Category III. The black sea bass pot component of the South Atlantic snapper grouper fishery is part of the Atlantic mixed species trap/pot fishery, a Category II fishery, in the 2012 List of Fisheries (76 FR 73912 November 29, 2011); although there has never been a documented interaction between marine mammals and black sea bass trap/pot gear in the South Atlantic. **Dolphin Wahoo:** Not applicable because fishery is Category III under the MMPA. **Coastal Migratory Pelagics:** Category II (Spanish Mackerel and king mackerel gillnet) so must report these interactions by law. **Golden Crab:** Not applicable because fishery is Category III under the MMPA.	
Stranding/entanglement data from commercial, for-hire, and recreational fisheries Data should include assessment of human interaction; physical contact between marine species and fishing gear; vessel/boat strikes; and other human-related causes.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Port Interviews to verify voluntary data collected in commercial fisheries	Life history information (weight, length, otoliths) are considered voluntary data. These data are collected by port samplers by agreement with the fishermen.	

Other ACCSP Elements		
Training and Outreach Progams should be developed to improve reporting accuracy by fishermen, when needed.	The NMFS Southeast Regional Office issues public announcements, Southeast Fishery Bulletins, or News Releases on different topics, including use of turtle exclusion devices, bycatch reduction devices, use of methods and devices to minimize harm to turtles and sawfish, information intended to reduce harm and interactions with marine mammals, and other methods to reduce bycatch for the convenience of constituents in the southern United States.	
ACCSP data elements on reporting forms	Based on the information in the ACCSP guidance document, it is expected that the reporting forms contain adequate information. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.	
Training programs for At-Sea samplers	Observers go through a rigorous training program as described by the National Observer Program. It is expected the training is sufficient based on the ACCSP standards. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.	
Pilot Studies for new data collection programs	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd Video Monitoring Pilot Project (2011); Headboat Pilot Study; Charterboat Pilot Study; MRIP Pilot Studies; Mandatory Electronic Reporting Amendment (in prep, 2013)	

Comparison of Alternatives

Biological: The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states that fishery management plans shall: Establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority—(A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided; assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include

conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish.

With regard to bycatch reporting National Standard 9 at § 600.350 states:
(1) *Promote development of a database on bycatch and bycatch mortality in the fishery to the extent practicable*. A review and, where necessary, improvement of data collection methods, data sources, and applications of data must be initiated for each fishery to determine the amount, type, disposition, and other characteristics of bycatch and bycatch mortality in each fishery for purposes of this standard and of section 303(a)(11) and (12) of the Magnuson-Stevens Act.

In accordance with the Magnuson-Stevens Act, a standardized reporting methodology is in place to collect bycatch information in the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries (see Section 4). Furthermore, actions have been taken in amendment to fishery management plans to these fisheries to reduce bycatch **(Appendix F)**. **Alternative 1 (No Action)** would continue programs in place to collect information on bycatch in South Atlantic fisheries for snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab. When funding is available, **Alternative 1** would implement the standards associated with the ACCSP bycatch module.

ACCSP standards include:

Quantitative standards for commercial fisheries:
- including 2-5% observer coverage
- mandatory self-reporting systems;

Quantitative recreational reporting:
- recreational intercept surveys
- observer data to collect recreational data, where possible;
- mandatory reporting of marine mammal interactions in Category I or II fisheries
- minimum ACCSP data elements included on data reporting forms
- training programs for at-sea samplers
- pilot studies for new data collection programs
- training and outreach programs on bycatch .

With the exception of the level of observer coverage for commercial fisheries, all the ACCSP standards have been met for the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab under **Alternative 1 (No Action)**.

The ACCSP is a cooperative state-federal program to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system throughout the Atlantic. The ACCSP includes five modules: Catch and Effort; Biological; Bycatch; Social and Economic; and Metadata.

In contrast to **Alternative 1**, **Alternative 2** would improve bycatch reporting through enhancement of observer coverage if funding were available and have positive biological effects. An examination of the bycatch data collection methodologies currently in place under **Action 1 (No Action)** reveals that the only bycatch methodology that does not meet the 2012 ACCSP

bycatch standards is a commercial observer program for the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries. However, there is currently a requirement for both snapper grouper and golden crab vessels to carry an observer if selected. **Alternative 2** would improve bycatch reporting through the implementation of an observer program and would have positive biological effects.

Therefore, if the ACCSP standards for an observer program for snapper grouper, coastal migratory pelagics, dolphin/wahoo, and golden crab were implemented under **Alternative 2**, positive indirect biological effects could be expected for fisheries in the South Atlantic through increased understanding of bycatch and discards. However, the undertaking of an observer program is costly and may result in impacts to other programs in an effort to fund the observer program. **Alternative 3** would allow data to be collected using any means as long as the resulting data meet or exceed the ACCSP standards. Examples of activities that would meet or exceed the ACCSP standards may include more pilot projects on observer program, video monitoring, or implementing observer coverage that exceeds the 2-5% level. The indirect biological benefits could be greater than those under **Alternative 2** if the data exceed ACCSP standards and equal to the indirect biological benefits if the data meet ACCSP standards.

Economic: The alternatives under **Action 1** are not expected to have significant, negative economic impacts to the fishermen unless the methods selected to implement bycatch and discard reporting resulted in something other than minimal time commitments. In contrast to **Alternative 1 (No Action)**, **Alternative 2** would immediately implement the ACCSP bycatch module, which would improve bycatch reporting if funding were available and have positive economic effects as a result of more accurate tracking of ACLs. Until the ACCSP standards such as at-sea observer coverage are implemented, it is impossible to know the potential impact to individual fishermen or overall. Fully implementing the ACCSP standards would have direct management benefits that could have indirect economic benefits to fishermen. The management benefits would largely be in terms of having more data that would more accurately describe bycatch. This would lead to more accurate stock management. Better bycatch data would result in indirect benefits to fishermen by having a stock that could be managed more precisely. Not having accurate bycatch data prevents fishery managers from having complete data on stock removals that have to beestimated by means other than direct reporting.

Social: While there are reporting requirements and standards currently in place under **Alternative 1**, the complete implementation of ACCSP standards under **Alternatives 2** and **3** would be expected to increase social benefits discussed.

There may be some negative impacts on the fleets as a result of any increase in monitoring. Increased observer coverage may result in observers on vessels that have not had any observers on board, and some captains and crew may feel uncomfortable or that they are being unfairly monitored by the federal government (similar to concerns about vessel monitoring system requirements). However, **Alternatives 2** and **3** are expected to overall improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions.

Administrative: Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows. Currently the agency and its partners are involved in many data collection activities that meet the ACCSP standards for bycatch (**Table 2-1**). **Alternative 2** could increase the administrative impacts relative to **Alternative 1 (No Action)** as it would require that an observer program be implemented for the commercial sector of the snapper grouper, dolphin wahoo, coastal migratory pelagic and golden crab fisheries. An observer program could have a significant administrative burden on the agency, associated with the structure of the program, training and debriefing observers, education and outreach to fishermen, data analysis, and costs.

Table 2-2 shows that an agency-funded observer program at 2% and 5% levels (as specified in ACCSP standards) is estimated to cost between 900,000-1.5 million and 2.2 million- 3.9 million, respectively. This value is based on observer cost estimates of between $850-$1,500 dollars per observer day. These costs include but are not limited to: travel, safety gear, sampling gear, satellite phones, observer coordination, data entry, program administration, facility costs associated with the observer program. It is unknown what is covered in the $850 per day cost.

Table 2-2. Cost of implementing commercial observer program according to ACCSP bycatch standards. Estimated cost per observer day is $850 (Frank Helies Gulf and South Atlantic Fisheries Foundation) and $1,500 (Elizabeth Scott-Dentin SEFSC).

Fishery	Coverage	Trips	Days	Cost @ $850/Day	Cost @ $1,150/Day
Snapper Grouper	2%	280	472	$401,316	$708,204
	5%	700	1,180	$1,003,289	$1,770,510
Dolphin-Wahoo	2%	52	116	$98,947	$174,612
	5%	130	291	$247,367	$436,530
Coastal Migratory Pelagics	2%	367	434	$368,696	$650,640
	5%	919	1,084	$921,740	$1,626,600
Golden Crab	2%	3	12	$10,365	$18,291
	5%	9	30	$25,912	$45,728
Total Four Fisheries	2%	703	1,034	$879,323	$1,551,747
	5%	1,757	2,586	$2,198,308	$3,879,368

Not only would the cost of the observer program be burdensome to the agency, it would require coordination with partners including the U.S. Coast Guard, law enforcement, and contracts with observer providers which may further increase the administrative burden. Under **Alternative 3**, the agency would have the ability to develop bycatch and discard reporting methodologies that meet or exceed the ACCSP standards. Examples could be an observer program with larger coverage, more pilot projects or other projects. The administrative impacts of **Alternative 3** would be greater than those of **Alternative 2** or **Alternative 1**. However, at this point, it is difficult to determine the exact administrative impacts of **Alternative 3** on fishery participants or the agency because it is unclear which bycatch reporting methods would be selected.

Table 2-3. Summary of effects under Action 1.

	Effects			
	Biological	**Economic**	**Social**	**Administrative**
Alternative 1	Continues current bycatch reporting programs in place; no improvements in bycatch reporting	No significant negative economic impacts	No increase in benefit from status quo	No increase in benefit from status quo
Alternative 2	Positive indirect benefit	No significant negative impacts	Increase in benefit	Greater impact on agency, but less than **Alternative 3**
Alternative 3	Greatest indirect benefit	No significant negative impacts	Increase in benefit	Greatest impact on agency related to funding than **Alternatives 1** & **2**

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 3.6)

  Examples include the fishery management process and enforcement activities

3.1 Habitat Environment

The Comprehensive Ecosystem-Based Amendment 3 addresses modifications to bycatch and discard reporting South Atlantic Council managed fisheries. Chapter 3 details the biological environment for the species that will be most affected by this amendment.

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 2009b).

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 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 (SAFMC 2010b), and the Fishery Ecosystem Plan (FEP) of the South Atlantic Region (SAFMC 2009b). Those descriptions of the biological, social, economic, and administrative environments are herein incorporated by reference.

Information on the habitat utilized by dolphin wahoo and golden crab 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.

A detailed description of the coastal migratory pelagic (CMP) fishery was included in Amendment 18 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (FMP) (GMFMC and SAFMC 2011) and is incorporated here by reference. Amendment 18 can be found at
http://www.gulfcouncil.org/docs/amendments/Final%20CMP%20Amendment%2018%20092311%20w-o%20appendices.pdf.

Copies of these amendments 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).

Dolphin Wahoo

Dolphin and wahoo do not use inshore/estuarine habitat.

Coastal Migratory Pelagic

The mackerels in this management unit are often referred to as scombrids. The family Scombridae also includes tunas, mackerels, and bonitos. They are among the most important commercial and sport fishes. The habitat of adults in the coastal pelagic management unit is the coastal waters out to the edge of the continental shelf in the Atlantic Ocean. Within the area, the occurrence of coastal migratory pelagic species (including cobia) is governed by temperature and salinity. These species are seldom found in water temperatures less than 20°C. Salinity preference varies, but these species generally prefer high salinity, less than 36 ppt. Salinity preference of cobia is not well defined. The larval habitat of all species in the coastal pelagic management unit is the water column. Within the spawning area, eggs and larvae are concentrated in the surface waters.

Golden Crab

Golden crabs do not use inshore/estuarine habitat.

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, the narrowing 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 Council's 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 MARMAP data can also be generated through the South Atlantic Council's Internet Mapping System at the above address.

Dolphin Wahoo

Information on the habitat utilized by dolphin and wahoo 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 common dolphin (*Coryphaena hippurus)* is an oceanic pelagic fish found worldwide in tropical and subtropical waters. The range for dolphin in the western Atlantic is from George's Bank, Nova Scotia to Rio de Janeiro, Brazil. They are also found throughout the Caribbean Sea and the Gulf of Mexico and they are generally restricted to waters warmer than 20°C (Oxenford, 1997). The wahoo (*Acanthocybium solandri*) is an oceanic pelagic fish found worldwide in tropical and subtropical waters. In the western Atlantic wahoo are found from New York through Columbia including Bermuda, the Bahamas, the Gulf of Mexico, and the Caribbean. Wahoo are present throughout the Caribbean area, especially along the north coast of western Cuba where it is abundant during the winter (from FAO species guide; FAO 1978).

Dolphin and wahoo utilize pelagic habitat in the Gulf Stream, Charleston Gyre, Florida Current, and pelagic *Sargassum.*

Coastal Migratory Pelagic

King Mackerel

King mackerel is a marine pelagic species that is found throughout the Gulf of Mexico and Caribbean Sea and along the western Atlantic from the Gulf of Maine to Brazil and from the shore to 200 meter depths. Adults are known to spawn in areas of low turbidity, with salinity and temperatures of approximately 30 ppt and 27°C, respectively. There are major spawning areas off Louisiana and Texas in the Gulf (McEachran and Finucane 1979); and off the Carolinas, Cape Canaveral, and Miami in the western Atlantic (Wollam 1970; Schekter 1971; Mayo 1973).

Spanish Mackerel

Spanish mackerel is also a pelagic species, occurring over depths to 75 meters throughout the coastal zones of the western Atlantic from southern New England to the Florida Keys and throughout the Gulf of Mexico (Collette and Russo 1979). Adults usually are found in neritic waters (area of ocean from the low-tide line to the edge of the continental shelf) and along coastal areas. They inhabit estuarine areas, especially the higher salinity areas, during seasonal migrations, but are considered rare and infrequent in many Gulf estuaries.

Cobia

The cobia is distributed worldwide in tropical, subtropical, and warm-temperate waters. In the western Atlantic Ocean, this pelagic fish occurs from Nova Scotia (Canada), south to Argentina, including the Caribbean Sea. It is abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico. Cobia prefer water temperatures between 68-86°F. Seeking shelter in harbors and around wrecks and reefs, the cobia is often found off south Florida and the Florida Keys. As a pelagic fish, cobia are found over the continental shelf as well as around offshore reefs. They prefer to reside near any structure that

interrupts the open water such as pilings, buoys, platforms, anchored boats, and flotsam. The cobia is also found inshore inhabiting bays, inlets, and mangroves. Remoras are often seen swimming with cobia.

Golden Crab

Golden crabs occupy offshore oceanic waters along the Atlantic and Gulf of Mexico coasts as adults. Offshore areas used by adults are probably the least affected by habitat alterations and water quality degradation. Currently, the primary threat comes from oil and gas development and production, offshore dumping of dredged material, disposal of chemical and other wastes, and the discharge of contaminants by river systems.

Seven essential habitat types have been identified for golden crab: a flat foraminferan ooze habitat; distinct mounds, primarily of dead coral; ripple habitat; dunes; black pebble habitat; low outcrop; and soft-bioturbated habitat.

Wenner et al. (1987) note: "Other studies have described an association of *Geryon quinquedens* (deep-sea red crab) with soft substrates. Wigley *et al.* (1975) noted that bottom sediments throughout the area surveyed for red crab from offshore Maryland to Corsair Canyon (Georges Bank) consisted of a soft, olive-green, silt-clay mixture. If golden crabs preferentially inhabit soft substrates, then their zone of maximum abundance may be limited within the South Atlantic Bight. Surveys by Bullis and Rathjen (1959) indicated that green mud occurred consistently at 270-450 meters between St. Augustine and Cape Canaveral, Florida (30°N and 28°N). This same depth range from Savannah, Georgia, to St. Augustine, Florida was generally characterized by Bullis and Rathjen (1959) as extremely irregular bottom with some smooth limestone or "slab" rock present. Our study indicates, however, that the bottom due east between Savannah and St. Catherine's Island, Georgia, at 270-540 meters consists of mud and biogenic ooze. Further north from Cape Fear, North Carolina, to Savannah, bottom topography between 270 and 450 m is highly variable with rocky outcrops, sand and mud ooze present (Low and Ulrich 1983)."

In a subsequent study using a submersible, Wenner and Barans (1990) found the greatest abundance in rock outcrops:

"Observations on density and a characterization of essential habitat for golden crab, *Chaceon fenneri*, were made from a submersible along 85 transects in depths of 389-567 meters approximately 122 kilometers southeast of Charleston, South Carolina. Additional observations on habitat were made on 16 transects that crossed isobaths between 293-517 meters.

Observations from submersibles have observed golden crabs on the following habitats:

- A flat foraminiferan ooze habitat (405-567 meters) was the most frequently encountered habitat. This habitat type is characterized by pteropod-foraminiferan debris mixed with larger shell fragments, a sediment surface mostly covered with a black phosphorite precipitate.

- Distinct mounds, primarily of dead coral at depths of 503 to 555 meters, constituted 20% of the bottom surveyed on dives to count crabs. Coral mounds rose approximately 15 to 23 meters in height above the surrounding sea floor and included several that were thinly veneered with a fine sediment and dead coral fragments, as well as a number that were thickly encrusted with live branching ahermatypic corals (*Lophelia prolifera* and *Enallopsammia profunda*). Fan-shaped sponges, pennatulids and crinoids were oriented into the northerly 1.4-1.9 kilometer per hour current. The decapod crustaceans *Bathynectes longispina*, *Eugonatonotus crassus* and *Eumunida picta*, the black-bellied rosefish, *Helicolenus dactylopterus*, and the wreckfish, *Polyprion americanus*, were frequently sighted along transects in the coral mound habitat.

- Ripple habitat (320-539 meters); dunes (389-472 meters); black pebble habitat (446-564 meters); low outcrop (466-512 meters); and soft-bioturbated habitat (293-475 meters). A total of 109 *C. fenneri* were sighted within the 583,480 m^2 of bottom surveyed. Density (mean no. per 1,000 m^2) was significantly different among habitats, with highest values (0.7 per 1,000 m^2) noted among low rock outcrops. Lowest densities were observed in the dune habitat (<0.1 per 1,000 m^2), while densities for other habitats were similar (0.15-0.22 per 1,000 m^2)."

A similar submersible study in the eastern Gulf of Mexico (Lindberg and Lockhart 1993) found similar results with higher abundance of golden crab on hardbottom: "Within the bathymetric range of golden crabs, crab abundance may be related more to habitat type than to depth. The greatest density (36.5 crabs/hectare) occurred on or near hard-bottom canyon features."

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.

Dolphin Wahoo

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

Note: This EFH definition for dolphin was approved by the Secretary of Commerce on June 3, 1999, as a part of the South Atlantic Council's Comprehensive Habitat Amendment (SAFMC 1998d) (dolphin was included within the Coastal Migratory Pelagics FMP). This definition does not apply to extra-jurisdictional areas.

Coastal Migratory Pelagic

Essential fish habitat for coastal migratory pelagic species includes sandy shoals of capes and offshore bars; high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf stream shoreward, including *Sargassum*; all coastal inlets; and all state-designated nursery habitats of particular importance (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas).

EFH for Cobia: High salinity bays, estuaries, and seagrass habitat.

Golden Crab

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

Refer to Section 3.0 in the Habitat Plan (SAFMC 1998c) for a more detailed description of habitat utilized by the managed species. Also, it should be noted that the Gulf Stream occurs within the exclusive economic zone (EEZ).

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 the National Marine 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.

Dolphin Wahoo

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

Note: This EFH-HAPC definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Council’s Comprehensive Habitat Amendment (SAFMC 1998c) (dolphin was included within the Coastal Migratory Pelagics FMP).

Coastal Migratory Pelagic

EFH-HAPCs for coastal migratory pelagic species includes sandy shoals of Capes Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); Phragmatopoma (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom

south of Cape Canaveral; The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel (Bogue Sound and New River, North Carolina) and cobia (Broad River, South Carolina).

Golden Crab

There is insufficient knowledge of the biology of golden crabs to identify spawning and nursery areas and to identify HAPCs at this time. As information becomes available, the South Atlantic Council will evaluate such data and identify HAPCs as appropriate.

3.2 Biological and Ecological Environment

The 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.

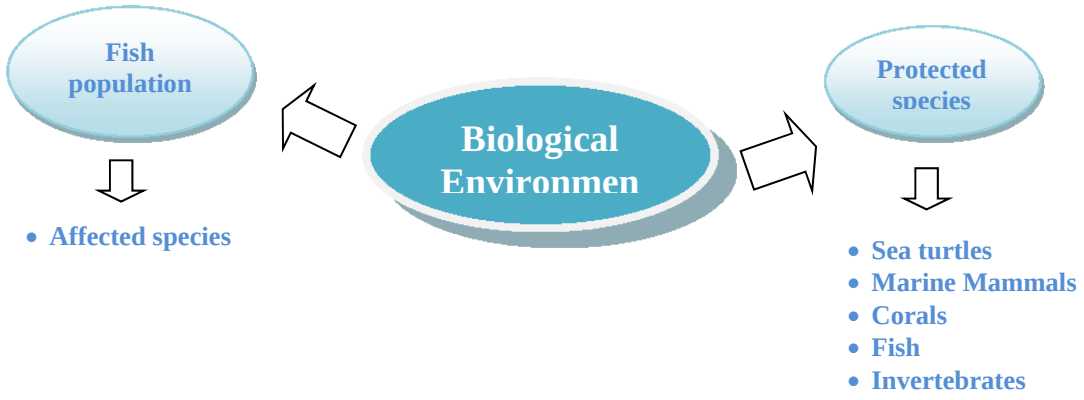

Figure 3-1. Two components of the biological environment described in this amendment.

3.2.1 Fish Populations

Snapper Grouper

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit currently contains 60 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.

Dolphin Wahoo

Dolphin are attracted to *Sargassum*, a floating brown alga, which serves as a hiding place and source of food. Other sources of food associated with the *Sargassum* include small fish, crabs, and shrimp. Dolphin may also pursue fast-swimming fish, such as flying fish or mackerels. The diets of other oceanic pelagic species indicate that dolphin, particularly juveniles, serve as prey for many oceanic fish. Wahoo are essentially piscivorous. Based on work in North Carolina (Hogarth 1976), fish accounted for 97.4% of all food organisms. These fish included mackerels, butterfishes, porcupine fishes, round herrings, scads, jacks, pompanos, and flying fishes. Invertebrates, squid, and the paper nautilus comprised 2.6% of the total food.

Coastal Migratory Pelagic

Indirect and inter-related effects of the actions in this amendment, especially in concert with the Deepwater Horizon MC252 oil spill, on the biological and ecological environment are not well understood. Changes in the population size structure as a result of shifting fishing effort to specific geographic segments of CMP populations, combined with any anthropogenically induced natural mortality that may occur from the impacts of the oil spill, could lead to changes in the distribution and abundance of these throughout the Gulf. The impacts on the food web from phytoplankton, to zooplankton, to baitfish, to top predators may be significant in the future. Impacts to CMP species from the oil spill will similarly impact other species that may be preyed upon by those species, or that might benefit from a reduced stock.

<u>King Mackerel</u>
Like other members of this genus, king mackerel feed primarily on fishes. They prefer to feed on schooling fish, but also eat crustaceans and occasionally mollusks. Some of the fish they eat include jack mackerels, snappers, grunts, and halfbeaks. They also eat penaeid shrimp and squid at all life stages (larvae to adult). Adult king mackerels mainly eat fish between the sizes of 3.9-5.9 in (100-150 mm). Juveniles eat small fish and invertebrates, especially anchovies. The Atlantic and Gulf of Mexico populations differ significantly in their feeding habits. The Atlantic stock consumed 58% engraulids, 1% clupeids, and 3.1% squid; the Gulf stock consumed 21.4% engraulids, 4.3% clupeids, and 7.1% squid. The Gulf population also showed more diversity in its feeding habits. In south Florida, the king mackerel's food of choice is the ballyhoo. On the east coast of Florida, the king mackerel prefers Spanish sardines, anchovies, mullet, flying fish, drums, and jacks. Larval and juvenile king mackerel fall prey to little tunny and dolphins. Adult king mackerel are consumed by pelagic sharks, little tunny, and dolphins. Bottlenosed dolphins have been known to steal king mackerel from commercial fishing nets.

<u>Spanish Mackerel</u>
Like Gulf migratory group king mackerel, Spanish mackerel primarily eat other fish species

(herring, sardines, and menhaden) and to a lesser extent crustaceans and squid at all life stages (larvae to adult). They are eaten primarily by larger pelagic predators like sharks, tunas, and bottlenose dolphin.

Cobia

Cobia are voracious feeders often engulfing their prey whole. Their diet includes crustaceans, cephalopods, and small fishes such as mullet, eels, jacks, snappers, pinfish, croakers, grunts, and herring. A favorite food is crabs, hence the common name of crabeater. Cobia often cruise in packs of 3-100 fish, hunting for food during migrations in shallow water along the shoreline. They are also known to feed in a manner similar to remoras. Cobia will follow rays, turtles, and Sharks, sneaking in to scavenge whatever is left behind. Little is known about the feeding habits of larvae and juvenile cobia. Not much is known regarding the predators of cobia, however they are presumably eaten by larger pelagic fishes. Dolphin (*Coryphaena hippurus*) have been reported to feed on small cobia.

Golden Crab

The golden crab, *Chaceon fenneri*, is a large gold or buff colored species whose diagnostic characters include a hexagonal carapace; five anterolateral teeth on each side of carapace; well-developed, large frontal teeth; shallow, rounded orbits; chelipeds unequal; and the dactyli of the walking legs laterally compressed (Manning and Holthuis 1984, 1986). Golden crabs inhabit the continental slope of Bermuda (Luckhurst 1986, Manning and Holthuis 1986) and the southeastern U.S. from off Chesapeake Bay (Schroeder 1959), south through the Straits of Florida and into the eastern Gulf of Mexico (Manning and Holthuis 1984, 1986; Otwell et al. 1984; Wenner et al. 1987; Erdman 1990).

Reported depth distributions of *C. fenneri* range from 205 meters (672 feet) off the Dry Tortugas (Manning and Holthuis 1984) to 1,007 meters (3,304 feet) (off Bermuda (Manning and Holthuis 1986). Size of males examined ranged from 34 to 139 millimeters (1.3-5.5 inches) carapace length (CL) and females ranged from 39 to 118 millimeters (1.5-4.6 inches) CL. Ovigerous females have been reported during September, October, and November, and ranged in size from 91 to 118 millimeters (3.6-4.6 inches) CL (Manning and Holthuis 1984, 1986).

Reproduction

Reproduction and anatomy of the reproductive tracts of males and females of the golden crab were studied by Hinsch (1988) in specimens collected from deep water of the eastern Gulf of Mexico:

"Based on those studies the male crab is larger than the female. Their reproductive tracts are typical of brachyurans. Light and electron microscopic studies of the testes and vasa deferentia at various times during the year indicate that *C. fenneri* has a single reproductive season. Spermatogenesis begins in the fall. Mating occurs during March and April. The reproductive organs of males are reduced in size from May through September. However, several male golden crabs were observed carrying females at depths between 300 and 500 m off Pourtalés Terrace south of the Florida Keys during a research cruise on the NOAA Ship Nancy Foster in late September 2011 (John Reed, HBOI Cruise Report in preparation; Andrew David, personal communication).

The fully developed ovary of golden crabs is purple in color. Females oviposit in September and October. Females undergo vitellogenesis at the same time that they carry eggs undergoing embryonic development. Females with broods have ovaries which vary in color and size. They release their larvae during February and March. Females may be reproductive for several seasons and appear to be capable of mating while in the hardened condition"

Development, growth and movement patterns

Wenner et al. (1987) found in the South Atlantic Bight that: "Size-related distribution of *C. fenneri* with depth, similar to that reported for red crab, may occur in the South Atlantic Bight. We found the largest crabs in the shallowest (274-366 m) and deepest (733-823 m) strata. A clear trend of size-related up-slope migrations such as Wigley et al. (1975) reported for *C. quinquedens* (deep-sea red crab) is not apparent, however, because of trap bias for capture of larger crabs of both sexes. Otwell et al. (1984) also noted no pattern in size of golden crab by depth for either sex. Tagging studies of red crab off southern New England provided no evidence for migration patterns and indicated instead that tagged crabs seldom moved more than 20 km from their site of release (Lux et al. 1982)."

Lindberg and Lockhart (1993) found in the Gulf of Mexico:

"The golden crab *Chaceon fenneri* in the eastern Gulf of Mexico exhibits a typical bathymetric pattern of partial sex zonation and an inverse size-depth relationship, as first reported for red crabs (*C. quinquedens*: Wigley et al., 1975; *C. maritae*: Beyers and Wilke, 1980). Sex segregation, with females shallower than most males, was more evident in our results than in those of Wenner et al. (1987) from the South Atlantic Bight, primarily because our trap catch had a higher proportion of females (25.9% compared to 5.2%)."

Ecological relationships
Feeding habits are very poorly known. Golden crabs are often categorized as scavengers that feed opportunistically on dead carcasses deposited on the bottom from overlying waters (Hines 1990).

Abundance and status of stocks
Golden crab abundance studies are limited. Data from the South Atlantic Bight (Wenner et al. 1987) estimated abundance from visual assessment was 1.9 crabs per hectare while traps caught between 2 and 10 kilograms (4-22 pounds) per trap. Wenner and Barans (1990) estimated the golden crab population in small areas of 26-29 square kilometers (10-11 square miles) between 300-500 meters (984-1,640 feet) off Charleston to be 5,000-6,000 adult crabs. In the eastern Gulf of Mexico adult standing stock was estimated to be 7.8 million golden crabs and the biomass was estimated to be 6.16 million kilograms (13.6 million pounds) (Lindberg et al. 1989). Experimental trapping off Georgia yielded an average catch of 7 kilograms (15 pounds) per trap (Kendall 1990).

Based on exploratory trapping, golden crab maximum abundance occurs between 367 and 549 meters (1,204-1,801 feet) in the South Atlantic Bight. Information on sediment composition suggests that golden crab abundance is influenced by sediment type with highest catches on substrates containing a mixture of silt-clay and foraminiferan shell (Wenner et al. 1987).

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 (green, hawksbill, Kemp's ridley, leatherback, and loggerhead); the smalltooth sawfish; and two *Acropora* coral species (elkhorn [*Acropora palmata*] and staghorn [*A. cervicornis*]) are protected under the ESA. Portions of designated critical habitat for North Atlantic right whales and *Acropora* corals also occur within the South Atlantic Council's jurisdiction. **Section 3.5** in the Comprehensive ACL Amendment (77 FR 15916, March 16, 2012) describes the life history characteristics of these species and discusses the features essential for conservation found in each critical habitat area. In **Section 3.5** in the Comprehensive ACL Amendment (77 FR 15916, March 16, 2012) five distinct population segments (DPSs) of the Atlantic sturgeon were listed under the ESA. The Carolina and South Atlantic DPSs of the Atlantic sturgeon occur in the South Atlantic region. The following sections briefly describe the general life history characteristics of animals from these DPSs. Because Atlantic sturgeon spawn in freshwater rivers, federal fisheries of the South Atlantic generally do not interact with spawning sturgeon. However, the populations of Atlantic sturgeon in spawning rivers and threats to animals occurring in those rivers is of significant importance to the species overall survival and recover. Additional information on specific river systems where Atlantic sturgeon spawn, and the threats to animals in those systems, can be found in ASSRT (2007).

Atlantic sturgeon are long-lived (approximately 60 years), late maturing, relatively large, anadromous[1] fish (Bigelow and Schroeder 1953, Vladykov and Greeley 1963, Mangin 1964, Pikitch et al. 2005, Dadswell 2006, ASSRT 2007). Atlantic sturgeon may reach lengths up to 14 feet and weigh over 800 pounds. They are distinguished by armor-like plates and a long protruding snout that is ventrally located. Atlantic sturgeons are bottom feeders that use four barbells in front of the mouth assist in locating prey (Bigelow and 1953). Adults and sub-adults eat mollusks, gastropods, amphipods, annelids, decapods, isopods, and fish such as sand lance (Bigelow and Schroeder 1953, ASSRT 2007, Guilbard et al. 2007, Savoy 2007), while juveniles feed on aquatic insects, insect larvae, and other invertebrates (Bigelow and Schroeder 1953, ASSRT 2007, Guilbard et al. 2007). Sturgeon are commonly found in less than 200 feet of water, but have been captured in water as deep as 3,000 ft (Stein et al. 2004, ASMFC 2007) and 40 miles offshore (D. Fox, DSU, pers. comm.).

Atlantic sturgeon mature between the ages of 5 and 19 years in South Carolina (Smith et al. 1982). The age of maturity is unknown for animals originating in Florida, Georgia, and North Carolina rivers. In general, male Atlantic sturgeons grow faster than females and attain larger sizes (Smith et al. 1982, Smith and Dingley 1984, Smith 1985, Scott and Scott 1988, Young et al. 1998, Collins et al. 2000, Caron et al. 2002, Dadswell 2006, ASSRT 2007, Kahnle et al. 2007, DFO 2011). Females can produce between 400,000 to 4 million eggs per spawning year, but only spawn every 2-5 years; males spawn every 1-5 years (Vladykov and Greeley 1963, Smith et al. 1982, Smith 1985, Van Eenennaam et al. 1996, Van Eenennaam and Doroshov 1998, Stevenson and Secor 1999, Collins et al. 2000, Caron et al. 2002, Dadswell 2006). In the South Atlantic region, spawning occurs in specific, freshwater rivers in North Carolina, South Carolina, and Georgia. Water temperature appears to trigger spawning migrations (ASMFC 2009), which generally occur during February-March in the South Atlantic region (Murawski and Pacheco 1977, Smith 1985, Bain 1997, Smith and Clugston 1997, Caron et al. 2002).

The Carolina DPS includes all Atlantic sturgeon that spawn or are spawned in the watersheds (including all rivers and tributaries) from Albemarle Sound southward along the southern Virginia, North Carolina, and South Carolina coastal areas to Charleston Harbor. The marine range of Atlantic sturgeon from the Carolina DPS extends from the Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida. The riverine range of the Carolina DPS and the adjacent portion of the marine range is shown in **Figure 3-2**. Rivers known to have current spawning populations within the range of the Carolina DPS include the Roanoke, Tar-Pamlico, Cape Fear, Waccamaw, and Pee Dee Rivers. There may also be spawning populations in the Neuse, Santee and Cooper Rivers, though it is uncertain. Both rivers may be used as nursery habitat by young Atlantic sturgeon originating from other spawning populations.

[1] Anadromous refers to a fish that is born in freshwater, spends most of its life in the sea, and returns to freshwater to spawn (NEFSC FAQ's, available at http://www.nefsc.noaa.gov/faq/fishfaq1a.html, modified June 16, 2011); Atlantic sturgeon are also highly reliant on estuarine environments for certain life stages.

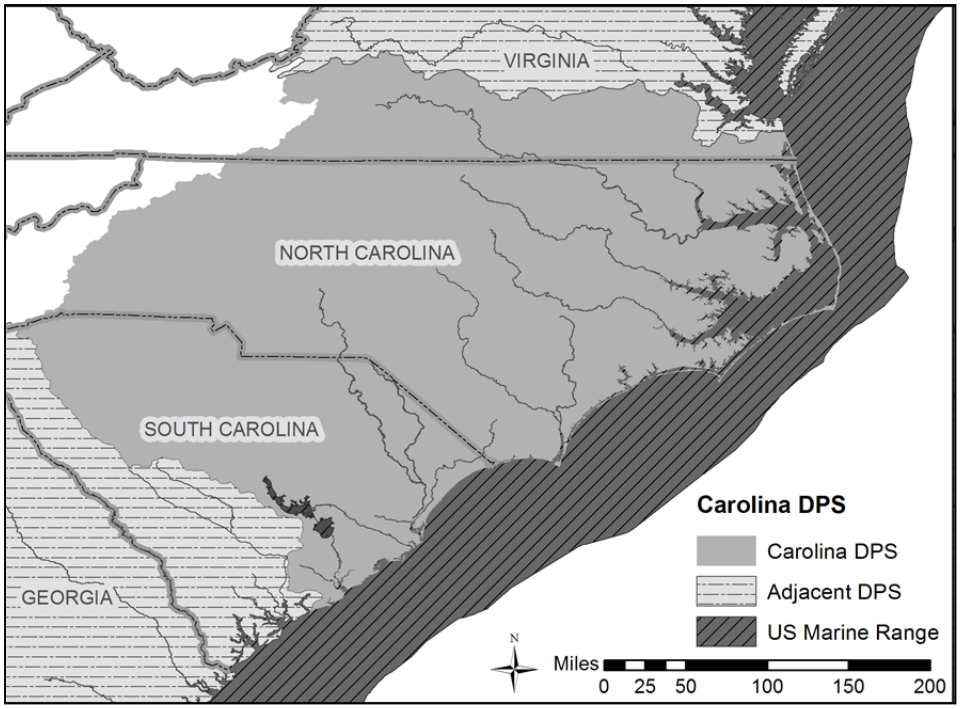

Figure 3-2. The Carolina DPS, Including the Marine Portion of the Range.

The South Atlantic DPS includes all Atlantic sturgeon that spawn or are spawned in the watersheds (including all rivers and tributaries) of the Ashepoo, Combahee, and Edisto Rivers (ACE) Basin southward along the South Carolina, Georgia, and Florida coastal areas to the St. Johns River, Florida. The marine range of Atlantic sturgeon from the South Atlantic DPS extends from the Hamilton Inlet, Labrador, Canada, to Cape Canaveral, Florida. The riverine range of the South Atlantic DPS and the adjacent portion of the marine range are shown in **Figure 3-3**. Rivers known to have current spawning populations within the range of the South Atlantic DPS include the Combahee, Edisto, Savannah, Ogeechee, Altamaha, and Satilla Rivers.

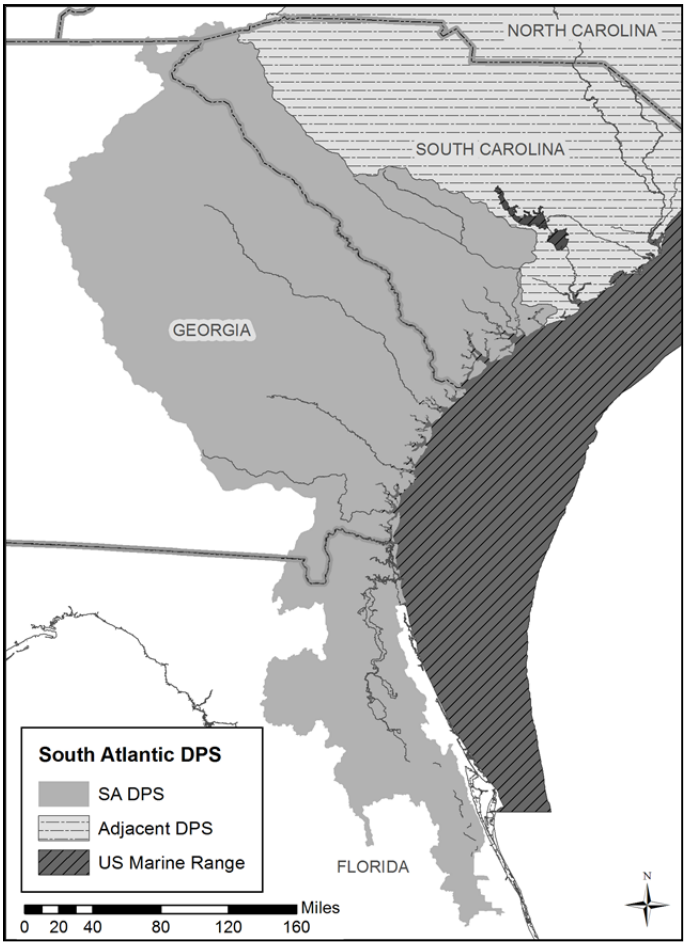

Figure 3-3. The South Atlantic DPS, Including the Marine Portion of the Range.

Currently, only 16 U.S. rivers are known to support spawning based on available evidence (ASSRT 2007). The number of rivers supporting spawning of Atlantic sturgeon are approximately half of what they were historically. Between 7,000 and 10,500 adult female Atlantic sturgeon may have been present in North Carolina prior to 1890 (Armstrong and Hightower 2002, Secor 2002). Secor (2002) estimates that 8,000 adult females were present in South Carolina during that same time. However, past threats from commercial fishing and ongoing threats have drastically reduced the numbers of Atlantic sturgeon within the Carolina and South Atlantic DPSs. The abundances of the remaining river populations within these DPSs, each estimated to have fewer than 300 spawning adults, is estimated to range from less than 6 to less than 1 percent of what they were historically (ASSRT 2007).

3.3 Human Environment

3.3.1 Economic Description

Economic descriptions of the snapper grouper, coastal migratory pelagic (CMP), dolphin and wahoo, and golden crab commercial fisheries are contained in the Comprehensive ACL Amendment (SAFMC 2011c; snapper-grouper, dolphin, and wahoo), CMP Amendment 18 (GMFMC/SAFMC 2011a), and Golden Crab Amendment 6 (SAFMC 2012) and are incorporated herein by reference. The following provides updated information on the number of permits in the respective fisheries and a summary of the average annual economic activity (impacts) associated with the harvest of these species.

On July 27, 2012, the number of valid (non-expired) or renewable permits for the following limited access commercial fisheries were: 583 unlimited snapper-grouper; 131 limited (225 lbs per trip) snapper-grouper; 1,498 king mackerel (not regionally specific, i.e., is not limited to the South Atlantic jurisdiction); and 11 golden crab. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Renewable permits are only relevant in limited access fisheries because an expired permit in a non-limited access fishery is simply replaced through the issuance of a new permit. The Spanish mackerel and dolphin-wahoo fisheries are open access fisheries and, on July 27, 2012, the number of valid permits for these fisheries was 1,817 and 2,298 permits, respectively. Similar to the king mackerel permit, the Spanish mackerel commercial permit is not regionally specific. Because many vessels have permits for multiple fisheries, these totals cannot be combined to quantify the total number of unique vessels. The total number of unique vessels encompassed by these fisheries is unknown.

Estimates of the average annual economic activity to the nation associated with the commercial harvest of the species or species groups were derived using the model developed for and applied in NMFS (2011b) and are provided in **Table 3-1**. Business activity for the commercial sector is characterized in the form of full-time equivalent (FTE) jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors).

Table 3-1. Average annual economic activity associated with the commercial harvest of the respective species. All dollar values are in 2008 dollars. Sales and income impacts are not additive.

Species	Average Ex-vessel Value (millions)[1]	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)	Income Impacts (millions)[1]
All Snapper-Grouper[2]	$13.44	2,526	336	$176.91	$75.39
Atlantic Group King Mackerel	$4.57	862	112	$60.21	$25.66
Atlantic Group Spanish Mackerel	$1.85	348	45	$24.31	$10.36
Cobia (All Southeast)	$0.27	50	6	$3.53	$1.50
Dolphin[2]	$0.60	115	16	$7.91	$3.37
Golden Crab	$0.86	165	24	$11.40	$4.89

[1]2005-2009 average annual revenue for snapper-grouper, king mackerel, Spanish mackerel, dolphin, and cobia. 2006-2010 average annual revenue for golden crab.
[2]Snapper-grouper and dolphin revenue is based on the species included in the FMU prior to the development of the Comprehensive ACL Amendment (SAFMC 2011c) and does not account for any species removed from the FMU as a result of this amendment.

3.3.2 Economic Description of the Recreational Fishery

Economic descriptions of the snapper-grouper, coastal migratory pelagic (CMP), and dolphin-wahoo recreational fisheries are contained in the Comprehensive ACL Amendment (SAFMC 2011c; snapper-grouper and dolphin-wahoo fisheries), and CMP Amendment 18 (GMFMC/SAFMC 2011a; CMP fishery) and are incorporated herein by reference. A recreational golden crab fishery does not exist.

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 generally carry more passengers and payment is per person. For-hire vessels are required to have a charter/headboat permit to fish for or possess snapper-grouper, king mackerel, Spanish mackerel, dolphin, or wahoo in the South Atlantic EEZ. Separate charter/headboat permits exist for snapper-grouper, CMP species (king or Spanish mackerel and cobia), and dolphin/wahoo. Each of these permits is an open access permit. The following provides updated information on the number of charter/headboat permits in the respective fisheries.

On July 27, 2012, the number of valid (non-expired) charter/headboat permits for the following components of the recreational for-hire sector were: 1,543 snapper-grouper; 1,555 CMP (king or Spanish mackerel); and 1,734 dolphin/wahoo. Charter/headboat permits do not distinguish

charterboats from headboats. However, headboats that operate in the EEZ are required to participate in the NOAA Fisheries headboat logbook program and 75 headboats are listed in the 2012 headboat registry.

Recreational anglers who fish in the EEZ 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. An estimate of the number of anglers who fished in the South Atlantic EEZ is not available. The estimated number of anglers (participants) from the Marine Recreational Information Program who fished in the South Atlantic in 2011 is approximately 2.34 million. However, this estimate includes all marine anglers and not just those who fished in the EEZ and does not include out-of-state anglers (anglers who reside in states outside the South Atlantic region but travel to the South Atlantic to fish).

Estimates of the economic activity associated with recreational fishing were derived using average coefficients for recreational angling across all fisheries (species), as derived through an economic add-on to the Marine Recreational Fisheries Statistics Survey (MRFSS), and described and utilized in NMFS (2011b), and are provided in **Table 3-2**. 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. The estimates of economic activity should not be added across species because of possible duplication (some trips may target multiple species). Also, the estimates 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, or national, estimates of the economic activity associated with these species are unavailable at this time.

As previously noted, the estimates of target effort provided in **Tables 3-1** and **3-2** only reflect effort derived from the MRFSS. Because the headboat sector in the Southeast is not comprehensively covered by the MRFSS, the results in these tables do not include estimates of the economic activity associated with headboat fishing. While estimates of headboat effort are available (an average of 225,219 headboat angler days were taken per year, 2005-2009; see SAFMC (2011c)), target information is not collected in the Headboat Survey, which prevents the generation of estimates of the number of headboat target trips. Further, because the model developed for NMFS (2011b) was based on expenditure data collected through the MRFSS, expenditure data from headboat anglers was not collected through the economic add-on and

appropriate economic expenditure coefficients are not available. As a result, estimates of the economic activity associated with the headboat sector cannot be provided.

Table 3-2. Average annual economic activity associated with the recreational target effort1 (all modes) for the respective species. All dollar values are in 2008 dollars (millions). Output and value added impacts are not additive. Totals are not additive across species or states.

	North Carolina	South Carolina	Georgia	Florida
	All Snapper-Grouper[2]			
Target Trips	92,355	109,565	30,527	733,902
Output Impact	$10.58	$6.73	$0.52	$37.05
Value Added Impact	$5.92	$3.87	$0.32	$21.92
Jobs	123	80	5	387
	South Atlantic King Mackerel			
Target Trips	213,786	100,326	10,804	423,018
Output Impact	$21.60	$8.25	$0.18	$25.00
Value Added Impact	$12.10	$4.67	$0.11	$14.84
Jobs	250	100	2	261
	South Atlantic Spanish Mackerel			
Target Trips	253,883	62,937	5,681	189,164
Output Impact	$27.29	$5.76	$0.10	$6.19
Value Added Impact	$15.27	$3.24	$0.06	$3.64
Jobs	316	70	1	65
	Cobia			
Target Trips	53,045	18,457	2,995	96,031
Output Impact	$7.60	$1.00	$0.05	$4.19
Value Added Impact	$4.25	$0.58	$0.03	$2.50
Jobs	90	12	0	44
	Dolphin			
Target Trips	122,652	12,491	978	751,056
Output Impact	$16.45	$0.95	$0.02	$34.52
Value Added Impact	$9.24	$0.55	$0.01	$20.57
Jobs	199	11	0	361
	Wahoo			
Target Trips	17,147	5,082	0	126,067
Output Impact	$2.39	$0.25	$0.00	$5.56
Value Added Impact	$1.34	$0.15	$0.00	$3.32
Jobs	29	3	0	58

Source: effort data from the MRFSS, economic activity results calculated by NMFS SERO using the model developed for NMFS (2011b).

[1]2005-2009 average annual target trips.

[2] The estimate of snapper-grouper target effort is based on the species included in the FMU prior to the development of the Comprehensive ACL Amendment (SAFMC 2011c) and does not account for any species removed from the FMU as a result of this amendment.

3.4 Social and Cultural Environment

The proposed action in this amendment may affect fishermen and communities associated with the snapper grouper fishery, the coastal migratory pelagic fisheries, the dolphin and wahoo fisheries, and the golden crab 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 ACL Amendment (SAFMC 2011c).

3.4.1 Fishing Communities

The communities displayed in the figures in Sections 3.4.2 through 3.4.9 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 2011c). 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 3.4.6 through 3.4.9.

3.4.2 Snapper Grouper Fishing Communities

Figure 3-4 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 3-4** were those with Pounds RQ larger than 3%. 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, North Carolina, or golden tilefish in Port Orange, Florida.

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

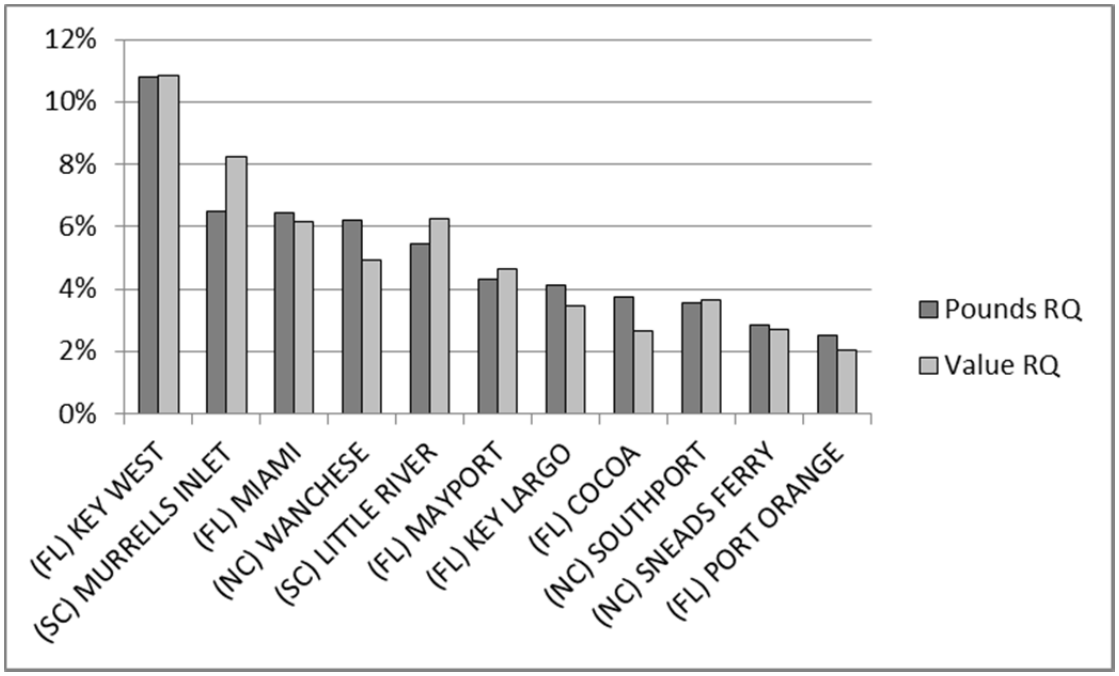

Figure 3-4. The top eleven South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of Snapper Grouper species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.6 through 3.4.9. Overall, Florida has the largest number of charter permits (**Table 3-3**). 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 3-3. 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 Migratory 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 3-5** 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.

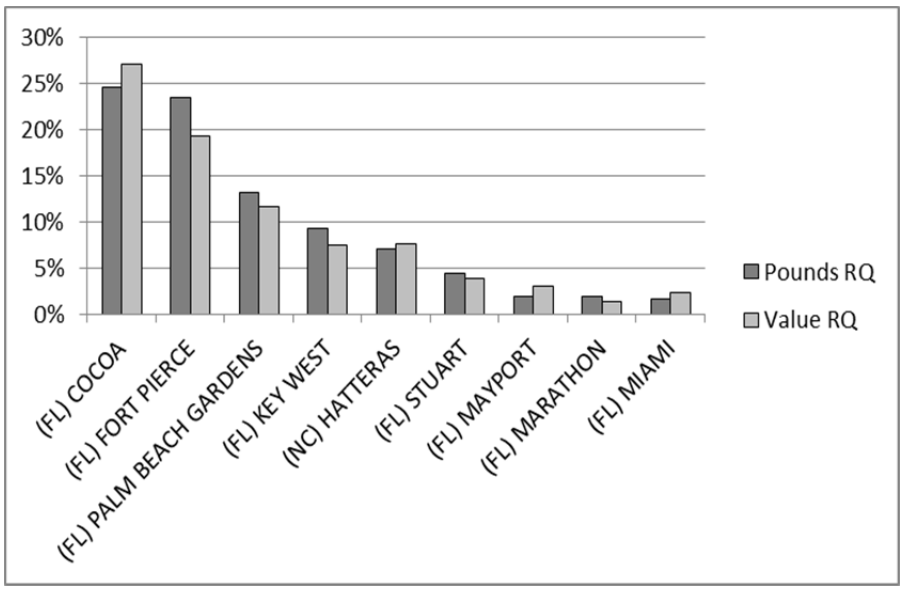

Figure 3-5. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of coastal migratory pelagic species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.6 through 3.4.9. Overall, Florida has the largest number of charter

permits (**Table 3-4**). 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 3-4. 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 2011c). **Figure 3-6** shows the top communities ranked by commercial pounds and value for dolphin and wahoo. Wanchese, North Carolina makes up the significant proportion of commercial dolphin and wahoo landings and value. The value of dolphin and wahoo varies in the communities.

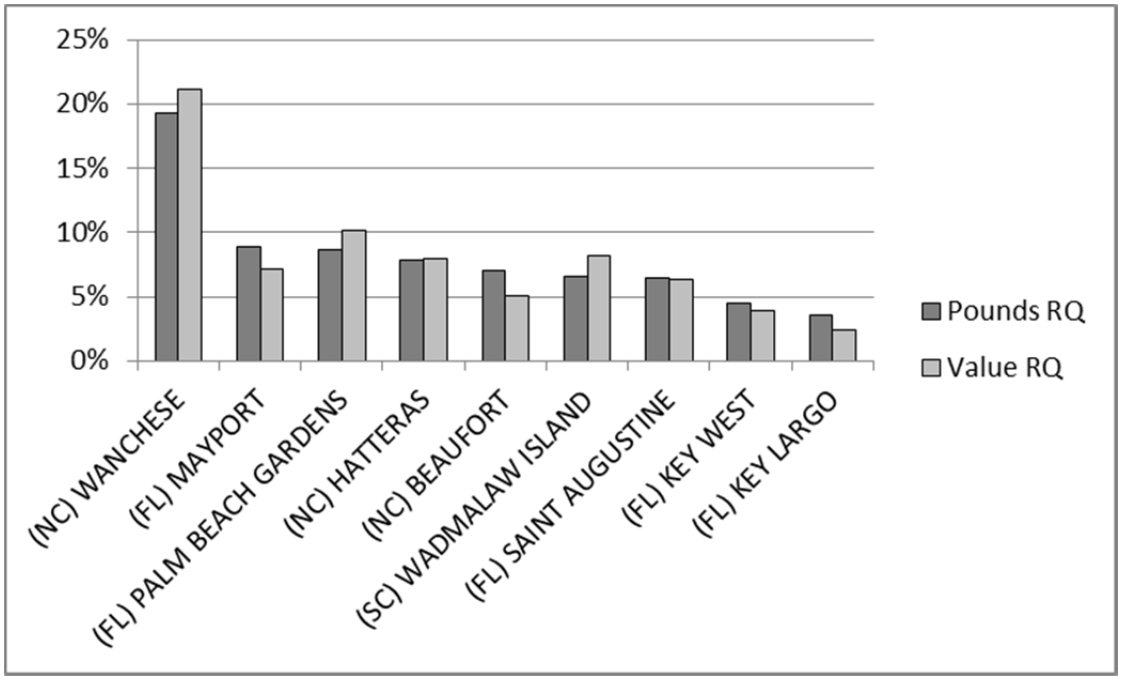

Figure 3-6. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of dolphin and wahoo. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.6 through 3.4.9. Overall, Florida has the largest number of charter permits (**Table 3-5**). 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 3-5. 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 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, Florida and Fort Lauderdale, Florida (ALS 2010). The RQ chart is not included because landings information is confidential at the community level.

3.4.6 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 3-7**). 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 Council.

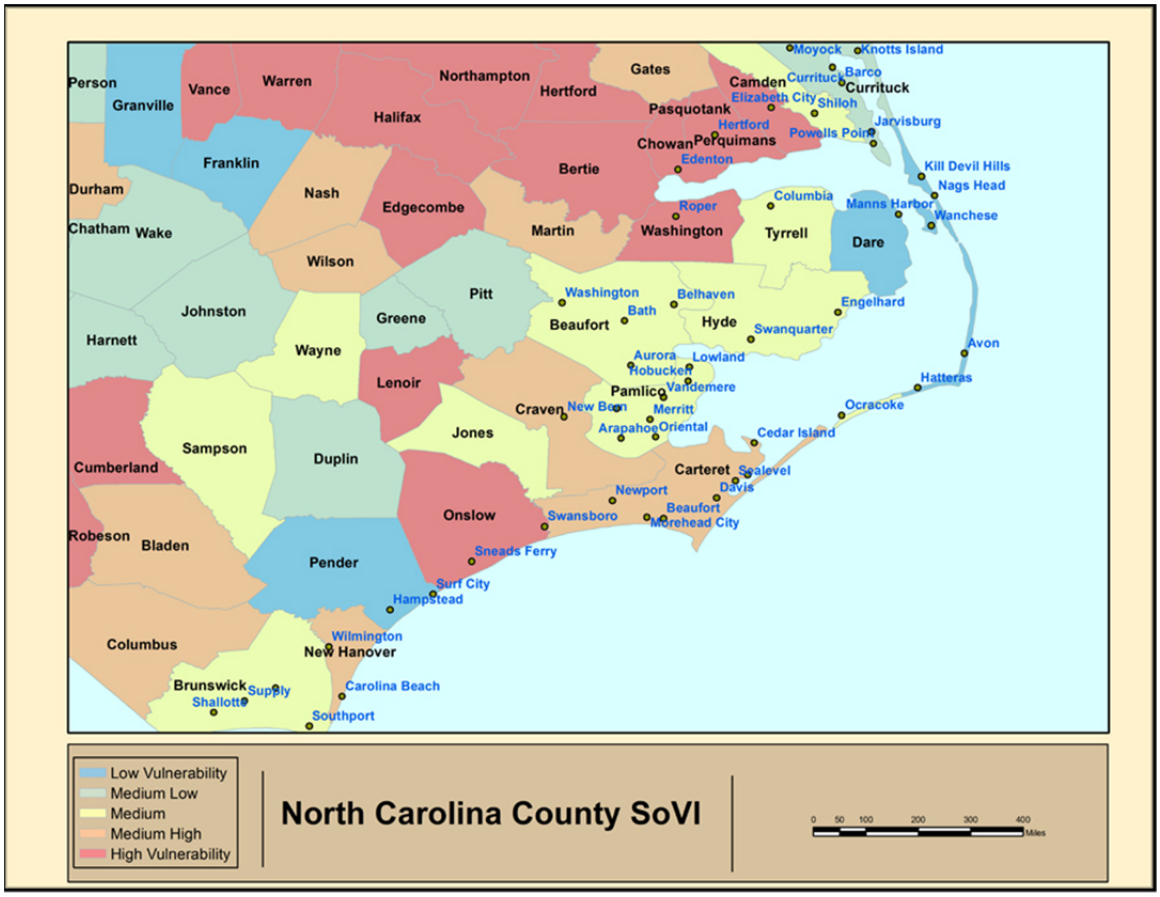

Figure 3-7. The Social Vulnerability Index applied to North Carolina Coastal Counties**.**

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 3-6**). 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 3-6. 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 3-7**). Almost all of the dealer permits are snapper grouper and dolphin-wahoo permits.

Table 3-7. 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 3-8**).

Table 3-8. 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 3-9**). 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 3-9. Federal charter permits in North Carolina coastal counties (2012).

County*	Dolphin Wahoo	Mackerels & 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.

3.4.7 South Carolina

Coastal South Carolina had no counties that were either medium or highly vulnerable (**Figure 3-8**). 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.

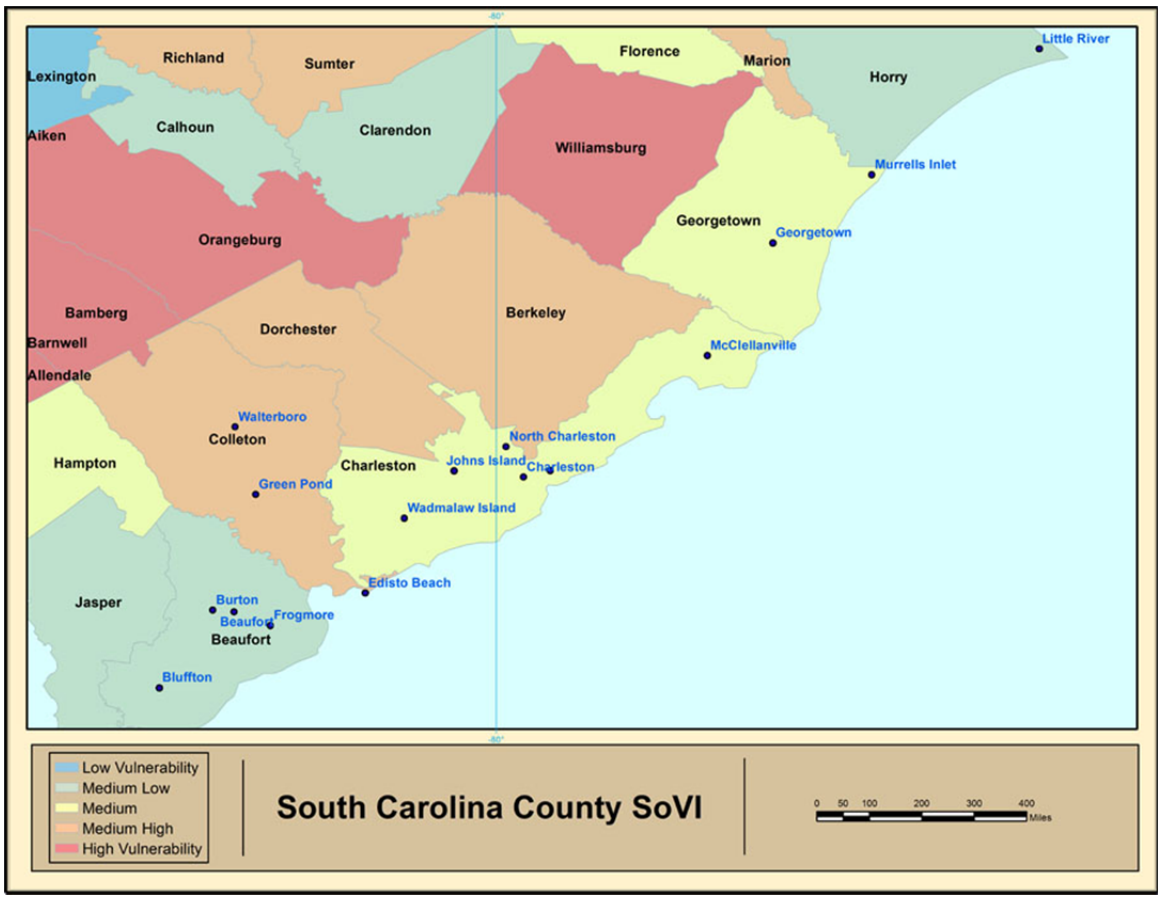

Figure 3-8. The Social Vulnerability Index applied to South Carolina Coastal Counties.

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 3-10**). 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 3-11**).

Table 3-10. 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 3-11. 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 3-12**). Most are in Charleston County. There are no federal dealer permits in Beaufort or Berkeley Counties.

Table 3-12. 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 3-13**). It is common for charter vessels to have all three federal charter permits.

Table 3-13. 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 3-14**).

Table 3-14. 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.

3.4.8 Georgia

Overview

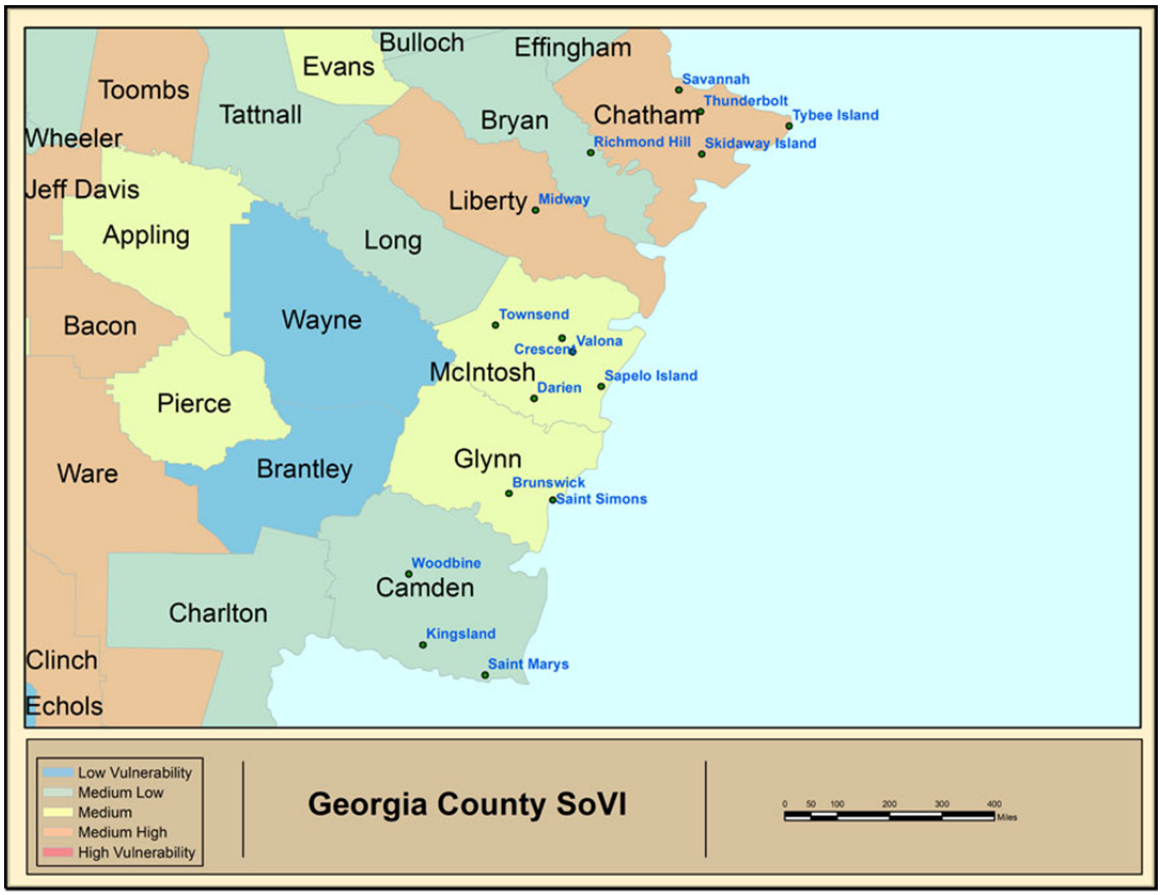

Figure 3-9. The Social Vulnerability Index applied to Georgia Coastal Counties.

There were two counties in Georgia with medium high vulnerability and those were Liberty and Chatham (**Figure 3-9**). 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 3-15**). Many Georgia fishermen target shrimp or hold state commercial fishing permits.

Table 3-15. 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 3-16**).

Table 3-16. 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 3-17**). 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 3-18**) 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 3-17. 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 3-18. 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.

3.4.9 Florida

Figure 3-10. The Social Vulnerability Index applied to South Atlantic Florida Counties.

A good portion of Florida's east coast (**Figure 3-10**) 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 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 2011c).

Florida has the largest number of commercial permits in the region (**Tables 3-19** and **3-20**). 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 3-19. 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 3-20. 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 3-21**).

Table 3-21. 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 Beach	7	3	1	6	1	**18**
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 3-22**), but there are at least 20 permits in all counties.

Table 3-22. 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).

3.5 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 3-23**; 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 3-23. 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**
	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.

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.

3.6 Administrative Environment

3.6.1 The Fishery Management Process and Applicable Laws

Federal fishery management is conducted under the authority of the 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 the National Marine 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 the National Marine 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.

3.6.1.2 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.

The National Marine Fisheries Service's 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.

3.6.1.3 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. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

Alternative 1 (No Action). The Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module is currently the required methodology. Until these standards are 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 standards are 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 exclusive economic zone (EEZ), if selected, shall use observer coverage, logbooks, electronic logbooks, video monitoring, or any other method deemed necessary to measure bycatch by the National Marine Fisheries Service (NMFS).

Note: **Alternative 1** was adopted for the snapper grouper fishery through Amendment 15B to the Snapper Grouper FMP. The Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and Other Required Provisions in Fishery Management Plans for the South Atlantic Region (SAFMC 1998) amended the Snapper Grouper FMP, the Coastal Migratory Pelagic Resources FMP, and the Golden Crab FMP to include bycatch reporting requirements consistent with those specified in the ACCSP. Action 6 in the Dolphin and Wahoo FMP included reporting requirements as specified in the ACCSP.

Alternative 2. Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

Alternative 3. Implement aspects of the Atlantic Coastal Cooperative Statistics Program (ACCSP) that are not currently being done.

Table 4-1 illustrates the current data collection programs and their relation to the standards of the ACCSP.

IPT Recommendation for the **Alternative 2** and **Alternative 3**:

Alternative 2. Require that commercial vessels with: a Commercial Atlantic Dolphin Wahoo Permit, a Spanish Mackerel Commercial Permit, King Mackerel Commercial Permit and a King Mackerel Commercial Gillnet Permit; for-hire vessels with a Charter/Headboat Permit for Dolphin/Wahoo, Charter/Headboat Permit for Coastal Migratory Pelagics (CMP); and private recreational vessels if fishing for dolphin/wahoo or CMP 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 the National Marine Fisheries Service (NMFS).

Alternative 3: Implement mandatory observer coverage as described by the ACCSP standards.

Sub-alternative 3a. Snapper-Grouper

Sub-alternative 3b. Coastal Migratory Pelagics

Sub-alternative 3c. Dolphin Wahoo

Sub-alternative 3d. Golden Crab

What's currently in place to monitor bycatch and discard reporting?

Bycatch and discard reporting is currently being done through a variety of different means for the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries (see Section 4 for a complete description). ACCSP standards, which are further described in **Appendix H**, include:

- Quantitative standards for commercial fisheries
  - including 2-5% observer coverage
  - mandatory self-reporting systems
- Quantitative recreational reporting
  - through recreational intercept surveys
  - observer data to collect recreational data, where possible
  - mandatory reporting of marine mammal interactions in Category I or II fisheries
  - minimum ACCSP data elements included on data reporting forms
  - training programs for at-sea samplers
  - pilot studies for new data collection programs
  - and training and outreach programs on bycatch

With the exception of observer coverage, the ACCSP standards have been met for the snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries.

Table 4-1. Current bycatch and discard data collection methods and their relation to the ACCSP standards.

ACCSP Standards	Current Reporting Requirements	Level of Coverage
Quantitative Standards for Commercial Fishing		
Observer Program (2-5% coverage) *"Targeted at-sea sampling programs ("observer") and collection of bycatch data through established fisherman self-reporting systems comprise the primary methods used to quantify bycatch."* The ACCSP standard for observer coverage is 5% of total trips for high priority fisheries; and 2% of total trips for all other fisheries. Data should be collected at the haul level for commercial fisheries.	**Snapper-Grouper:** Current regulations require observers, if selected. **Golden Crab:** Current regulations require observers, if selected. There is no developed observer program for golden crab. **Dolphin Wahoo:** There is no requirement to carry observers. **Coastal Migratory Pelagics:** There is no requirement to carry observers.	**Snapper-Grouper:** As part of a pilot program, less than 1% of the commercial snapper grouper vessels were selected for coverage each year during 2007-2010. **Golden Crab:** 0% coverage **Dolphin Wahoo:** 0% coverage **Coastal Migratory Pelagics:** Some portion of Spanish mackerel gillnet and king mackerel gillnet covered by shark observers and state gillnet observers (i.e. North Carolina).
Mandatory Fishermen Self-Reporting Systems Collection of self-reported data through established systems are important sources of supplemental data.	**Snapper-Grouper:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and protected species. Currently being collected for 41% of the fishery. *Commercial Logbook:* Collects information on catch. **Dolphin Wahoo:** *Commercial Supplemental Discard Logbook:* Collects bycatch data on discards and	**Snapper-Grouper:** Discard Logbook designed to sample 20% of vessels, currently getting reports from 41% of snapper grouper fishery. **Dolphin Wahoo:** Discard Logbook

	protected species. *Commercial Logbook:* Collects information on catch. **Coastal Migratory Pelagics:** *Commercial Supplemental Discard Logbook*: Collects bycatch data on discards and protected species. *Commercial Logbook*: Collects information on catch. **Golden Crab:** *Golden Crab Trip Report*: Mandatory trip reporting that includes discarded species.	samples 20% of vessels. **Coastal Migratory Pelagics:** Discard Logbook samples 20% of vessels. **Golden Crab:** Discards a component of logbooks that all fishermen complete.
Qualitative Standards for Commercial Fishing		
Port Interviewing	**Snapper-Grouper:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Dolphin Wahoo:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Coastal Migratory Pelagics:** Port Sampler Program collects information on catch, life history information and collection of otoliths. **Golden Crab:** Port Sampler Program collects information on catch, life history information and collection of otoliths.	About 300 trips sampled in the South Atlantic each year through the ACCSP Trip Interview Program (TIP). (See Chapter 4 for a description of the TIP program.)
Entanglement/Stranding Reports NMFS stranding and entanglement networks serve as the ACCSP	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS Southeast Fisheries Science Center (SEFSC) is the base for the Southeast United States Marine Mammal Stranding Program	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the

standard for stranding and entanglement data for sea turtles and marine mammals.	(http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	SEFSC.
Quantitative Standards for For-Hire Fishing *"for quantitative bycatch data for for-hire fisheries include existing charter boat angler intercept surveys and an at-sea sampling program for headboats, which may be supplemented with intercept sampling."*		
At-Sea Samplers Data should be collected at the drop level (each time gear is wet) for for-hire fisheries.	**Snapper-Grouper:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Dolphin Wahoo:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Coastal Migratory Pelagics:** Headboats are required to carry observers, if selected. There is no observer program for charter vessels. **Golden Crab:** There is no for hire sector.	The SEFSC indicates that observers are placed on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire sector for golden crab.
Intercept Surveys	**Snapper Grouper:** NMFS Headboat Survey; MRIP Charter Program **Dolphin Wahoo:** NMFS Headboat Survey; MRIP Charter Program **Coastal Migratory Pelagics:** NMFS Headboat Survey; MRIP Charter Program **Golden Crab:** Not applicable/No recreational or for-hire fishery.	The SEFSC indicates that NMFS Headboat Survey port agents sample about 17% of the headboat trips in North Carolina, 5% in South Carolina and 8% from Georgia to Florida. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fisheries. There is no for hire

		sector for golden crab.
Qualitative Standards for For-Hire Fishing		
Call-In Reports	Call in numbers have been set up for fishermen to report stranding and protected species interactions as well as fishery enforcement violations.	1-800-WHALE-HELP to report dead, injured or entangled marine mammals. Sea turtle hotline is set-up to report stranding or entangled sea turtles. Enforcement hotline (1-800-853-1964) to report enforcement violations.
Entanglement Stranding Reports NMFS stranding and entanglement networks serve as the ACCSP standard for stranding and entanglement data for sea turtles and marine mammals.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region for both sea turtles and marine mammals. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Add Ons	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd. Video Monitoring Pilot Project (2011); Mandatory Electronic Reporting Amendment (in prep, 2013)	Pilot projects further described in Chapter 4.
Quantitative Standards for Private Recreational Fishing		
Recreational intercept surveys	**Snapper-Grouper:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards	The number of discards are estimated through phone interviews and dockside intercepts. Level of

	Dolphin Wahoo: *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Coastal Migratory Pelagics:** *Marine Recreational Information Program (MRIP):* Estimates of the number of recreational discards **Golden Crab:** There is no recreational golden crab fishery.	coverage likely varies each year. Data for 2012 are not complete.
Recreational Observer Program, where possible Data should be collected at the drop level (each time gear is wet) for recreational boat mode fisheries.	**Snapper-Grouper:** None for private recreational; Headboat Observer program **Dolphin Wahoo:** None for private recreational; Headboat Observer program **Coastal Migratory Pelagics:** None for private recreational; Headboat Observer program **Golden Crab:** There is no recreational golden crab fishery.	N/A
Verification of angler reports, where possible	**Snapper-Grouper:** Dockside Interviews done by MRIP, charter and private **Dolphin Wahoo:** Dockside Interviews done by MRIP, charter and private **Coastal Migratory Pelagics:** Dockside Interviews done by MRIP, charter and private **Golden Crab:** There is no recreational golden crab fishery.	Dockside interviews are conducted to verify angler reports. Data for 2012 are not complete.

Qualitative Data Collection (Data collected from opportunistic sources)		
Marine Mammal Authorization Program: Collection of Marine Mammal Authorization Program (MMAP) reports from Category I and II commercial fisheries. The Marine Mammal Protection Act (MMPA) requires Category I and II fisheries to report any injuries or mortalities that occur incidental to their fishing operations. Reports must be made within 48 hours of the end of a fishing trip.	**Snapper-Grouper:** Most of the fishery is Category III. The black sea bass pot component of the South Atlantic snapper grouper fishery is part of the Atlantic mixed species trap/pot fishery, a Category II fishery, in the 2012 List of Fisheries (76 FR 73912 November 29, 2011); although there has never been a documented interaction between marine mammals and black sea bass trap/pot gear in the South Atlantic. **Dolphin Wahoo:** Not applicable because fishery is Category III under the MMPA. **Coastal Migratory Pelagics:** Category II (Spanish Mackerel and king mackerel gillnet) so must report these interactions by law. **Golden Crab:** Not applicable because fishery is Category III under the MMPA.	
Stranding/entanglement data from commercial, for-hire, and recreational fisheries Data should include assessment of human interaction; physical contact between marine species and fishing gear; vessel/boat strikes; and other human-related causes.	For all fisheries in the South Atlantic: Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). This information is included in fishery management decisions through consultation with the Office of Protected Resources.	About 650-700 strandings are responded to each year in the South Atlantic. Data are reported to the SEFSC.
Port Interviews to verify voluntary data collected in commercial fisheries	Life history information (weight, length, otoliths) are considered voluntary data. These data are collected by port samplers by agreement with the fishermen.	

Other ACCSP Elements			
Training and Outreach Progams should be developed to improve reporting accuracy by fishermen, when needed.	The NMFS Southeast Regional Office issues public announcements, Southeast Fishery Bulletins, or News Releases on different topics, including use of turtle exclusion devices, bycatch reduction devices, use of methods and devices to minimize harm to turtles and sawfish, information intended to reduce harm and interactions with marine mammals, and other methods to reduce bycatch for the convenience of constituents in the southern United States.		
ACCSP data elements on reporting forms	Based on the information in the ACCSP guidance document, it is expected that the reporting forms contain adequate information. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.		
Training programs for At-Sea samplers	Observers go through a rigorous training program as described by the National Observer Program. It is expected the training is sufficient based on the ACCSP standards. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.		
Pilot Studies for new data collection programs	Gulf and South Atlantic Fisheries Foundation Observer Pilot Project (2008) and (2010); North Carolina Sea Grant, Archipelago Marine Research Ltd Video Monitoring Pilot Project (2011); Headboat Pilot Study; Charterboat Pilot Study; MRIP Pilot Studies; Mandatory Electronic Reporting Amendment (in prep, 2013)		

Background

The ACCSP is a cooperative state-federal program to design, implement and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system throughout the Atlantic. The ACCSP includes five modules: Catch and Effort; Biological; Bycatch; Social and Economic; and Metadata. The bycatch module contains both quantitative and qualitative components. The following material describes the standards in more detail, see Table 4-1 for a summary of the standards and how they are being met in the fisheries that pertain to this amendment. The full report is included as **Appendix H**.

BYCATCH, RELEASES, AND PROTECTED SPECIES INTERACTIONS DATA

The ACCSP Bycatch, Releases, and Protected Species Interactions (hereafter called "bycatch") monitoring program includes sampling of all fishing sectors for living marine resources in estuarine, inshore, and offshore waters. Data should be collected on all U.S. fishing vessels leaving from and landing at Atlantic coast ports, as well as from shore based fishing operations. Reporting of protected species interactions and managed species data currently are the highest priorities under the bycatch monitoring program of the ACCSP.

A. STANDARDS

The bycatch standards of the ACCSP include both quantitative and qualitative components. Targeted at-sea sampling programs ("observer") and collection of bycatch data through established fisherman self-reporting systems comprise the primary methods used to quantify bycatch. Sea turtle and marine mammal entanglement and stranding networks, beach bird surveys, and add-ons to existing recreational and for-hire intercept and telephone surveys are the primary sources of qualitative information for bycatch. In addition to providing some additional information on bycatch, qualitative data functions to verify anecdotal accounts and to better direct quantitative methods.

The ACCSP recognizes that new modes of data collection are evolving. Technologies such as electronic monitoring systems are in development or in use for commercial, recreational, and for-hire fisheries on the Atlantic coast. Hence, standards contained herein have the flexibility to expand and incorporate any unique features associated with these technologies. "The use of quantitative data for bycatch estimation is preferred. However, qualitative data may be used to supplement quantitative information or to provide information on fisheries where more reliable sources of data are unavailable (potentially identifying them as areas to focus future data collection efforts)."

Listed below are the main elements of the bycatch module that would apply to the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries. These elements (in italics) are taken verbatim from the ACCSP Data Collection Standards for 2012 (**Appendix H**).

ACCSP standards include:

Quantitative standards for commercial fisheries:

- including 2-5% observer coverage
- mandatory self-reporting systems

Quantitative recreational reporting:

- recreational intercept surveys
- observer data to collect recreational data, where possible
- mandatory reporting of marine mammal interactions in Category I or II fisheries
- minimum ACCSP data elements included on data reporting forms
- training programs for at-sea samplers

• pilot studies for new data collection programs
• training and outreach programs on bycatch

Commercial

- Quantitative data standards for commercial fisheries include NOAA Fisheries Service observer programs, cooperating state programs, and mandatory commercial fisher self-reporting systems.
- The ACCSP standards for commercial fisheries observer coverage is 5% of total trips (or achieving a 20 to 30% PSE) for high priority fisheries. The standard is 2% of total trips for all other fisheries.

Recreational

- Partners should collect quantitative data on the bycatch of finfish species as reported by interviewed fishermen through existing recreational intercept surveys.
- The collection of information on protected species bycatch, the implementation of observer programs to monitor catch and bycatch, and the verification of angler reports may also be performed where possible.
- The ACCSP standards for quantitative bycatch data for for-hire fisheries include existing charter boat angler intercept surveys and an at-sea sampling program for headboats, which may be supplemented with intercept sampling. Observer programs to monitor catch and bycatch and to verify angler reports are also recommended where possible.

Protected species

- Under MMPA (http://www.nmfs.noaa.gov/pr/pdfs/laws/mmpa.pdf), commercial fishermen participating in Category I or II fisheries are required to report any injuries or mortalities that occurs incidental to their fishing operations. Under these regulations incidental injury or mortality to a marine mammal during commercial fishing activities (including for-hire fisheries) must be reported within 48 hours of the end of a fishing trip. For shore based fisheries within 48 hours of occurrence.
- Bycatch of endangered and/or threatened species is prohibited by law pursuant to the ESA. However, exemption can be granted to specific fisheries via an incidental take permit. There is no specific reporting requirement in the ESA itself for commercial fishermen but the section 7 consultation process can lead to mandatory reporting requirements for fisheries granted and incidental take permit.

Other

- NOAA Fisheries Service - National Observer Program and cooperating state programs should incorporate all of the minimum data elements of the ACCSP into their bycatch reporting forms.
- Partners should conduct approved training programs for all new at-sea samplers and provide certification.

- Pilot surveys should be conducted for each fishery to determine the appropriate level of observer coverage required to meet relevant management objectives for commercial fisheries.
- Partners should develop outreach and training programs to improve reporting accuracy by fishermen when needed.

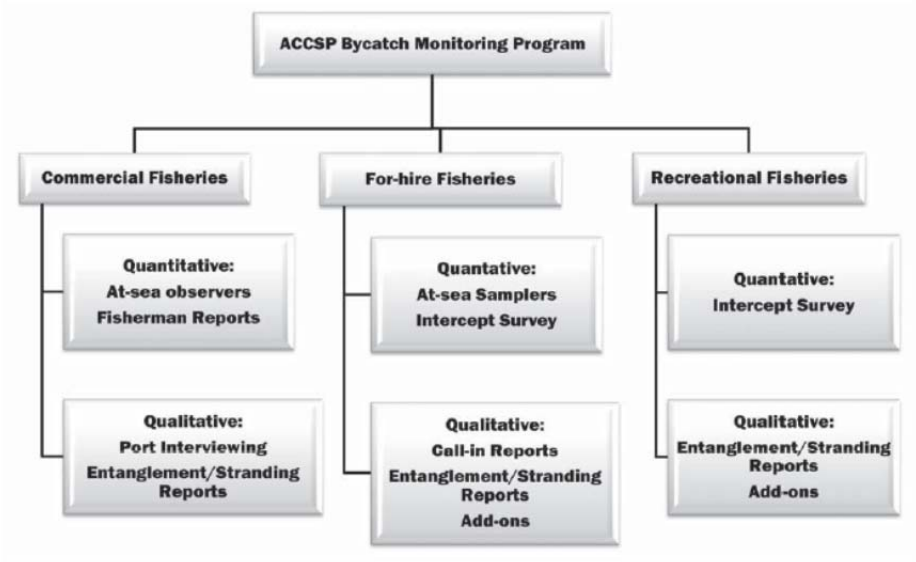

Figure 4-1. The ACCSP bycatch data collection methods for commercial, recreational, and for-hire fisheries.

4.1.1 Biological Effects

<u>Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) Requirements for collection of bycatch data</u>

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) states that Fishery Management Plans shall: Establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority—(A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided; assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish.

With regard to bycatch reporting National Standard 9 at § 600.350 states:

(1) Promote development of a database on bycatch and bycatch mortality in the fishery to the extent practicable. A review and, where necessary, improvement of data collection methods, data sources, and applications of data must be initiated for each fishery to determine the amount, type, disposition, and other characteristics of bycatch and bycatch mortality in each fishery for purposes of this standard and of section 303(a)(11) and (12) of the Magnuson-Stevens Act.

Bycatch Data Currently Being Collected Under No Action Alternative 1

In accordance with the Magnuson-Stevens Act, a standardized reporting methodology is in place to collect targeted and non-targeted information in the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries. Bycatch and discard reporting is currently being done through a variety of different means for the snapper grouper, coastal migratory pelagic, dolphin/wahoo, and golden crab fisheries.

Alternative 1 (No Action) describes the measures approved in in Snapper Grouper Amendment 15B, which was approved and implemented by the Secretary of Commerce with regulations effective in late 2009 and early 2010. Amendment 15B allows for the implementation of interim programs to monitor and assess bycatch in the South Atlantic snapper grouper fishery until all the standards of the ACCSP Release, Discard and Protected Species (Bycatch) Module can be fully funded. Based on a review of the current data collection methods and the ACCSP standards, the only standard that is not being met is the adoption of a commercial observer program for the snapper grouper, coastal migratory pelagics, dophin wahoo, and golden crab fisheries. However, the snapper grouper and golden crab vessels are required to carry an observer, if selected.

Bycatch Collection Methods In Place for Snapper Grouper, Coastal Migratory Pelagics, Dolphin/Wahoo, and Golden Crab Fisheries With Respect to ACCSP Bycatch Standards

Standard – Quantitative commercial bycatch data collection

Quantitative commercial bycatch data collection from self-reporting systems

ACCSP Standard: Commercial bycatch data collection from self-reporting systems

Commercial Logbook Program

The collection of commercial bycatch data from self-reporting systems for Snapper Grouper, Coastal Migratory Pelagics, Dolphin Wahoo, and Golden Crab meets ACCSP standards. Bycatch data on protected species are currently collected in the commercial snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries through the supplementary discard form (**Appendix L**).

In 1990, the Southeast Fisheries Science Center (SEFSC) initiated a logbook program for vessels with federal permits in the snapper grouper fishery from the Gulf of Mexico and South Atlantic. In 1999, logbook reporting was initiated for vessels catching king and Spanish mackerel (Gulf of Mexico and South Atlantic Fishery Management Councils). The Dolphin and Wahoo FMP required logbook reporting by fishermen with Commercial Atlantic Dolphin/Wahoo Permits.

In 2001, a separate bycatch reporting logbook was added to include numbers on the average size of discarded fish by species.

In November 1995, a voluntary logbook program for the golden crab fishery was initiated by NMFS. This Golden Crab Trip Report Logbook program became mandatory when regulations for the golden crab fishery management plan went into effect on October 28, 1996. Regulations require that all fishers that have been issued a federal vessel permit for the golden crab fishery in the South Atlantic region must complete and submit a logbook form for each fishing trip on which golden crabs are caught. All reporting must be done on log forms that are provided by the SEFSC and must be returned to the SEFSC for data processing. A component of this logbook is reporting of discarded species.

Supplemental Discard Logbook

The discard data are collected using a supplemental logbook form that is designed to be sent to a 20% stratified random sample of the active permit holders in fisheries for snapper grouper, coastal migratory pelagics, and dolphin wahoo. 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 permit holders in these fisheries will have been required to report in one of the five years. At the South Atlantic Council meeting in September 2012, the SEFSC estimated coverage of the discard logbook at about 41% for the snapper-grouper fishery. Estimates of total discards for the fishery are made by calculating a species-specific mean discard rate for the vessels reporting discards and applying that rate to the calculated total effort reported by the fishery to the coastal logbook program. In addition to reporting discards, information is collected on protected species interactions through the discard logbook (**Appendix L**).

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.

Cooperative Research Projects:

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. 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.

ACCSP Standard: At-sea sampling programs (observer programs):

The collection of observer data from snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries does not meet ACCSP standards. Currently, snapper grouper and golden crab fishermen are required to carry observers if selected. There is no observer coverage for the coastal migratory pelagics, dolphin wahoo, and golden crab fisheries. There are no requirements for fishermen with Coastal Migratory Pelagic or Dolphin Wahoo Federal Permits to carry observers.

SEFSC provides training for observers; the training manual can be found at: (http://galveston.ssp.nmfs.gov/research/fisherymanagement/OBS_TRAINING_MANUAL_6_2012.pdf). Currently, most of the observer programs in the South Atlantic Region are operating in the Gulf of Mexico.

Table 4-2 describes the observer programs for fisheries managed in the Southeast Regional Office and the Highly Migratory Species Division.

Table 4-2. Observer program and coverage level for the Southeast Region

Observer Program	Coverage	Note
Gulf Shrimp Trawl	About 2%	Operates in the Gulf of Mexico; no relation to CE-BA 3
South Atlantic Shrimp Trawl	About 1%	Shrimp trawl fishery; no relation to CE-BA 3
Gulf reef fish	About 6%	Operates in the Gulf of Mexico; no relation to CE-BA 3
Shark bottom longline	3-8%	Mandated by HMS Division, operated by the SEFSC Panama.

Shark and coastal gillnet	About 11%	Category I Fishery: Mandated by HMS; operated through the SEFSC
Pelagic Longline	About 12%	Mandated by the HMS Division, operated by the SEFSC
South Atlantic Bandit	Probably <1%	Through cooperative research pilot projects
Headboat (South Atlantic)	2% (FL and SC), 9% NC	Operated by the SEFSC

There has been a small amount of observer coverage (< 1%), though the observer pilot projects for the snapper grouper fishery. 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. (Foundation) has done observer work on commercial snapper grouper in the South Atlantic. During 2006-2008, a total of 200 sea days were observed with 1,698 sets on board 24 different vessels from North Carolina, South Carolina, Georgia and Florida's east coast (Foundation 2008). During 2008-2010, 12 trips totaling 96 sea days and 966 sampled sets were observed on 10 different vessels from North Carolina, South Carolina, Georgia and northern Florida (Foundation 2010). In the spring 2010, Archipelago Marine Research Ltd. worked with North Carolina Sea Grant and several South Atlantic Unlimited Snapper Grouper Permit holders to test the effectiveness of electronic video monitoring to measure catch and bycatch. A total of 93 trips were monitored with video monitoring, 34 by self-reported fishing logbooks, and 5 by observers. Comparisons between electronic video monitoring data and observer data showed that video monitoring was a reliable source of catch and bycatch data (Batty et al. 2011).

The U.S. National Bycatch Report (NMFS 2011) has reviewed programs currently in place in the Southeast Region as well as through the United States and has made recommendations for improvement. For the snapper grouper bottom longline sector, the U.S. National Bycatch Report recommended that improvements in discard estimates from this sector should be a high priority. The Report recommends the development of an observer program, and data from the discard reporting program and existing observer programs (e.g., the shark bottom longline observer program) should be used to estimate the sample size needed to achieve a 30% confidence interval for estimates of the ten most commonly observed species. The Report recommended changes to the logbook system to identify target species by set but indicated it may not be a feasible recommendation. A video monitoring pilot study was also recommended in conjunction with the observer program to determine whether electronic data can be used as a tool to enhance data collected by observers.

For snapper grouper hook and line gear, the U.S. National Bycatch Report (NMFS 2011) recommended an observer program be developed. As mentioned previously, there has been some observer coverage in the snapper grouper fishery through cooperative research projects.

Currently, regulations specify that snapper grouper fishermen must carry observers if selected. The report indicated improvements in discard estimates from this hook and line sector should be a high priority. The Report stated that data from the discard reporting program, as well as from other observer programs in the region should be used to estimate the sample size needed to achieve a 30% confidence interval for estimates of the ten most commonly observed species. The report indicated a video monitoring pilot study could be conducted in conjunction with an observer program to determine whether electronic data can be used as a tool to enhance data collected by observers. As mentioned previously, such a pilot program has recently been completed (Batty et al. 2011), and has indicated that video monitoring can provide a reliable sources of catch and bycatch data. It was recommended that once an enhanced observer program has been in place for multiple years, self-reported discard logbooks could be compared with observer data to attempt to define an optimal combination for estimating total discards and for monitoring catch rates. Furthermore, the report recommended changes to the logbook system to identify target species by set but indicated it may not be a feasible recommendation.

The U.S. National Bycatch Report (NMFS 2011) states that available data indicate little bycatch may be associated with coastal migratory pelagic and dolphin wahoo fisheries; however, it was recommended that a pilot observer program should be organized to confirm this. It was recommended that observers collect target species information so that data from individual fisheries (e.g., Atlantic coastal migratory pelagic troll versus Atlantic dolphin/wahoo troll) can be identified for use in analyses as necessary. Another recommendation was to use data from the current discard reporting program and other existing observer programs to estimate the sample size needed to achieve a 30% CV for estimates of the ten most common bycatch species. Furthermore, it was recommended that the observer program should include data-collection logs for marine mammals and other protected species bycatch. In addition, the report recommended changes to the logbook system to identify target species by set but indicated it may not be a feasible recommendation.

ACCSP Qualitative standards for commercial fishing:

ACCSP Standard--Port Interviewing

Estimates of the age distribution of fish in the population and how the distribution has changed over time is critical information for the assessment of the population. To estimate the age distribution, the Southeast Fisheries Science Center has developed the Trip Interview Program (TIP) which collects information from commercial fisheries. Like the other statistics gathering programs, this one is also a joint or cooperative effort with the state fishery agencies in the Southeast Region.

The Trip Interview Program provides:

- size frequency data
- age at length data
- catch per unit effort data

- information on the composition of the species being caught and landed

The collection of data for this program is conducted by port samplers located in coastal areas in the South Atlantic and Gulf of Mexico. These field biologists visit docks and fish houses to interview the fishermen and take length and weight samples from their catch. For some trips, the port samplers are at the location when the fish are being unloaded and can measure and weigh individual fish as they are being unloaded. At other times, the fish have already been unloaded and the port sampler is given permission to measure and weigh a sample of the catch from the storage containers at the fish houses.

The port sampler also tries to collect data on the fishing trip. In addition to the length and weight data, they may collect information about:

- fishing area
- type of gear
- quantity of gear
- fishing time, etc.

The port samplers also take hard part and tissue samples for some of the fish they measure. These samples are sent to one of two Southeast Fisheries Science Center laboratories for biologists to analyze and determine the age of the fish. The age, along with the length of the fish, are used to determine the age-at-length for a sample of the fish population.

This data is then used to estimate the age distribution for the entire population or stock of the species.

The TIP program does not collect information on bycatch specifically but does collect information on species that may be non-target species, but commercially saleable. The TIP program collects information on commercial fisheries only.

The TIP is a major component of the Atlantic Coastal Cooperative Statistics Program (ACCSP) in the southeastern U.S. Atlantic coastal region and the Fisheries Information Network (FIN) in the U.S. Gulf of Mexico coastal region. It also collects data from Puerto Rico and the U.S. Virgin Islands.

Table 4-3 shows the number of trips sampled by fishery using the average of the past five years (2007-2011). These values include trips sampled by both Federal and state port samplers.

Table 4-3. Number of trips sampled through the TIP program (2007-2011)

Fishery	**Trips Sampled**
Snapper-Grouper	1236
Coastal Migratory Pelagics	511
Dolphin Wahoo	72

Currently, there are six Federal samplers in the South Atlantic; mainly covering Florida and North Carolina. There are no Federal samplers in Georgia or South Carolina. The TIP program works with State partners in Florida, Georgia, and South Carolina. North Carolina does do biosampling but is not a partner in the TIP program.

In Florida, there are 10 port samplers that work both the Gulf of Mexico and the South Atlantic. These samples and interviews were from various ports around the State including St. Petersbirg, Charlotte Harbor, Marathon, Cedar Key, Tequesta, Indian River, Jacksonville, Pensacola and Apalachicola. In Florida, samplers arrive at the fish houses based on IFQ emails (in the Gulf) and in the Atlantic they chose a direction from the lab and sample fish houses in that direction. The samplers arrive at the fish house and set up to sample fish. Equipment used is a length board (1 to 1.5 meter boards), a scale, and otolith removal tools (knives, chisels, and tweezers). Fish are sampled randomly whenever possible. They are weighed, measured, and the left otolith is removed and placed in a coin envelope. The coin envelopes have the fish species, length, weight, and the sample ID number from TIP that is unique to the year and sampler. The data are then entered into TIP and the otoliths are sent to St. Petersburg to distribute the otoliths to the appropriate labs (St. Pete, Panama City, and Beaufort).

In Georgia, there is a core of three state port samplers who spend less than 10% of their collective time visiting dealers and collecting data for the TIP program. They sample at least 10% of commercial snapper grouper trips, about 12-18 per year. The TIP program does not have Federal samplers in Georgia.

South Carolina Department of Natural Resources has two port agents that focus their efforts to the snapper/grouper and migratory pelagic species being commercially landed in South Carolina. During peaks in sampling others may assist. Table 4-4 indentifies the number of commercial vessel intercepts in 2011 and 2012.

Table 4-4. Commercial vessel intercepts in South Carolina as part of the TIP program, 2011-2012.

Year	Commercial Vessel Intercepts	Obtained Lengths	Obtained Age Structures
2011	206	4,969	4,632
2012	217	4,465	4,323

Data collected from the TIP program is used by the SEFSC for aging analysis, age frequencies and compositions, lengths frequencies and compositions, weight length conversions, age at recruitment studies.

ACCSP Standard: Marine Mammal Entanglement Reports

The Marine Mammal Health and Stranding Response Program coordinates a network of responders in all coastal states to respond to marine mammal strandings. Through a National Coordinator and 6 regional coordinators, NMFS oversees, coordinates, and authorizes these activities and provides training to personnel.

On average there are between 650-700 marine mammal strandings/year in the Southeast U.S. Those authorized under the MMPA to respond to strandings include non-governmental agencies, universities and aquariums. Those responding to a stranding event are required to complete a form describing the event. The data are stored at the SEFSC.

ACCSP Quantitative Standards for For-Hire Fishing:

ACCSP Standard: Existing charter boat angler intercept surveys

Marine Recreational Information Program (MRIP)

The collection of recreational bycatch data meets ACCSP bycatch standards. Estimates of the number of recreational discards are available from Marine Recreational Fisheries Statistical Survey (MRFSS), the new Marine Recreational Information Program (MRIP), which has replaced MRFSS, and the NMFS headboat survey. The MRFSS/MRIP system classifies recreational catch into three categories: Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers; and Type B - Fishes that were caught but were either not kept or not available for identification. Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2. Type B2 - Fishes that were caught and released alive. Some pilot studies have collected information on protected species but these data are not routinely collected through the MRFSS/MRIP survey.

The MRIP will estimate the number of recreational discards based on its intercepts. There is no recreational fishery for golden crab so these estimates do not apply.

ACCSP Standard: At-sea sampling program for headboats, which may be supplemented with intercept sampling.

Headboat Observer Program

Observers in the NMFS Headboat survey collect information about numbers and total weight of individual species caught, total number of passengers, total number of anglers, location fished (identified to a 10 mile by 10 mile grid), trip duration (half, ¾, full or multiday trip), species caught, and numbers of released fish with their disposition (dead or alive). The headboat survey does not collect information on encounters with protected species.

Recreational snapper-grouper fishermen do not participate in Category I or II fisheries; therefore, reporting interactions with marine mammals is not required, and these interactions are not expected to occur.

At the September 2012 South Atlantic Council meeting, the SEFSC indicates that observers are place on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina (http://www.safmc.net/LinkClick.aspx?fileticket=XGaVZzxLePY%3d&tabid=745). The ACCSP standards indicate observers should be placed on headboats, where possible.

NMFS Headboat Survey

The SEFSC indicates that NMFS Headboat Survey port agents, sample about 17% of the headboat trips in North Carolina, 5% in South Carolina and 8% from Georgia to Florida. This applies to the snapper-grouper, dolphin wahoo and coastal migratory pelagic fishery. There is no for hire sector for golden crab.

Qualitative Standards for For-Hire Fishing

ACCSP Standard: Call-in Reports

Call in numbers have been set up for fishermen to report stranding and protected species interactions as well as fishery enforcement violations; to report dead, injured or entangled marine mammals and to report stranded or entangled sea turtles. There is also an enforcement hotline (1-800-853-1964) to report enforcement violations.

ACCSP Standard: Marine Mammal Stranding Reports:

The Marine Mammal Health and Stranding Response Program coordinates a network of responders in all coastal states to respond to marine mammal strandings. Through a National Coordinator and 6 regional coordinators, NMFS oversees, coordinates, and authorizes these activities and provides training to personnel.

On average there are 642 marine mammal strandings/year in the Southeast U.S. Those authorized under the MMPA to respond to strandings include non-governmental agencies, universities and aquariums. Those responding to a stranding event are required to complete a form describing the event. The data are stored at the SEFSC.

ACCSP Standard: Additional bycatch and discard reporting programs

There has been a small amount of observer coverage (< 1%), though the observer pilot projects. for the snapper grouper fishery. 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. (Foundation) has done observer work on commercial snapper grouper in the South Atlantic. During 2006-2008, a total of 200 sea days were observed with 1,698 sets on board 24 different vessels from North Carolina, South Carolina, Georgia and Florida's east coast (Foundation 2008). During 2008-2010, 12 trips totaling 96 sea days and 966 sampled sets were observed on 10 different vessels from North Carolina, South Carolina, Georgia and northern Florida (Foundation 2010). In the spring 2010, Archipelago Marine Research Ltd. worked with North Carolina Sea Grant and several South Atlantic Unlimited Snapper Grouper Permit holders to test the effectiveness of electronic video monitoring to measure catch and bycatch. A total of 93 trips were monitored with video monitoring, 34 by self-reported fishing logbooks, and 5 by observers. Comparisons between electronic video monitoring data and observer data showed that video monitoring was a reliable source of catch and bycatch data (Batty et al. 2011).

Quantitative Standards for Private Recreational Fishing

ACCSP Standard: Quantitative data on bycatch of finfish taken through recreational intercept surveys

The collection of recreational bycatch data meets ACCSP bycatch standards. Estimates of the number of recreational discards are available from Marine Recreational Fisheries Statistical Survey (MRFSS), the new Marine Recreational Information Program (MRIP), which has replaced MRFSS, and the NMFS headboat survey. The MRFSS/MRIP system classifies recreational catch into three categories: Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers; and Type B - Fishes that were caught but were either not kept or not available for identification. Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2. Type B2 - Fishes that were caught and released alive. Some pilot studies have collected information on protected species but these data are not routinely collected through the MRFSS/MRIP survey.

The MRIP will estimate the number of recreational discards based on its intercepts. There is no recreational fishery for golden crab so these estimates do not apply.

ACCSP Standard: Recreational Observer Program:

There is no observer program for private recreational vessels in the snapper grouper, coastal migratory pelagic, dolphin wahoo fisheries. There is no recreational component of the golden crab fishery. There is a Headboat Observer Program which is described above.

ACCSP Standard: Verification of angler reports, if possible:

The collection of recreational bycatch data meets ACCSP bycatch standards. Estimates of the number of recreational discards are available from Marine Recreational Fisheries Statistical Survey (MRFSS), the new Marine Recreational Information Program (MRIP), which has

replaced MRFSS, and the NMFS headboat survey. The MRFSS/MRIP system classifies recreational catch into three categories: Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers; and Type B - Fishes that were caught but were either not kept or not available for identification. Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2. Type B2 - Fishes that were caught and released alive. Some pilot studies have collected information on protected species but these data are not routinely collected through the MRFSS/MRIP survey.

The MRIP will estimate the number of recreational discards based on its intercepts. There is no recreational fishery for golden crab so these estimates do not apply.

Qualitative Data Collection (Data collected from opportunistic sources)

ACCSP standard: Collection of Marine Mammal Authorization Program (MMAP) reports from Category I and II commercial fisheries

The goals of the Marine Mammal Authorization Program (MMAP) are to inform commercial fishermen they are participating in a List of Fisheries Category I or II Fishery; register and exempt Category I and II fishermen from Marine Mammal Protection Act prohibitions against incidental take of marine mammals; ensure affected fishermen carry an MMAP Authorization Certificate on board; inform affected fishermen they may need to carry a NMFS observer when requested; increase fishermen self-reporting of incidental take of marine mammals; More information can be found at www.nmfs.noaa.gov/pr/interactions/mmap.

Each year, fishermen within a Category I or Category II fishery are notified that they are operating in a fishery that is under the Marine Mammal Authorization program and they must meet the requirements of the program. In the South Atlantic, Category I fisheries include the Mid-Atlantic Gillnet fishery, which operates off North Carolina and extends northward. The South Atlantic gillnet and the North Atlantic inshore gillnet fisheries are listed as Category II. There are other Category I and Category II fisheries in the Southeast region that do not pertain to the scope of this amendment. The black sea bass pot component of the South Atlantic snapper grouper fishery is part of the Atlantic mixed species trap/pot fishery, a Category II fishery, in the 2012 List of Fisheries (76 FR 73912 November 29, 2011); although there has never been a documented interaction between marine mammals and black sea bass trap/pot gear in the South Atlantic. The Spanish mackerel gillnet sector is part of the Southeast Atlantic Gillnet in the 2012 List of Fisheries. The commercial hook-and-line components of the South Atlantic snapper-grouper (i.e., bottom longline, bandit gear, and handline), coastal migratory pelagics, dolphin wahoo, and golden crab fisheries are listed as part of a Category III fishery (76 FR 73912 November 29, 2011) because there have been no documented interactions between these gear types and marine mammals.

Under the Marine Mammal Authorization Program commercial fishermen in Category I and II fisheries **are** required by law to be registered in the Marine Mammal Authorization Program

(MMAP); carry on an MMAP Authorization Certificate when fishing; and be prepared to carry a NMFS observer when requested.

Under the Marine Mammal Authorization Program commercial fishermen in Category I and II fisheries are required by law to be registered in the Marine Mammal Authorization Program (MMAP); carry on an MMAP Authorization Certificate when fishing; and be prepared to carry a NMFS observer when requested.

Under the Marine Mammal Authorization Program, commercial fishermen in Category I, II and III Fisheries are required by law to self-report incidental take that results in marine mammal serious injury or death. Compliance with this privision of the program is difficult to enforce and forms are received very rarely however strandings information indicate fishing gear interactions between marine mammals the effected fisheries have occurred.

All fishermen in Category I, II and III Fisheries are recommended to learn more about how to avoid interactions with marine mammals when fishing

Under the Marine Mammal Protection Act, all Category I or II fishery participants (those with a frequent or occasional level of take) must carry an observer on fishing trips when requested to do so by NMFS or by a designated contractor providing observer services to NMFS, and meet the United States Coast Guard safety requirements. NMFS may also request that Category III fishing participants (those with rare or unknown takes of marine mammals) carry an observer on a voluntary basis. The following is a description of observer program authorized by the Marine Mammal Authorization Program that relate to the fisheries discussed in this amendment.

North Atlantic Gillnet Observer Program (Marine Mammal Observer Program)

This fishery includes any fishing effort using any type of gillnet gear, including set (float and sink), drift and runaround gillnet. Target species include but are not limited to Southern flounder, weakfish, bluefish, Atlantic croaker, striped mullet, spotted seatrout, Spanish mackerel, striped bass, spot, red drum, black drum, and shad. This fishery includes any gillnet effort for any target species inshore of the COLREGS demarcation lines in North Carolina. COLREGS demarcation lines delineate those waters upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea and those waters upon which mariners shall comply with the Inland Navigation Rules. Observer coverage for this fishery is up to 10% in some cases and provided by the North Carolina Division of Marine Fisheries, primarily during the fall flounder fishery in Pamlico Sound.

Southeast Atlantic Gillnet Fishery

This fishery uses gillnets set in sink, stab, set, or strike fashion to target finfish including, but not limited to: king mackerel, Spanish mackerel, whiting, bluefish, pompano, spot, croaker, little tunny, bonita, jack crevalle, cobia, and striped mullet.

This fishery operates in waters south of a line extending due east from the North Carolina/South Carolina border and south and east of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico. The majority of fishing effort occurs in Federal waters because South Carolina, Georgia, and Florida prohibit the use of gillnets, with limited exceptions, in state waters. This fishery does not include gillnet effort targeting sharks, which are a target species of the "Southeastern U.S. Atlantic shark gillnet fishery."

The Shark Gillnet Observer Program Observer Program is mandated under the Atlantic Highly Migratory Species Fisheries Management Plan (FMP), the Atlantic Large Whale Take Reduction Plan (ALWTRP) (50 CFR Part 229.32), and the Biological Opinion under Section 7 of the Endangered Species Act. Observers are deployed on any active fishing vessel reporting shark drift gillnet effort. In 2005, this program also began to observe sink gillnet fishing for sharks along the southeastern U.S. coast. The observed fleet includes vessels with an active directed shark permit and fish with sink gillnet gear. Between 2001 and 2005, an annual average of 74 drift sets, 40 strike sets, and 241 sink sets targeting sharks were reported and/or observed. The number of drift sets has been declining steadily while the number of strike sets has been increasing. During 2006, there were 8 drift sets, 40 strike sets, and 301 sink sets targeting sharks reported or observed. However, there is direct evidence of under-reporting as some observed sets were not reported to the FLS system, and the total effort remains highly uncertain. In 2007, a total of 85 drift net sets were observed with 4 of those targeting sharks and the remainder Spanish mackerel. A total of 112 sink net sets were observed, with 60 of those targeting sharks and the remainder targeting various fish species. No strike sets were observed in 2007.

Fishing for king mackerel, Spanish mackerel, cobia, cero, and little tunny in Federal waters is managed under the Coastal Migratory Pelagic Resources FMP. None of the other target species are Federally managed under the Magnuson-Stevens Fishery Conservation and Management Act. In state waters, state and Atlantic States Marine Fisheries Commission Interstate FMPs apply. The fishery is also subject to BDTRP and ALWTRP implementing regulations (because of the potential for interactions with North Atlantic right whales in the Southeast U.S. Restricted Area).

ACCSP Standard: Sea turtle and marine mammal entanglement and stranding networks,

Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (http://sero.nmfs.noaa.gov/pr/strandings.htm). NMFS authorizes organizations and volunteers under the MMPA to respond to marine mammal strandings throughout the United States. These organizations form the stranding network whose participants are trained to respond to, and collect samples from live and dead marine mammals that strand along southeastern United State beaches. The SEFSC is responsible for: coordinating stranding events; monitoring stranding rates; monitoring human caused mortalities; maintaining a stranding database for the southeast region; and conducting investigations to determine the cause of unusual stranding events including mass strandings and mass mortalities (http://www.sefsc.noaa.gov/species/mammals/strandings.htm). On average, the Southeast United States Stranding Team responds to between 650-700 reported strandings each year.

ACCSP Standard: Training and Outreach

The Southeast Regional Office and the SEFSC participate in a wide range of training and outreach activities to communicate bycatch related issues. The NMFS Southeast Regional Office issues public announcements, Southeast Fishery Bulletins, or News Releases on different topics, including use of turtle exclusion devices, bycatch reduction devices, use of methods and devices to minimize harm to turtles and sawfish, information intended to reduce harm and interactions with marine mammals, and other methods to reduce bycatch for the convenience of constituents in the southern United States. These are mailed out to various organizations, government entities, commercial interests and recreational groups. This information is also included in newsletters and publications that are produced by NMFS and the various regional fishery management councils. Announcements and news released are also available on the internet and broadcasted over NOAA weather radio.

The Protected Resources Division in the Southeast Region is responsible for the conservation, management, and protection of marine mammals and endangered and threatened species occurring in waters of the southeastern United States, Puerto Rico, and the U.S. Virgin Islands. This includes species of sea turtles, corals, and marine mammals under the jurisdiction of the NMFS, as well as shortnose and Gulf sturgeon, and smalltooth sawfish**.** The Southeast Region Protected Resources Division participates in numerous outreach activities including maintaining a web site (http://sero.nmfs.noaa.gov/). The Division visits schools, fishing clubs, fishing associations, marinas, trade shows, fish houses, etc. and disseminates information by means of brochures, videos, placards, electronic presentations, public service announcements, newspapers, industry magazines, and newsletters on protected resources. These sources include information on the MMPA, protected species, best fishing practices, ghost fishery gear, interaction with marine mammals, turtles, and industry specific information.

The Protected Resources Division sponsors outreach and education for right whales (http://sero.nmfs.noaa.gov/pr/OutreachandEducation.htm), and provides to familiarize individuals with laws and regulations regarding marine mammals, supply contact information and protocol for responding to a mammal stranding, and encourage the best fishing practices to minimize contact with marine mammals and sea turtles.

The NMFS Southeast Region, State/Federal Liaison Office is responsible for facilitating the conservation, development and management of marine and estuarine resources in the U.S. Territorial Sea and the EEZ through competitive and noncompetitive grants and cooperative financial assistance programs. Announcements regarding funding opportunities are mailed out to interested parties including various organizations, government entities, commercial fishermen, and recreational groups/fishermen. Information is also available on the internet (http://sero.nmfs.noaa.gov/operations_management_information_services/state_federal_liaison_branch/index.html) and is provided in newsletters disseminated by NMFS and the regional fishery management councils.

The State/Federal Liaison Office encourages and sponsors research between scientists at academic and government institutions and the fishing industry. Information obtained from funding provided by the Southeast Region has become an essential component of information that is used to manage fishery resources and decrease bycatch in the southeastern United States. Results from studies funded by the State/Federal Liason Office are provided to regional fishery management councils, and the fishing industry in the form of reports, presentations, and brochures. Some studies have been advocated by different groups and further disseminated to the public.

ACCSP Standard: Data elements on reporting forms

Based on the information in the ACCSP guidance document, it is expected that the reporting forms contain adequate information. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.

ACCSP Standard: Training programs for at sea samplers

Observers go through a rigorous training program as described by the National Observer Program. It is expected the training is sufficient based on the ACCSP standards. However, data reporting forms would need to be reviewed to determine if the data format is consistent with what the ACCSP requests.

ACCSP Pilot studies for new data collection programs

There has been a small amount of observer coverage (< 1%), though the observer pilot projects. for the snapper grouper fishery. 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. (Foundation) has done observer work on commercial snapper grouper in the South Atlantic. During 2006-2008, a total of 200 sea days were observed with 1,698 sets on board 24 different vessels from North Carolina, South Carolina, Georgia and Florida's east coast (Foundation 2008). During 2008-2010, 12 trips totaling 96 sea days and 966 sampled sets were observed on 10 different vessels from North Carolina, South Carolina, Georgia and northern Florida (Foundation 2010). In the spring 2010, Archipelago Marine Research Ltd. worked with North Carolina Sea Grant and several South Atlantic Unlimited Snapper Grouper Permit holders to test the effectiveness of electronic video monitoring to measure catch and bycatch. A total of 93 trips were monitored with video monitoring, 34 by self-reported fishing logbooks, and 5 by observers. Comparisons between electronic video monitoring data and observer data showed that video monitoring was a reliable source of catch and bycatch data (Batty et al. 2011).

<u>Alternatives 2 and 3</u>

In contrast to **Alternative 1**, which would implement ACCSP Release, Discard and Protected Species bycatch standards when funds become available, **Alternative 2** would implement any ACCSP bycatch standards that were not in place under **Action 1 (No Action)** as the preferred methodology for assessing and monitoring bycatch in the snapper grouper fishery in the South Atlantic. An examination of the bycatch data collection methodologies currently in place under **Action 1 (No Action)** reveals that the only bycatch methodology that does not meet the 2012 ACCSP bycatch standards (**Appendix H**) is a commercial observer program for the snapper grouper, coastal migratory pelagics, dolphin wahoo, and golden crab fisheries. Currently the snapper grouper and golden crab vessels are required to carry an observer, if selected but there is no observer program implemented.

If funds are available, 2-5% observer coverage in fisheries for snapper grouper, coastal migratory pelagics, dolphin/wahoo, and golden crab under **Alternative 2** would be expected to have greater biological effects than **Alternative 1 (No Action)** as it provides for collection of a greater amount of bycatch information than the status quo. However, if funds were not available then **Alternative 2** could have similar biological effects as **Alternative 1 (No Action)** if current data collection programs remain in place or negative biological effects if the standards of the ACCSP bycatch could not be fully implemented and there was a decrease in the amount of information collected. Further, negative biological effects could be expected if required funding for an enhanced observed program had to be shifted from various existing sources such as fishery-independent sampling, fishery-dependent sampling, or stock assessments.

Alternative 2 would likely benefit Endangered Species Act (ESA)-listed species. The collection of additional protected species bycatch data would augment the existing data available for evaluating the extent and magnitude of interactions between these species and the fishery. If these data represented new information regarding the impacts of the fishery on protected species, consultation under the ESA could be re-initiated to evaluate these data and potential impacts.

Alternative 1 (No Action) and **Alternative 2** would continue the current situation whereby only 20% of commercial snapper grouper, coastal migratory pelagic, and dolphin wahoo vessels complete discard logbooks, and all golden crab vessels report discards via logbook.

Alternative 3 would allow data to be collected using any means so long as the resulting data meet or exceed the ACCSP standards. This could include items such as increasing the percentage of commercial fishermen who report discard, reporting of protected species by recreational fishermen, observer coverage in the charter sector, or an increase in the level of observer coverage that the ACCSP reccomends. The indirect biological benefits would be greater than those under **Alternative 2** if the data exceed ACCSP standards and equal to the indirect biological benefits if the data meet ACCSP standards.

Modifying bycatch and discard reporting requirements for recreational and commercial vessels is an administrative process for providing a means of collecting data from the industry but does not directly affect the biological environment. There would be positive indirect biological effects associated with improving bycatch reporting. Better bycatch and discard data 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 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.

4.1.2 Economic Effects

When funding is available, **Alternative 1 (No Action)** would implement the ACCSP bycatch module. In contrast to **Alternative 1 (No Action)**, **Alternative 2** would immediately implement the ACCSP bycatch module, which would improve bycatch reporting if funding were available and have positive economic effects as a result of more accurate tracking of ACLs.

The alternatives under **Action 1** are not expected to have significant, negative economic impacts to the fishermen unless the methods selected to implement bycatch and discard reporting resulted in something other than minimal time commitments. Until the ACCSP standards are implemented, it is impossible to know the potential impact to individual fishermen or overall.

Fully implementing the ACCSP standards would have direct management benefits that could have indirect economic benefits to fishermen. The management benefits would largely be in terms of having more data that would more accurately describe bycatch. This would lead to more accurate stock management. Better bycatch data would result in indirect benefits to fishermen by having a stock that could be managed more precisely. Not having accurate bycatch data prevents fishery managers from having complete data on stock removals that have to beestimated by means other than direct reporting.

The economic impacts of **Alternatives 1 (No Action)** and **2** are functionally equivalent. The implementation of either alternative would achieve the same objectives. **Alternative 2** attempts to make implementing the ACCSP bycatch module a higher priority.

4.1.3 Social Effects

Effective monitoring and assessment of bycatch in fisheries is important biologically but also has some implications for social effects. If current practices do not adequately capture the true magnitude of bycatch, the quality of stock assessments may suffer and produce inadequate management, stock collapse or delayed recovery. This could result in reduced or foregone economic benefits with potential adverse impacts on fishermen, associated industries, and fishing communities. Additionally, adequate monitoring and reduction of bycatch is both a legal obligation and a significant focal point of interest and concern to the fishing fleet and the general public. While there are reporting requirements and standards currently in place under **Alternative 1**, the complete implementation of ACCSP standards under **Alternatives 2** and **3** would be expected to increase social benefits discussed.

There may be some negative impacts on the fleets as a result of any increase in monitoring. Increased observer coverage may result in observers on vessels that have not had any observers on board, and some captains and crew may feel uncomfortable or that they are being unfairly monitored by the federal government (similar to concerns about vessel monitoring system requirements). However, **Alternatives 2** and **3** are expected to overall improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions.

4.1.4 Administrative Effects

Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows. Currently the agency and its partners are involved in many data collection activities that meet the ACCSP standards (**Table 4-1**). **Alternative 2** could increase the administrative impacts relative to **Alternative 1 (No Action)** as it would require an observer program be implemented for the commercial sector of the snapper grouper, dolphin wahoo, coastal migratory pelagic and golden crab fisheries. Based on the description of the no action alternative (**Table 4-1**), the only ACCSP standard not being met is the implementation of a commercial observer program at a 2-5% coverage level. Currently, snapper grouper and golden crab vessels are required to carry an observer, if selected. Dolphin wahoo and coastal migratory pelagics fisheries do not have the same requirement. An observer program could have a significant administrative burden on the agency, associated with the structure of the program, training and debriefing observers, education and outreach to fishermen, data analysis, and costs.

Table 4-6 shows an agency funded observer program at a 2% and 5% level is estimated to cost between 900,000-1.5 million and 2.2 million- 3.9 million, respectively. This value is based on observer cost estimates of between $850-$1,500 dollars per observer day. These daily observer costs of $1,500 per day include but are not limited to: travel, safety gear, sampling gear, satellite phones, observer coordination, data entry, program administration, facility costs associated with the observer program. It is unknown what is covered in the $850 per day cost.

Table 4-5. Average number of trips, number of days at sea, and number of days/trip during 2007-2011. Source: SEFSC Commercial Logbook Data 1-13-12, and Golden Crab Logbook Data August 2012.

Fishery	Avg # Trips	Avg # Days Away	Avg Days/Trip
Snapper-Grouper	13,994	23,607	1.69
Dolphin-Wahoo	2,598	5,820	2.24
Coastal Migratory Pelagics	18,373	21,688	1.18
Golden Crab	174	610	3.50*

* Golden crab logbooks do not provide estimates of day at sea. An average of 3.5 days is assumed from discussions with golden crab fishermen.

Table 4-6. Cost of implementing commercial observer program according to ACCSP bycatch standards. Estimated cost per observer day is $850 (Frank Helies Gulf and South Atlantic Fisheries Foundation) and $1,500 (Elizabeth Scott-Dentin SEFSC).

Fishery	Coverage	Trips	Days	Cost @ $850/Day	Cost @ $1,150/Day
Snapper Grouper	2%	280	472	$401,316	$708,204
	5%	700	1,180	$1,003,289	$1,770,510
Dolphin-Wahoo	2%	52	116	$98,947	$174,612
	5%	130	291	$247,367	$436,530
Coastal Migratory Pelagics	2%	367	434	$368,696	$650,640
	5%	919	1,084	$921,740	$1,626,600
Golden Crab	2%	3	12	$10,365	$18,291
	5%	9	30	$25,912	$45,728
Total Four Fisheries	2%	703	1,034	$879,323	$1,551,747
	5%	1,757	2,586	$2,198,308	$3,879,368

Not only would the cost of the observer program be burdensome to the agency, it would require coordination with partners including the U.S. Coast Guard, law enforcement, and contracts with observer providers which may further increase the administrative burden. Under **Alternative 3**, the agency would have the ability to develop bycatch and discard reporting methodologies that meet or exceed the ACCSP standards. Examples could be an observer program with larger coverage, more pilot projects or other projects. The administrative impacts of **Alternative 3** would be greater than those of **Alternative 2** or **Alternative 1**. However, at this point, it is difficult to determine the exact administrative impacts of **Alternative 3** on fishery participants or the agency because it is unclear which bycatch reporting methods would be selected.

An observer program would likely have significant impacts on the fishery participants as well. Other observer programs in the region have a specified list of requirements on what the vessel owner must do once placed with an observer. These requirements were developed by the National Observer Program and follow:

Requirements for Carrying Observers on Commercial Vessels:

Under the Marine Mammal Authorization Program, fishermen and fishing industry representatives are notified whenever possible to provide advance notification to a fishery that observer coverage will be required. Fishermen may be selected for observer coverage either by letter, phone, or direct request by NMFS personnel, designated contractors, or by observers themselves.

If a vessel is selected to carry an observer, the captain of the vessel must:

- Ensure the observer has access to all areas of the vessel.

- Ensure the observer has access to communications equipment and navigation equipment, when available on the vessel.

- Provide the observer with vessel locations by latitude and longitude, accurate to the minute or by loran coordinates.

- Allow for the sampling, retention, and storage of marine mammal specimens and other protected species specimens, or target and non-target catch specimens, if adequate facilities are available and if feasible.

- Notify the observer in a timely fashion when all commercial fishing operations are to begin and end.

- Provide accommodations and food to the observer equivalent to those provided to the crew.

- Allow for the embarking and disembarking of the observer: ensuring that transfers of observers at sea are accomplished in a safe manner, via small boat or raft, during daylight hours as weather and sea conditions allow, and with the agreement of the observer(s) involved.

- Complying with other guidelines or regulations that NMFS may develop to ensure the effective deployment and use of observers.

Once selected to carry an observer, the vessel must meet the U.S. Coast Guard safety requirements, which require:

- The owner or operator of the vessel to comply with the U.S. Coast Guard safety requirements while at sea.

- The owner or operator of the vessel to obtain a Commercial Fishery Vessel Safety Examination Decal by successfully completing a USCG safety examination. Safety decals are valid for two years. Safety examination are completed dockside at no cost by calling the U.S. Coast Guard Marine Safety Office Dockside Examiners.

- The owner or operator of the vessel must allow an observer, NMFS personnel, or designated observer service provider to visually inspect any safety or accommodation requirement if requested (50 CFR § 600.746(c)(2)).

Vessels that do not have a current and valid safety decal are considered unsafe for purposes of carrying an observer. Vessels that are required and selected to carry an observer, but do not have the safety decal, are prohibited from fishing without observer coverage (50 CFR § 600.746(f)).

Chapter 5. Reasoning for Council's Choice of Preferred Alternatives

The South Atlantic Fishery Management Council (South Atlantic Council) approved the Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) for public scoping during the December 2012 South Atlantic Council meeting. During the March 2012 meeting, the South Atlantic Council received an overview of input from the public scoping meetings for CE-BA 3; the South Atlantic Council provided guidance to further develop a range of alternatives to bring back to the June 2012 meeting. The data collection actions in CE-BA 3 were approved for public hearings during their June 2012 meeting. At the September 2012 meeting, the Council further clarified that the data collection actions do not pertain to spiny lobster and shrimp species under management because bycatch for these two species has already been studied; the annual catch limit (ACL) for spiny lobster is tracked using the Florida trip ticket system; and there is no current ACL for shrimp species. During the December 2012 meeting, the South Atlantic Council removed data actions from CE-BA 3 pertaining to reporting for charter/headboat vessels and data reporting for commercial vessels, and the requirement for commercial snapper grouper vessels to be equipped with Vessel Monitoring Systems. These measures are being developed through different amendments. Modifications to bycatch and discard reporting remains the only action in CE-BA 3.

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting

During the June 2012 meeting, the South Atlantic Council noted their interest in moving forward with implementing improvements in collection of bycatch data and standardizing how this information is collected across all fisheries under management. The South Atlantic Council discussed funding limitations that prevent all the standards from the Atlantic Coastal Cooperative Statistics Program (ACCSP) from being fully operational. ACCSP standards include: quantitative standards for commercial fisheries including 2-5% observer coverage and mandatory self-reporting systems; quantitative recreational reporting through recreational intercept surveys; observer data to collect recreational data, where possible; mandatory reporting of marine mammal interactions in Category I or II fisheries; minimum ACCSP data elements included on data reporting forms; training programs for at-sea samplers; pilot studies for new data collection programs; and training and outreach programs on bycatch (**Appendix H**). With the exception of observer coverage for commercial fisheries, the ACCSP standards have been met for the snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries.

The South Atlantic Council has not specified a preferred alternative for this Action.

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 Fishery Management Council's (South Atlantic Council) area of jurisdiction. Impacts associated with Coastal Migratory Pelagic species would extend from New York to Florida, and those associated with dolphin and wahoo would extend from Maine to Florida. 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

Amendment 13C to the Snapper Grouper FMP (SAFMC 2006) became effective October 23, 2006. The amendment addresses overfishing for snowy grouper, golden tilefish, black sea bass, and vermilion snapper. The amendment also allows for a moderate increase in the harvest of red porgy as stocks continue to rebuild.

Amendment 14 to the Snapper Grouper FMP Atlantic Region (SAFMC 2007) was implemented on February 12, 2009. Implementing regulations for Amendment 14 established eight Type 2 Marine Protected Areas (MPAs) within which, all fishing for snapper grouper species is prohibited, as is the use of shark bottom longline gear. Within the MPAs, trolling for pelagic species is permitted. The MPAs range in area from 50 to 506 square nautical miles and are located off of North Carolina, South Carolina, Georgia and Florida. The MPAs are expected to enhance the optimum size, age, and genetic structure of slow-growing, long-lived, deepwater snapper grouper species. A Type 2 MPA is an area within which fishing for or retention of snapper grouper species is prohibited but other types of legal fishing, such as trolling, are allowed. The prohibition on possession does not apply to a person aboard a vessel that is in transit with fishing gear appropriately stowed. MPAs are being used as a management tool to promote the optimum size, age, and genetic structure of slow growing, long-lived deepwater snapper grouper species (speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish).

The final rule for Amendment 16 to the Snapper Grouper FMP (SAFMC 2009a), which was partially approved by the Secretary of Commerce, published on June 29, 2009. Amendment 16 includes provisions to extend the shallow water grouper spawning season closure, create a five month seasonal closure for vermilion snapper, require the use of dehooking gear if needed, reduce the aggregate bag limit from five to three grouper, and reduce the bag limit for black grouper and gag to one gag or black grouper combined within the aggregate bag limit. The expected effects of these measures include significant reductions in landings and overall mortality of several shallow water snapper grouper species including, gag, black grouper, red grouper, and vermilion snapper.

On September 1, 2009, Amendment 15B to the Snapper Grouper FMP (SAFMC 2008b) was approved by the Secretary. Management measures in Amendment 15B included prohibition of the sale of bag limit caught snapper grouper species for fishermen not holding a Federal commercial permit for South Atlantic snapper grouper, an action to adopt, when implemented,

the Atlantic Coastal Cooperative Statistics Program release, discard and protected species module to assess and monitor bycatch, allocations for snowy grouper, and management reference points for golden tilefish.

Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1; SAFMC 2010c), implemented in July, 2010 consists of regulatory actions that focus on deepwater coral ecosystem conservation and non-regulatory actions that update existing essential fish habitat (EFH) information. Management actions in CE-BA 1 include the establishment of deepwater Coral HAPCs (CHAPCs) to protect what is currently thought to be the largest contiguous distribution (>23,000 square miles) of pristine deepwater coral ecosystems in the world. Actions in the amendment prohibit the use of bottom damaging fishing gear and allow for the creation of allowable fishing zones within the CHAPCs in the historical fishing grounds of the golden crab and deepwater shrimp fisheries. CE-BA 1 also provides spatial information on designated EFH in the SAFMC Habitat Plan (SAFMC 1998c).

The final rule for Amendment 17B to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 2010b) was published on December 30, 2010, and includes annual catch limits (ACLs) and accountability measures (AMs) for species experiencing overfishing as well as a harvest prohibition for six snapper grouper species seaward of 240 ft .

The final rule for Amendment 17A to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 2010a) was published on December 3, 2010, extending the prohibition of red snapper in federal waters throughout the South Atlantic exclusive economic zone**.** Amendment 17A addresses management measures to end overfishing of red snapper and rebuild the stock, including ACLs and AMs. Amendment 17A also includes a regulation requiring the use of non-stainless circle hooks north of 28 degrees N. latitude.

The South Atlantic Council voted to approve Regulatory Amendment 10 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 10; SAFMC 2011a) during its December 2010 meeting for submission to the Secretary of Commerce, with the preferred management alternative to eliminate the large area closure established through Amendment 17A for all snapper grouper species off the coasts of southern Georgia and north/central Florida. The regulatory amendment modified measures implemented in Amendment 17A to end overfishing for red snapper. The amendment was based on updated stock assessment information for red snapper (SEDAR 24) and was approved by the Secretary of Commerce in April 2011. The Final Rule was effective on May 31, 2011.

Regulatory Amendment 9 to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 9; SAFMC 2011b) was approved by the Council in March 2011 and the Final Rule published June 15, 2011. The amendment, as approved by the Secretary of Commerce, reduced the bag limit for black sea bass from 15 fish per person to 5 fish per person (effective June 22, 2011), established trip limits on vermilion snapper and gag (effective July 15, 2011), and increased the trip limit for greater amberjack (effective July 15, 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. The

amendment implemented regulations to remove the deepwater closure beyond 240 ft for six deepwater snapper grouper species that was approved in Amendment 17B. The final rule published in the *Federal Register* on May 12, 2012, and became effective on the same day.

Amendment 18A to the Snapper Grouper FMP (Amendment 18A; SAFMC 2011f) contains measures to limit participation and effort for black sea bass. Amendment 18A established an endorsement program than enables snapper grouper fishermen with a certain catch history to harvest black sea bass with pots. In addition Amendment 18A includes measures to reduce bycatch in the black sea bass pot fishery, modify the rebuilding strategy, and other necessary changes to management of black sea bass as a result of a 2011 stock assessment. The South Atlantic Council approved Amendment 18A in December 2011. The amendment was partially approved and the final rule published in the *Federal Register* on June 1, 2012, and became effective on July 1, 2012.

Amendment 24 to the Snapper Grouper FMP (Amendment 24; SAFMC 2011d) implemented a rebuilding plan for red grouper, which is overfished and undergoing overfishing. The South Atlantic Council approved Amendment 24 in December 2011. The final rule published in the *Federal Register* on June 11, 2012, and became effective on July 11, 2012.

Amendment 20A to the Snapper Grouper FMP (Amendment 20A; SAFMC 2011g) distributes shares from inactive participants in the wreckfish individual transferable quota to active shareholders. The South Atlantic Council approved Amendment 20A in December 2011. The final rule for Amendment 20A published in the *Federal Register* on September 26, 2012, and become effective on October 26, 2012.

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. Regulatory Amendment 12 was approved for submission to the Secretary of Commerce by the South Atlantic Council at their March 2012 meeting. The Final Rule published in the *Federal Register* on October 9, 2012 and was effective upon publication.

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) designation of ecosystem component species; (3) allocations; (4) management measures to limit recreational and commercial sectors to their ACLs; (5) AMs; and (6) any necessary modifications to the range of regulations. The South Atlantic Council approved the Comprehensive ACL Amendment in September 2011. The final rule published in the *Federal Register* on March 16, 2012, and became effective on April 16, 2012.

Approved in 2003, the FMP for *Sargassum* Pelagic Habitat of the South Atlantic Region (SAFMC 2002) protects *Sargassum*, a free-floating seaweed, from extensive commercial harvest. *Sargassum* provides habitat to a wide variety of marine organisms including

invertebrates, fish, sea turtles and marine birds. The approved plan includes strong limitations on future commercial harvest. Restrictions include prohibition of harvest south of the North Carolina/South Carolina state boundary, a total allowable catch of 5,000 lbs wet weight per year, limiting harvest to November through June to protect turtles, requiring observers onboard any vessel harvesting *Sargassum*, prohibiting harvest within 100 miles of shore, and gear specifications. An ACL for *Sargassum* was implemented through the Comprehensive ACL Amendment.

Approved in 2004, the Dolphin and Wahoo FMP (SAFMC 2003a) established historical allocations for dolphin and wahoo between the commercial and recreational sectors. Recognizing the significant importance of the dolphin wahoo fishery to the recreational fishing community in the Atlantic, the goal of the plan is to maintain the current harvest levels of dolphin and ensure that no new fisheries develop.

Approved in 1996, the Golden Crab FMP (SAFMC 1995) was developed cooperatively with fishermen to create a sustainable fishery through the establishment of a limited entry system, fishing zones, and protective measures for the crabs. Amendment 3 to the FMP (SAFMC 2000b) extended the authorization to use wire cable for mainlines attached to golden crab traps to December, 31, 2002; modified escape panel sizes for traps; addressed permit renewal requirements including removal of the 5,000 pound harvest requirement for renewing biannual permits and addressed the minimum harvest requirement for permit holders in the Southern Zone; allowed up to a 20% increase in vessel size from the vessel size of the original permit; created a sub-zone within the Southern Zone with specified conditions; allowed two new vessels to be permitted to fish only in the Northern Zone using an earlier list of those wanting to enter the fishery; specified status determination criteria; and modified the FMP framework to allow modifications to the sub-zone.

Amendment 18 to the Coastal Migratory Pelagics FMP (SAFMC 2011) established ACLs and AMs for Spanish mackerel, king mackerel, and cobia. The final rule published in the *Federal Register* on December 29, 2011, and became effective on January 30, 2012.

The Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and Other Required Provisions in Fishery Management Plans for the South Atlantic Region (SAFMC 1998) amended the Snapper Grouper FMP, the Coastal Migratory Pelagic Resources FMP, and the Golden Crab FMP to include bycatch reporting requirements consistent with those specified in the ACCSP.

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 18B to the Snapper Grouper FMP was approved by the South Atlantic Council at their June 2012 meeting and considers alternatives addressing golden tilefish. Specifically, actions could establish initial eligibility requirements and address trip limits for a golden tilefish longline endorsement program, allocate golden tilefish quota among gear groups, adjust the golden tilefish fishing year, and establish an appeals process.

At their March 2012 meeting, the South Atlantic Council requested development of Regulatory Amendment 13 to the Snapper Grouper FMP to allow for adjustment of allocations and ACLs based on the new landings information from the Marine Recreational Information Program. Regulatory Amendment 13 was approved by the South Atlantic Council at their December 2012 meeting.

At their September 2012 meeting, the South Atlantic Council requested development of Regulatory Amendment 15 to the Snapper Grouper FMP to: Adjust the yellowtail snapper ABC and ACL based on results from a recent assessment and remove the provision commercial harvest of all shallow water grouper species is prohibited when the gag quota is met. The South Atlantic Council approved Regulatory Amendment 15 at their December 2012.

Amendment 28 to the Snapper Grouper FMP includes a process for specifying the ACL for red porgy each fishing year. Amendment 28 was approved for review by the Secretary of Commerce at their December 2012 meeting.

C. Reasonably Foreseeable Future

Amendment 20B to the Snapper Grouper FMP is 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 Magnuson-Stevens requirements.

At their June 2012 meeting the South Atlantic Council requested development of a regulatory amendment to adjust management measures for greater amberjack, vermilion snapper, black sea bass, gray triggerfish, vermilion snapper, hogfish, and red porgy. This amendment will be further developed in 2013.

At their June 2012 meeting the South Atlantic Council further discussed Amendment 22 to the Snapper Grouper FMP to consider measures such as a tagging program to allow harvest of red snapper as the stock rebuilds. Scoping of Amendment 22 was conducted during January and February 2011. At their September 2012 meeting, the Council stated their intent to further develop Amendment 22 in 2013 focusing on a recreational tag program for red snapper, golden tilefish, snowy grouper and wreckfish.

At their September 2012 meeting, the South Atlantic Council requested development of Regulatory Amendment 16 to the Snapper Grouper FMP to adjust management measures for golden tilefish. A scoping document will be reviewed by the South Atlantic Council in March 2013.

At their September 2012 meeting, the South Atlantic Council requested development of a Regulatory Amendment 17 to the Snapper Grouper FMP to consider marine protected areas to provide additional protection for speckled hind and warsaw grouper. This action was previously considered in CE-BA 3. The South Atlantic Council will discuss the regulatory amendment in March 2013.

Regulatory Amendment 18 to the Snapper Grouper is being developed by the South Atlantic Council to adjust ACLs for vermilion snapper and red porgy based on the results of recent stock assessment updates.

At their September 2012 meeting, the South Atlantic Council directed staff to develop Amendment 27 to the Snapper Grouper FMP to address issues related to blue runner, and extension of management into the Gulf of Mexico for Nassau grouper.

At their September 2012 meeting, the South Atlantic Council directed staff to develop an Amendment to the Dolphin and Wahoo FMP to adjust ACLs for dolphin and wahoo based on new MRIP data, and to adjust the framework process. The South Atlantic Council reviewed a scoping document their December 2012 meeting.

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.

<u>Fish populations</u>
Descriptions of fish populations affected by this amendment can be found in Section 3.2.1. Southeast Data, Assessment, and Review (SEDAR) assessments for snapper grouper and coastal migratory pelagic species is available on the Web at http://www.sefsc.noaa.gov/sedar/.

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 species in the South Atlantic, Mid-Atlantic and New England. 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	Increase yield per recruit of vermilion

Time period/dates	Cause	Observed and/or Expected Effects
	(SAFMC 1988a & b).	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
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

Time period/dates	Cause	Observed and/or Expected Effects
		(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.
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.
Effective Date July 1, 2012	Snapper Grouper FMP Amendment 18A (SAFMC 2011f)	Prevent overexploitation in the black sea bass fishery.
Effective Date April 16, 2012	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

Time period/dates	Cause	Observed and/or Expected Effects
		their ACTs.
Effective Date May 10, 2012	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
Effective Date October 26, 2012	Amendment 20A (Wreckfish) (SAFMC 2011e)	Redistribute inactive wreckfish shares.
Effective Date July 11, 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.
Effective Date October 9, 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.
Target 2013	Regulatory Amendment 13 (under development)	Adjust ACLs and allocations for unassessed snapper grouper species with MRIP recreational estimates
Target 2013	Snapper Grouper Amendment 27 (under development)	Establish the SAFMC as the managing entity for yellowtail and mutton snappers and Nassau grouper in the Southeast U.S., modify the SG framework; modify placement of blue runner in an FMU or modify management measures for blue runner
Target 2013	Snapper Grouper Amendment 28	Modify red snapper management measures, including the establishment of a process to determine future annual catch limits and fishing seasons.

Table 6-2. The cause and effect relationship of fishing and regulatory actions for dolphin and wahoo within the time period of the Cumulative Effects Analysis (CEA).

Time period/dates	Cause	Observed and/or Expected Effects
September 1996	Fishery Management Plan	Establish a management program with regulations on traps, limits on participants in fishery, establish permit system, identification of locations where gear can be fished.

Time period/dates	Cause	Observed and/or Expected Effects
June 3, 2002	Amendment 3	Modify escape panel sizes for traps, address permit renewal and minimum harvest requirements.
Effective Date April 16, 2012	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.

Table 6-3. The cause and effect relationship of fishing and regulatory actions for golden crab within the time period of the Cumulative Effects Analysis (CEA).

Time period/dates	Cause	Observed and/or Expected Effects
June 28, 2004	Fishery Management Plan	Require vessel owners to obtain commercial vessel, and charter vessel/headboat permits, require dealers to obtain permits, establish bag limits and a minimum size limit (dolphin only), and prohibit sale without a commercial vessel permit; specify allowable gear.
Effective Date April 16, 2012	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.

The cause and effect relationship of fishing and regulatory actions for coastal migratory pelagic species within the time period of the CEA

Amendment 1, with environmental impact statement (EIS), implemented in September of 1985, provided a framework procedure for pre-season adjustment of total allowable catch (TAC), revised the estimate of king mackerel maximum sustainable yield (MSY) downward, recognized separate Atlantic and Gulf migratory groups of king mackerel, and established fishing permits and bag limits for king mackerel. Commercial allocations among gear users, except purse seines, which were allowed 6% of the commercial allocation of TAC, were eliminated. The Gulf commercial allocation for kingmackerel was divided into Eastern and Western Zones for the purpose of regional allocation, with 69% of the remaining allocation provided to the Eastern Zone and 31% to the Western Zone. Amendment 1 also established minimum size limits for Spanish mackerel at 12 in fork length (FL) or 14 in total length (TL), and for cobia at 33 in FL or 37 in TL.

Amendment 2, with environmental assessment (EA), implemented in July of 1987, revised MSY for Spanish mackerel downward, recognized two migratory groups, established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and bag limits. Charterboat permits were established, and it was clarified that TAC must be set below the upper

range of ABC. The use of purse seines on overfished stocks was prohibited, and their allocation of TAC was redistributed under the 69%/31% split.

Amendment 3, with EA, was partially approved in August 1989, revised, resubmitted, and approved in April 1990. It prohibited drift gillnets for coastal pelagic species and purse seines for the overfished migratory groups of mackerels.

Amendment 4, with EA, implemented in October 1989, reallocated Atlantic migratory group Spanish mackerel equally between recreational and commercial fishermen.

Amendment 5, with EA, implemented in August 1990, made the following changes in the management regime: Extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction; revised problems in the fishery and plan objectives; revised the fishing year for Gulf Spanish mackerel from July-June to April-March; revised the definition of "overfishing"; added cobia to the annual stock assessment procedure; provided that the South Atlantic Council will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf Council will be responsible for Gulf migratory groups; continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western migratory groups can be determined; re-defined recreational bag limits as daily limits; deleted a provision specifying that bag limit catch of mackerel may be sold; provided guidelines for corporate commercial vessel permits; specified that Gulf migratory group king mackerel may be taken only by hook-and-line and run-around gillnets; imposed a bag and possession limit of two cobia per person per day; established a minimum size of 12 in FL or 14 in TL for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

Amendment 6, with EA, implemented in November of 1992, made the following changes: Identified additional problems and an objective in the fishery; provided for rebuilding overfished stocks of mackerels within specific periods; provided for biennial assessments and adjustments; provided for more seasonal adjustment actions; allowed for Gulf migratory group king mackerel stock identification and allocation when appropriate; provided for commercial Atlantic migratory group Spanish mackerel possession limits; changed commercial permit requirements to allow qualification in one of three preceding years; discontinued the reversion of the bag limit to zero when the recreational quota is filled; modified the recreational fishing year to the calendar year; and changed the minimum size limit for king mackerel to 20 in FL, and changed all size limit measures to fork length only.

Amendment 7, with EA, implemented in November 1994, equally divided the Gulf commercial allocation in the Eastern Zone at the Dade-Monroe County line in Florida. The sub-allocation for the area from Monroe County through Western Florida is equally divided between commercial hook-and-line and net gear users.

Amendment 8, with EA, implemented March 1998, made the following changes to the

management regime: Clarified ambiguity about allowable gear specifications for the Gulf migratory group king mackerel fishery by allowing only hook-and-line and run-around gillnets; however, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained; established allowable gear in the South Atlantic and Mid-Atlantic areas as well as providing for the Regional Administrator to authorize the use of experimental gear; established the Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the Gulf and South Atlantic Councils and development of separate FMPs for coastal pelagic species in these areas; established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation of October 16, 1995; increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or $10,000 from commercial sale of catch or charter or head boat fishing in one of the three previous calendar years, but allowed for a one-year grace period to qualify under permits that are transferred; legalized retention of up to five cut-off (damaged) king mackerel on vessels with commercial trip limits; set an optimum yield (OY) target at 30% static spawning potential ratio (SPR) for the Gulf and 40% static SPR for the Atlantic; provided the South Atlantic Council with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf migratory group king mackerel in the North Area of the Eastern Zone (Dade/Monroe to Volusia/Flagler County lines); established various data consideration and reporting requirements under the framework procedure; modified the seasonal framework adjustment measures and specifications (see **Appendix A**);

- Expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

Amendment 9, with EA, implemented in April 2000, made the following changes to the management regime: Reallocated the percentage of the commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retained the recreational and commercial allocations of TAC at 68% recreational and 32% commercial; subdivided the commercial hook-and-line king mackerel allocation for the Gulf migratory group, Eastern Zone, South/West Area (Florida west coast) by establishing two subzones with a dividing line between the two subzones at the Collier/Lee County line; established regional allocations for the west coast of Florida based on the two subzones with 7.5% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.5% being allocated as follows: 50% - Florida east coast, 50% - Florida west coast that is further subdivided: 50% - Net Fishery, 50% - Hook-and-Line Fishery; established a trip limit of 3,000 lb per vessel per trip for the Western Zone; established a moratorium on the issuance of commercial king mackerel gillnet endorsements and allow re-issuance of gillnet endorsements to only those vessels that: 1) had a commercial mackerel permit with a gillnet endorsement on or before the moratorium control date of October 16, 1995 (Amendment 8), and 2) had landings of king mackerel using a gillnet in one of the two fishing years, 1995-1996 or 1996-1997, as verified by the NMFS or trip tickets from Florida; allowed transfer of gillnet endorsements to immediate family members (son, daughter, father, mother, or spouse) only; and prohibited the use of gillnets or any other net gear for the harvest of Gulf migratory group king mackerel north of an east/west line at the

Collier/Lee County line; increased the minimum size limit for Gulf migratory group king mackerel from 20 in to 24 in FL; allowed the retention and sale of cut-off (damaged), legal-sized king and Spanish mackerel within established trip limits.

Amendment 10, with (Supplemental Environmental Impact Statement (SEIS), approved June 1999, incorporated essential fish habitat provisions for the South Atlantic.

Amendment 11, with SEIS, partially approved in December 1999, included proposals for mackerel in the South Atlantic Council's Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and other Provisions in FMPs of the South Atlantic Region.

Amendment 12, with EA, implemented October 2000, extended the commercial king mackerel permit moratorium from its current expiration date of October 15, 2000, to October 15, 2005, or until replaced with a license limitation, limited access, and/or individual fishing quota or individual transferable quota system, whichever occurs earlier.

Amendment 13, with SEIS, implemented August 19, 2002, established two marine reserves in the exclusive economic zone (EEZ) of the Gulf in the vicinity of the Dry Tortugas, Florida known as Tortugas North and Tortugas South in which fishing for coastal migratory pelagic species is prohibited. This action complements previous actions taken under the National Marine Sanctuaries Act.

Amendment 14, with EA, implemented July 29, 2002, established a three-year moratorium on the issuance of charter vessel and head boat Gulf migratory group king mackerel permits in the Gulf unless sooner replaced by a comprehensive effort limitation system. The control date for eligibility was established as March 29, 2001. Also includes provisions for eligibility, application, appeals, and transferability.

Amendment 15, with EA, implemented August 8, 2005, established an indefinite limited access program for the commercial king mackerel fishery in the EEZ under the jurisdiction of the Gulf, South Atlantic, and Mid-Atlantic Councils. It also changed the fishing season to March 1 through February 28/29 for the Atlantic migratory groups of king and Spanish mackerel.

Amendment 16, was not developed.

Amendment 17, with SEIS, implemented June 15, 2006, established a limited access system on for-hire reef fish and CMP permits. Permits are renewable and transferable in the same manner as currently prescribed for such permits. There will be a periodic review at least every 10 years on the effectiveness of the limited access system.

Amendment 18 with an EA, established ACLs and AMs for Spanish mackerel, king mackerel, and cobia. The final rule published in the *Federal Register* on December 29, 2011, and became effective on January 30, 2012.

9. Determine the magnitude and significance of cumulative effects.

The proposed management action, as summarized in **Section 2** of this document, would improve bycatch reporting for snapper grouper, coastal migratory pelagics, dolphin/wahoo, and golden crab. Detailed discussions of the magnitude and significance of the preferred alternative appear in **Section 4** of this document.

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

The cumulative effects on the biophysical environment are expected to be negligible. Avoidance, minimization, and mitigation are not applicable.

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 NMFS, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

6.2 Socioeconomic

Participation in and the economic performance of the fisheries addressed in this document have been affected by a combination of regulatory, biological, social, and external economic factors. Regulatory measures have obviously affected the quantity and composition of harvests of species addressed in this document, through the various size limits, seasonal restrictions, trip or bag limits, and quotas. Gear restrictions, notably fish trap and longline restrictions, have also affected snapper grouper harvests and economic performance. The limited access program implemented in 1998/1999 substantially affected the number of participants in the snapper grouper fishery. The 1996 FMP for the Golden Crab Fishery (SAFMC 1995) established a limited entry system, fishing zones, and protective measures for the crabs. Approved in 2004, the FMP for the Dolphin and Wahoo Fishery of the Atlantic (SAFMC 2003a) established historical allocations for dolphin and wahoo between the commercial and recreational sectors with the goal of maintaining harvest at levels observed in the 1990a and ensuring that no new fisheries develop. Numerous regulations have been implemented for coastal migratory pelagic species that have affected harves and economic performance including sector allocations.

Biological forces that either motivate certain regulations or simply influence the natural variability in fish stocks have likely played a role in determining the changing composition of the fisheries addressed by this document. Additional factors, such as changing career or lifestyle preferences, stagnant to declining prices due to imports, increased operating costs (gas, ice, insurance, dockage fees, etc.), and increased waterfront/coastal value leading to development pressure for other than fishery uses have impacted both the commercial and recreational fishing sectors.

Given the variety of factors that affect fisheries, persistent data issues, and the complexity of trying to identify cause-and-effect relationships, it is not possible to differentiate actual or cumulative regulatory effects from external cause-induced effects. For each regulatory action, expected effects are projected. However, these projections typically only minimally, if at all, are capable of incorporating the variety of external factors, and evaluation in hindsight is similarly incapable of isolating regulatory effects from other factors, as in, what portion of a change was due to the regulation versus due to input cost changes, random species availability variability, the sale of a fish house for condominium development, or even simply fishermen behavioral changes unrelated to the regulation.

In general, it can be stated, however, that the regulatory environment for all fisheries has become progressively more complex and burdensome, increasing, in tandem with other adverse influences, the pressure on economic losses, business failure, occupational changes, and associated adverse pressures on associated families, communities, and industries. Some reverse of this trend is possible and expected. The adoption of limited access privilege programs for the snapper grouper fishery would allow a simplified regulatory environment since trip or seasonal restrictions may no longer be needed and effort issues should be addressed by internal access-rights transfer, while rebuilding plans and the recovery of stocks would allow harvest increases.

However, certain pressures would remain, such as total effort and total harvest considerations, increasing input costs, import induced price pressure, and competition for coastal access.

A description of the human environment, including a description of the commercial and recreational snapper grouper, dolphin and wahoo, coastal migratory pelagic fishery, and golden crab (commercial only) fisheries as well as associated key fishing communities is contained in **Sections 3.3** and **3.4** and incorporated herein by reference. A description of the history of management of the fisheries addressed in this document is contained in **Appendix G** and is incorporated herein by reference.

A detailed description of the expected social and economic impacts of the actions in this document is contained elsewhere in **Section 4** and is incorporated herein by reference.

The cumulative social and economic effects of past, present, and future amendments may be described as limiting fishing opportunities in the short-term. These amendments were previously summarized in this section. However, these amendments are expected to improve prospects for sustained participation in the respective fisheries over time.

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). Most of these adverse effects are related to the administrative impacts associated with developing an observer program for the South Atlantic Fisheries. These are described in Chapter 4.

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. 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.

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 actions all pertain to the collection of data and would not have any direct impact on habitat.

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

The relationship between short-term uses and long-term productivity will not be affected by this amendment. The proposed actions relate to the frequencies and methods of data reporting. The

actions in this amendment will not have an impact on the 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…".

The action in this amendment pertain to data collection. There is no unavailable or incomplete information regarding the actions and 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, the National Marine Fisheries Service (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 Impact Statement 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 South Atlantic fisheries and is consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, 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 NMFS 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 Interdisciplinary Plan Team, South Atlantic Council Staff, and South Atlantic Council reviewed the actions proposed in this Amendment and concluded that there were no impacts on threatened or endangered species of their habitat designated as critical to their survival and recovery.

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 economically significant if it is likely to result in an annual effect on the economy of at least $100,000,000 or 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 .

The RIR is included as **Appendix D**.

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 NMFS) 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 actions in this amendment would modify the frequency and methods of data collection. None of the actions will have an impact on marine mammals.

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 NMFS. NMFS 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 document, which amends the South Atlantic Snapper Grouper FMP, Dolphin Wahoo FMP, Coastal Migratory Pelagics FMP, and Dolphin Wahoo FMP has been written and organized in a

manner that meets NEPA requirements, and thus is a consolidated NEPA document, including a final Environmental Impact Statement 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 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 NMFS to obtain approval from the OMB before requesting most types of fishery information from the public.

This amendment would require PRA approval related to the development of an observer program.

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, NMFS 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 Regulatory Flexibility Analysis is included as **Appendix C**.

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, NMFS, in implementing regulations, must make an assessment of how those regulations will affect small businesses. Economic and social impacts of the actions and alternatives are included in the analysis in **Chapter 4**.

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.

The actions and alternatives in this amendment would not modify fishing operations in a way that would result in a safety at sea issue. The actions refer to the frequency and method for the collection of self-reported data.

Chapter 9. List of Preparers

Table 9-1. List of CE-BA 3 preparers.

Name	Agency/Division	Area of Amendment Responsibility
Karla Gore	NMFS/SF	IPT Lead/Fishery Biologist
Anna Martin	SAFMC	IPT Lead/Fishery Biologist
Jack McGovern	NMFS/SF	Fishery Scientist
David Dale	NMFS/HC	EFH Specialist
Andy Herndon	NMFS/PR	Biologist
Nick Farmer	NMFS/SF	Biologist
Stephen Holiman	NMFS/SF	Economist
Kenneth Brennan	SEFSC	Fishery Scientist
Rick DeVictor	NMFS/SF	Fishery Biologist
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

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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