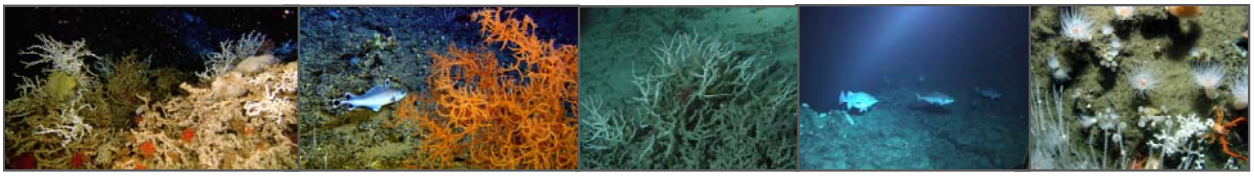
Comprehensive Ecosystem-Based Amendment 3



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 WAHOO FISHERY OF THE ATLANTIC
AMENDMENT 21 TO THE FISHERY MANAGEMENT PLAN FOR COASTAL MIGRATORY PELAGIC RESOURCES
AMENDMENT 7 TO THE FISHERY MANAGEMENT PLAN FOR THE GOLDEN CRAB FISHERY OF THE SOUTH ATLANTIC REGION

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

Fishery Impact Statement

July 2012

Definitions of Abbreviations and Acronyms Used in the Amendment

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
$\mathbf{B_{MSY}}$	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
SAMFC	South Atlantic Fishery Management Council
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SIA	social impact assessment
SPR	spawning potential ratio
SSC	Scientific and Statistical Committee

Comprehensive Ecosystem - Based Amendment 3

Amends the following South Atlantic Fishery Management Plans: Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab
with Draft Environmental Impact Statement, Initial Regulatory Flexibility Act Analysis, Regulatory Impact Review, and Fishery Impact Statement

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Proposed actions:	Improve data collection methods.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council EIS - NOAA Fisheries Service
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NOI for CE-BA 3:	May 23, 2012
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Public Hearings held:	August 6-9, 14, and 16, 2012

Abstract

Actions in Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) address improvements in data collection methods in the South Atlantic. Measures include improvements in data collection methods in commercial, for-hire, and recreational fisheries.

Actions in CE-BA 3 consider alternatives that could:

- Modify permits and data reporting for for-hire vessels
- Modify permits and data reporting for commercial vessels
- Modify bycatch and discard reporting

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

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CE-BA 3 List of Actions

Action 1. Modify Permits and Data Reporting for For-Hire Vessels

Action 2. Modify Permits and Data Reporting for Commercial Vessels

Action 3. Modify Bycatch and Discard Reporting

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SUMMARY

of
Comprehensive Ecosystem-Based Amendment 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

Why is the South Atlantic Council taking Action?

The for-hire sector contributes to recreational landings that count towards the recreational annual catch limit (ACL). Catches from charter vessels are captured in the Marine Recreational Information Program (MRIP) program but headboat catches are monitored separately. Delays in receiving and processing headboat data have contributed to the recreational ACL being exceeded. Electronic reporting via computer/internet will reduce delays and result in less recreational ACL overruns.

Commercial logbooks will serve as a means to verify dealer reports and comply with the Atlantic Coastal Cooperative Statistics Program (ACCSP) standards that require two sources for verification of quota monitored species. This type of verification can lead to better monitoring of commercial catches and reduce the likelihood of commercial ACL overruns.

Bycatch is an important component of ensuring total mortality remains below the ACLs and ABCs. The Amended-Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires the Councils to develop a plan for monitoring bycatch and the actions being considered would meet this requirement.

The actions in CE-BA 3 will aide in achieving the optimum yield from each fishery while reducing (1) undue socioeconomic harm to for-hire, commercial and recreational fishermen and (2) administrative burdens to fishery agencies.

Purpose for Action

The ***purpose*** of Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) is to improve data collection methods and tracking of annual catch limits to ensure overages do not occur in the South Atlantic fisheries.

CE-BA 3 would modify commercial and charter/headboat vessel reporting requirements and bycatch requirements to enhance data collection throughout the South Atlantic.

Need for Action

The ***need*** for action in CE-BA 3 is to improve data tracking methods, limit overages in annual catch limits and account for discards and bycatch in South Atlantic fisheries.

What Are the Proposed Actions?

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

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Modify Permits and Data Reporting for For-Hire Vessels
2. Modify Permits and Data Reporting for Commercial Vessels
3. Modify Bycatch and Discard Reporting

What Are the Alternatives?

Action 1. Modify permits and data reporting for for-hire vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the for-hire sector. Currently, the owner or operator of a vessel for which a charter vessel / headboat permit for Gulf coastal migratory pelagic fish, South Atlantic coastal migratory pelagic fish, Gulf reef fish, South Atlantic snapper grouper, or Atlantic dolphin and wahoo has been issued, or whose vessel fishes for or lands such coastal migratory pelagic fish, reef fish, snapper-grouper, or Atlantic dolphin or wahoo in or from state waters adjoining the applicable Gulf, South Atlantic, or Atlantic EEZ, and who is selected to report by the SRD, must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed records for charter vessels must be submitted to the Science and Research Director weekly, postmarked no later than 7 days after the end of each trip (Sunday). Completed records for headboats must be submitted to the Science and Research Director monthly and must either be made available to an authorized statistical reporting agent or be postmarked no later than 7 days after the end of each month.

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Modify Permits and Data Reporting for For-Hire Vessels
2. Modify Permits and Data Reporting for Commercial Vessels
3. Modify Bycatch and Discard Reporting

Alternative 2. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

> **Sub-Alternative 2a.** Charter and headboat
> **Sub-Alternative 2b.** Headboat only

Alternative 3. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) daily via electronic reporting (via computer or internet). Daily = by noon of the following day.

> **Sub-Alternative 3a.** Charter and headboat
> **Sub-Alternative 3b.** Headboat only

Alternative 4. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

> **Sub-Alternative 4a.** Charter and headboat
> **Sub-Alternative 4b.** Headboat only

IPT Recommendations

The IPT (interagency planning and review team that compiles the documents and develops analyses) has recommended the Council consider the following changes to the language of Action 1 and the alternatives at their next meeting (September 2012):

- Change the language of the Action to state: **Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for charter/headboat vessels.**

- Remove "require that charter and headboat vessels" from Alternative 2-4 and replace with "require that vessels". This information is clear in the sub-alternatives.

- For sub-alternatives in Alternatives 2-4, split out "charter" as one sub-alternative and "headboat" as the other sub-alternative. If the Council's interest is to select both vessel types, selection of muti-preferred sub-alternatives is an option.

  The Sub-alternatives should read:
  Sub-Alternative 2a (and **3a & 4a**). Charter
  Sub-Alternative 2b (and **3b & 4b**). Headboat

What's currently in place for charter and headboat vessels?

Charter vessels are required to maintain a fishing record for each trip, or a portion of each trip as specified by the Science and Research Director (at the Southeast Fisheries Science Center), on forms that are provided. Forms include instructions, indicate all of the required information and must be postmarked no later than 7 days after the end of each week (on Sunday).

Harvest and bycatch are monitored by the Marine Recreational Information Program (MRIP). A 10% sample of charter vessel captains is called weekly to obtain trip level information. Additionally, standard dockside intercept data are collected from charter vessels and vessel clients are randomly sampled.

Headboat vessels are also required to report important information about their fishing trips. Vessels must complete and mail reporting forms to the Science and Research Director. The forms are due on a monthly basis, and must either be made available to a fisheries statistics reporting agent or be postmarked no later than 7 days after the end of each month.

Harvest and bycatch data are monitored by the Southeast Fisheries Science Center. Headboat trips are sub-sampled for data on species lengths and weights. Biological samples are obtained as time permits, and lengths of discarded fish are occasionally obtained.

Summary of Effects

Biological: Alternative 1 (No Action) would retain existing data reporting systems for the for-hire sector and electronic reporting (via computer/internet) would not be required. **Alternatives 2-4** would require that data be submitted to the Science Center more frequently than the current situation. **Alternatives 2-4** would require data be submitted via computer/internet. All of the action alternatives would result in positive indirect biological effects, as the data would be reported in a more timely and efficient way resulting in better monitoring of the annual catch limits. Requiring charter vessels to report weekly or daily would greatly improve the timeliness of reporting. **Alternative 3** would require daily reporting resulting in the most positive indirect biological effects, and **Alternative 2** would require weekly which is the same as the status quo (**Alternative 1)**; however, **Alternative 2** would require data be submitted electronically. **Alternative 4** would initially require weekly reporting, with the additional requirement for data to be submitted via computer. **Alternative 4** would allow the Science and Research Director to require faster data submissions in the future without the Council having to prepare an additional amendment.

Economic: Alternative 1 (No Action) does not necessarily maximize economic returns for these for-profit businesses. **Alternatives 2 – 4** including the sub-alternatives could increase potential economic return for these businesses by leading to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of annual catch limits (ACLs) and ought to reduce the potential for overrunning an ACL and triggering an accountability measure (AM) that might include future paybacks (such as reducing future fishing opportunities). **Alternatives 2 – 4** could require for-hire businesses to incur costs. If the business does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online. Currently, there is no estimate of the number of for-hire operations that do not have a computer or internet access.

Social: Increased frequency in reporting under **Alternatives 2-4** may have some negative effects on vessel owners and captains by imposing additional time and money requirements. The requirement for electronic reporting under **Alternatives 2-4** will affect vessel owners who do not already use computer systems in their businesses. Some fishermen are not familiar with computers or internet, and some may simply be more comfortable with paper fishing records. However, more frequent reporting would be expected to improve quota monitoring, allowing NOAA Fisheries to better track landings and calculate expected closures and electronic reporting would be expected to produce the most accurate means of tracking landings. Improved monitoring would also be expected to reduce the likelihood of the recreational sector exceeding the ACL and the associated AMs.

Administrative: The administrative effects of changing permits and reporting requirements for the for-hire sector will most likely be associated with rule-making, outreach, and implementation of the revised reporting scheme. In general, increased

frequency in reporting under **Alternatives 2-4** would increase the administrative burden on the agency. As the number of vessels affected increases (under the sub-alternatives), so do the administrative impacts.

Action 2. Modify permits and data reporting for commercial vessels

> ***Proposed Actions in Comprehensive Ecosystem-Based Amendment 3***
>
> 1. Modify Permits and Data Reporting for For-Hire Vessels
> 2. Modify Permits and Data Reporting for Commercial Vessels
> 3. Modify Bycatch and Discard Reporting

Alternative 1. (No Action) Retain existing permits and data reporting systems for the commercial sector. Snapper grouper logbooks are required to be submitted 7 days after the end of each trip.

Alternative 2. Modify permits and data reporting for commercial vessels as follows:

> **Sub-Alternative 2a.** Require NMFS develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available online. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

Alternative 3. "No fishing forms" must be submitted at the same frequency [currently submitted monthly], via the same process, and for all species as is currently specified for snapper grouper species. A fisherman would only be authorized to sell commercially-harvested species if the fisherman's previous reports have been submitted by the fisherman and received by NMFS in a timely manner. Any delinquent reports would need to be submitted by the fisherman and received by NMFS before a fisherman could sell commercially harvested species from a federally-permitted U.S. vessel.

Alternative 4. Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the shareholder.

IPT Recommendations

The IPT (interagency planning and review team that compiles the documents and develops analyses) has recommended the Council consider the following changes to the language of Action 2 and the alternatives at their next meeting (September 2012):

- Change language of Action to state: **Action 2. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for commercial vessels.**

- Remove Alternative 2 and Sub-Alternative 2a becomes the new Alternative 2. Replace "online" with "computer or internet" in this alternative and it should read: **Alternative 2**. Require NMFS to develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available via computer or internet. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

- Begin Alternative 3 with an action word: "**Alternative 3.** Require "No fishing forms" to be submitted at the same frequency…"

- Change the wording of "shareholder" to "permit holder" in Alternative 4 because there are no shareholders. The language in Alternative 4 should read: **Alternative 4.** Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

- Remove Alternative 4 from Action 2 and make this measure a stand-alone Action. The Action would read:

  Action 3. Require all commercial snapper grouper fishing vessels to be equipped with VMS.
  Alternative 1. No Action.
  Alternative 2. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

What's currently in place for commercial vessels?

Snapper grouper logbooks are required to be submitted 7 days after the end of each trip. If selected by NOAA Fisheries, a vessel fishing in the EEZ must carry an observer and install an electronic logbook and/or video monitoring equipment provided to them.

Participants in the fishery may also be selected by the Science and Research Director to maintain and submit a fishing record on provided forms.

Commercial quotas are monitored by the Southeast Fisheries Science Center and landings information is obtained from dealers. Dealer selections for this data are made annually and are based on the previous year's production. Selected dealers must report landings by the 5th of a following month, even if no purchases were made.

Summary of Effects

Biological: Alternative 1 (No Action) would not require commercial vessels with a snapper grouper permit to use vessel monitoring systems (VMS) and would also not make any improvements to the accountability of fishermen to submit logbooks in a timely manner or provide fishermen a means to report their information electronically via an electronic form. **Alternative 2** would give fishermen the option to submit their logbooks electronically and would change the deadline for submission of logbooks from 7 days after the trip to 21 days after the trip. **Alternative 3** would require "no fishing forms" when fishermen don't fish and would authorize fishermen to sell fish only when the previous reports have been submitted and received by NMFS. **Alternative 4** would require use of VMS that would greatly improve biological understanding of the fishery. Knowing where fishermen are fishing would help understand how fishing pressure is distributed across the South Atlantic.

Economic: While the status quo will not change the economic effects, **Alternative 1 (No Action)** does not necessarily maximize economic returns for these for-profit businesses. Electronic data collection, in theory, leads to more timely monitoring of ACLs and ought to reduce the potential for overrunning an ACL and triggering an AM that might include future paybacks. **Alternative 2** could require commercial fishermen who choose to file electronically to incur costs. If the fisherman does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online, or continue to file paper logbooks at no additional cost. The only potential economic impacts to a fisherman from **Alternative 3** would come if the fisherman was out of compliance and could not sell fish until delinquent reports were filed. **Tables 1 & 2** describe economic impacts for implementation of VMS (**Alternative 4**).

Summary Table 1. NMFS-approved VMS units and costs.

Brand and Model	Cost
Boatracs FMCT-G	$3095
Thrane and Thrane TT-3026D	$2495
Faria Watchdog KTW304	$3295
CLS America Thorium TST	$3095

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

Summary Table 2. NMFS-approved VMS communications costs.

1. Qualcomm (for Boatracs units) $30/mo satellite fee, $.30/message, $.006 per character for messaging (average price Estimated $35/month which includes 24/7 operations center support) **2.** Telenor (for Thrane units) $.06 per position report or $1.44 per day for 1 hour reporting. If in the "In Harbor" mode, then $.36 per day. Messaging costs $.24 per e-mail. ($30/mo average) **3.** Iridium/Cingular Wireless (for Faria units) $50.25 per month which includes 12,000 Iridium bytes and 35,000 GSM bytes for email and e-forms reporting. **4.** Iridium (for CLS America units) $45 per month for hourly reporting, $1.75 per kbyte for e-mail or forms submission.

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

Social: Alternative 1 (No Action) would not be expected to result in impacts on commercial fishermen but would reduce long-term social benefits associated with more accurate and timely data. **Alternatives 2** and **3** would extend reporting requirements for snapper grouper permit holders to all commercial permit holders, which would increase the burden on fishermen who do not currently hold snapper grouper permits. The option for paper or electronic reporting under **Alternative 2** would provide flexibility to fishermen who currently do not own the equipment necessary for electronic reporting. The VMS requirement under **Alternative 4** would result in a range of effects on the commercial fleet. It is likely that many fishermen will oppose a VMS requirement because of the independent characteristic of the industry. A VMS mandate for all commercial vessels will eliminate the unfair advantage to fishermen who do not comply with regulations and fish when and where it is not allowed.

Administrative: Alternative 2 would result in increased administrative impacts however they would not extend beyond the scope of data management and analysis. An additional requirement to submit a "no fishing form" under **Alternative 3** would result in moderate administrative impacts to both the agency and the fishery participants related to compliance and processing. Administrative impacts associated with **Alternative 4** would be significant and relate to rule-making, enforcement, monitoring, and education and outreach. Establishing a VMS provision is a complicated administrative task for the agency and would result in considerable burden. It is expected that **Alternative 4** would be a considerable burden for the fishery participants.

Snapper Grouper Advisory Panel input

The Snapper Grouper Advisory Panel (AP) has recommended to the Council on numerous occasions they consider a requirement to carry VMS for both recreational and commercial vessels in the South Atlantic. In April 2010, the SG AP approved a motion to recommend mandatory VMS for all vessels that interact with snapper grouper species in the EEZ and accountability measures that would prevent fishing in the absence of

VMS. Again in April 2012, the SG AP approved a motion to recommend the Council require VMS for any vessel harvesting fish in South Atlantic waters.

Action 3. Modify bycatch and discard reporting

> ***Proposed Actions in Comprehensive Ecosystem-Based Amendment 3***
>
> 1. Modify Permits and Data Reporting for For-Hire Vessels
> 2. Modify Permits and Data Reporting for Commercial Vessels
> 3. Modify Bycatch and Discard Reporting

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

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

Alternative 3. Bycatch data will be collected to meet or exceed the ACCSP standards.

IPT Recommendations

The IPT (interagency planning and review team that compiles the documents and develops analyses) has recommended the Council consider the following changes to the language of Action 3 and the alternatives at their next meeting (September 2012):

- Change language of action to state: **Action 3. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting.**

- Remove "adopt" from the language in Alternative 1 (No Action) and indicate these are the current requirements in place.

- Change the language of Alternative 2 to state: **Alternative 2.** Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

- Remove Alternative 3 from consideration. Include new Alternative 3 to state: **Alternative 3.** Implement aspects of ACCSP that are not currently being done.

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

Bycatch and discard reporting is currently monitored through the Atlantic Coastal Cooperative Statistics Program (ACCSP) Bycatch Monitoring Program. The bycatch standards (modules) of the ACCSP Program are implemented as funding and resources are available. **Table 3**, below, indicates the implementation status of the bycatch and discard reporting requirements of the ACCSP program.

Summary Table 3. ACCSP reporting standards and status of implementation of modules.

ACCSP Requirements	**Fulfilled?**	**Method**
Reporting Requirements (Discards)		
Commercial	Partial	Supplemental Discards logbook (20% permit holders/year)
For Hire	Full	MRFSS & Headboat Survey
Private/Recreational	Full	MRFSS
Required Reporting (Protected Species Interactions)		
Commercial	Partial	-Supplemental Discards logbook (20% permit holders/year
For-Hire (All vessels)	Partial	Reporting of protected resources interactions not mandatory.
Private/Rec	Partial	Reporting of protected species resources interactions only one year (2006)
Target Sampling -Bandit (h/l) 5% of trips -BSB Pots 3.5% of trips -For-Hire (h/l) 5% of trips	Full	-Supplemental Discards logbook (20% permit holders/year)
Commercial Fishermen reporting system must have standardized data elements	Full	
Mandatory reporting of threatened species and protected	Partial	-Supplemental Discards logbook (20% permit

finfish species		holders/year)
Observer Coverage		
Pilot program to determine appropriate coverage	Ongoing	Gulf and South Atlantic Fisheries Foundation has a project to implement a pilot observer program in the vertical hook and line fishery.
Commercial	Partial	Cooperative Research Program (only 2006-2007)
For-Hire	None	
Private/Rec	None	
Outreach/Training:		
Programs on Reporting	None	
Note: Both the commercial and for-hire sectors are required to utilize observers, fishermen reporting, and port interviewing to qualitatively and quantitatively describe release, discards, and protected resources interactions.		

Summary of Effects

Biological: Alternative 1 (No Action) would continue the current situation whereby only 20% of commercial vessels are currently completing discard logbooks and the requirements of the ACCSP are not being fully implemented. **Alternative 2** would provide the required data collection program to meet the Magnuson-Stevens Act bycatch reporting requirements. Program standards specify the level of sampling needed. This would result in more positive indirect biological effects. **Alternative 3** would allow data to be collected using any means so long as the resulting data meet or exceed the ACCSP standards. 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.

Economic: When the NMFS/NOAA Fisheries implements the ACCSP standards (**Alternative 1(No Action)** and **Alternatives 2** and **3**), significant negative impacts could result if the fishery participants are required to fund the cost of at-sea observers or other data collection costs. The impact of the cost would be determined by the frequency with which fishermen would have to pay for observers, or other measures. 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 currently in place under **Alternative 1**, if these methods are not the most effective methods for bycatch monitoring and reporting this may result in considerable social action to publicize bycatch in a fishery, resulting in increased social conflict and polarization of the different perspectives. **Alternatives 2** and **3** are expected to improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions. Each alternative has the potential of imposing costs on individual fishery participants that could be excessive and

result in fishery exit, which would be expected to result in additional personal, family, community, and associated industries stress and change.

Administrative: Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows. Administratively, **Alternative 2** would be difficult as it would require funding to be shifted from various sources to implement the reporting modules. Under **Alternative 3**, the agency would have more flexibility in how the bycatch information is collected and would be able to modify the collection to have the least amount of impacts on the agency while maintaining the standards of the ACCSP. At this point it is difficult to determine the administrative impacts of the action on fishery participants for **Alternative 3** 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 and tracking of annual catch limits.

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 (NOAA Fisheries Service) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment on behalf of the Secretary of Commerce. NOAA Fisheries Service is an agency in the National Oceanic and Atmospheric Administration within the Department of Commerce.

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 NOAA Fisheries Service; 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 NOAA Fisheries Service for implementation

1.3 Where is the Project Located?

Management of the federal snapper grouper, dolphin wahoo, and coastal migratory pelagic fisheries located off the South Atlantic in the 3-200 nautical mile (nm) 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. (**Appendix G.** Other Applicable Laws).

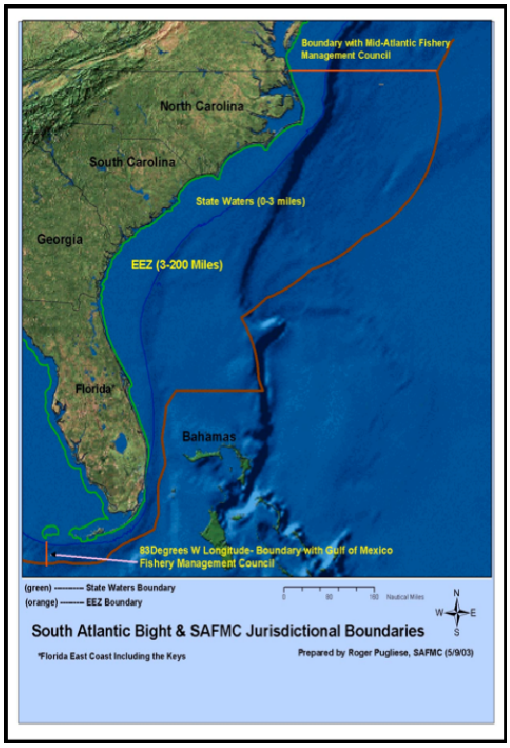

Figure 1-1. Jurisdictional boundaries of the South Atlantic Council

1.4 Why is the South Atlantic Council Considering Action?

The for-hire sector contributes to recreational landings that count towards the recreational annual catch limit (ACL). Catches from charter vessels are captured in the MRIP program but headboat catches are monitored separately. Delays in receiving and processing headboat data have contributed to the recreational ACL being exceeded. Electronic reporting via computer/internet will reduce delays and result in less recreational ACL overruns.

Commercial logbooks will serve as a means to verify dealer reports and comply with the ACCSP standards that require two sources for verification of quota monitored species. This type of verification can lead to better monitoring of commercial catches and reduce the likelihood of commercial ACL overruns. Bycatch is an important component of ensuring total mortality remains below the ACLs and ABCs. The Amended-Magnuson Stevens Fishery Conservation and Management Act requires the Councils to develop a plan for monitoring bycatch and the actions being considered would meet this requirement.

Purpose for Action

The ***purpose*** of Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3) is to improve data collection methods and tracking of annual catch limits to ensure overages do not occur in the South Atlantic fisheries.

CE-BA 3 would modify commercial and charter/headboat vessel reporting requirements and bycatch requirements to enhance data collection throughout the South Atlantic.

Need for Action

The ***need*** for action in CE-BA 3 is to improve data tracking methods, limit overages in annual catch limits, and account for discards and bycatch in South Atlantic fisheries.

Chapter 2. Proposed Actions

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

Proposed Actions in Comprehensive Ecosystem-Based Amendment 3

1. Modify Permits and Data Reporting for For-Hire Vessels
2. Modify Permits and Data Reporting for Commercial Vessels
3. Modify Bycatch and Discard Reporting

2.1 Action 1. Modify permits and data reporting for for-hire vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the for-hire sector. Currently, the owner or operator of a vessel for which a charter vessel / headboat permit for Gulf coastal migratory pelagic fish, South Atlantic coastal migratory pelagic fish, Gulf reef fish, South Atlantic snapper grouper, or Atlantic dolphin and wahoo has been issued, or whose vessel fishes for or lands such coastal migratory pelagic fish, reef fish, snapper-grouper, or Atlantic dolphin or wahoo in or from state waters adjoining the applicable Gulf, South Atlantic, or Atlantic EEZ, and who is selected to report by the SRD, must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed records for charter vessels must be submitted to the Science and Research Director weekly, postmarked no later than 7 days after the end of each trip (Sunday). Completed records for headboats must be submitted to the Science and Research Director monthly and must either be made available to an authorized statistical reporting agent or be postmarked no later than 7 days after the end of each month.

Alternative 2. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

Sub-Alternative 2a. Charter and headboat
Sub-Alternative 2b. Headboat only

Alternative 3. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) daily via electronic reporting (via computer or internet). Daily = by noon of the following day.

Sub-Alternative 3a. Charter and headboat
Sub-Alternative 3b. Headboat only

Alternative 4. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

Sub-Alternative 4a. Charter and headboat
Sub-Alternative 4b. Headboat only

IPT Recommendations

The IPT has recommended the following changes to the language of Action 1 and the alternatives:

- Change the language of the Action to state: **Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for charter/headboat vessels.**

- Remove "require that charter and headboat vessels" from Alternative 2-4 and replace with "require that vessels". This information is clear in the sub-alternatives.

  The Alternatives should read:

  Alternative 2. Require that vessels submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

  Alternative 3. Require that vessels submit fishing records to the Science and Research Director (SRD) daily via electronic reporting (via computer or internet). Daily = by noon of the following day.

  Alternative 4. Require that vessels submit fishing records to the Science and Research Director (SRD) weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

- For sub-alternatives in Alternatives 2-4, split out "charter" as one sub-alternative and "headboat" as the other sub-alternative. If the Council's interest is to select both vessel types, selection of muti-preferred sub-alternatives is an option.

  The Sub-alternatives should read:

  Sub-Alternative 2a (and **3a & 4a**). Charter

  Sub-Alternative 2b (and **3b & 4b**). Headboat

Comparison of Alternatives

Biological: Alternative 1 (No Action) would retain existing data reporting systems for the for-hire sector and electronic reporting (via computer/internet) would not be required. **Alternatives 2-4** would require that data be submitted to the Science Center more frequently than the current situation. Alternatives 2-4 would require data be submitted via computer/internet. All of the action alternatives would result in positive indirect biological effects, as the data would be reported in a more timely and efficient way resulting in better monitoring of the annual catch limits. Requiring charter vessels to report weekly or daily would greatly improve the timeliness of reporting. **Alternative 3** would require daily reporting resulting in the most positive indirect biological effects, and **Alternative 2** would require weekly which is the same as the status quo (**Alternative 1)**; however, **Alternative 2** would require data be submitted electronically. **Alternative 4** would initially require weekly reporting, with the additional requirement for data to be submitted via computer. **Alternative 4** would allow the Science and Research Director to require faster data submissions in the future without the Council having to prepare an additional amendment.

Economic: Alternative 1 (No Action) does not necessarily maximize economic returns for these for-profit businesses. **Alternatives 2 – 4** including the sub-alternatives could increase potential economic return for these businesses by leading to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of annual catch limits (ACLs) and ought to reduce the potential for overrunning an ACL and triggering an accountability measure (AM) that might include future paybacks (such as reducing future fishing opportunities). **Alternatives 2 – 4** could require for-hire businesses to incur costs. If the business does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online. Currently, there is no estimate of the number of for-hire operations that do not have a computer or internet access.

Social: Increased frequency in reporting under **Alternatives 2-4** may have some negative effects on vessel owners and captains by imposing additional time and money requirements. The requirement for electronic reporting under **Alternatives 2-4** will affect vessel owners who do not already use computer systems in their businesses. Some fishermen are not familiar with computers or internet, and some may simply be more comfortable with paper fishing records. However, more frequent reporting would be expected to improve quota monitoring, allowing NOAA Fisheries to better track landings and calculate expected closures and electronic reporting would be expected to produce the most accurate means of tracking landings. Improved monitoring would also be expected to reduce the likelihood of the recreational sector exceeding the ACL and the associated AMs.

Administrative: The administrative effects of changing permits and reporting requirements for the for-hire sector will most likely be associated with rule-making, outreach, and implementation of the revised reporting scheme. In general, increased frequency in reporting under **Alternatives 2-4** would increase the administrative burden on the agency. As the number of vessels affected increases (under the sub-alternatives), so do the administrative impacts.

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

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

2.2 Action 2. Modify permits and data reporting for commercial vessels

Alternative 1 (No Action). Retain existing permits and data reporting systems for the commercial sector. Snapper grouper logbooks are required to be submitted 7 days after the end of each trip.

Alternative 2. Modify permits and data reporting for commercial vessels as follows:

Sub-Alternative 2a. Require NMFS to develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available online. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

Alternative 3. "No fishing forms" must be submitted at the same frequency [currently submitted monthly], via the same process, and for all species as is currently specified for snapper grouper species. A fisherman would only be authorized to sell commercially-harvested species if the fisherman's previous reports have been submitted by the fisherman and received by NMFS in a timely manner. Any delinquent reports would need to be submitted by the fisherman and received by NMFS before a fisherman could sell commercially harvested species from a federally-permitted U.S. vessel.

Alternative 4. Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the shareholder.

IPT Recommendations

The IPT has recommended the following changes to the language of Action 2 and the alternatives:

- Change language of Action to state: **Action 2. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for commercial vessels.**

- Remove Alternative 2 and Sub-Alternative 2a becomes the new Alternative 2. Replace "online" with "computer or internet" in this alternative and it should read: **Alternative 2**. Require NMFS to develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available via computer or internet. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

- Begin Alternative 3 with an action word: "**Alternative 3.** Require "No fishing forms" to be submitted at the same frequency…"

- Change the wording of "shareholder" to "permit holder" in Alternative 4 because there are no shareholders.

  The language in Alternative 4 should read: **Alternative 4.** Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

- Remove Alternative 4 from Action 2 and make this measure a stand-alone Action. The Action would read:

  Action 3. Require all commercial snapper grouper fishing vessels to be equipped with VMS.

  Alternative 1. No Action.

  Alternative 2. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

Comparison of Alternatives

Biological: Alternative 1 (No Action) would not require commercial vessels with a snapper grouper permit to use vessel monitoring systems (VMS) and would also not make any improvements to the accountability of fishermen to submit logbooks in a timely manner or provide fishermen a means to report their information electronically via an electronic form. **Alternative 2** would give fishermen the option to submit their logbooks electronically and would change the deadline for submission of logbooks from 7 days after the trip to 21 days after the trip. **Alternative 3** would require "no fishing forms" when fishermen don't fish and would authorize fishermen to sell fish only when the previous reports have been submitted and received by NMFS. **Alternative 4** would require use of VMS that would greatly improve biological understanding of the fishery. Knowing where fishermen are fishing would help understand how fishing pressure is distributed across the South Atlantic.

Economic: While the status quo will not change the economic effects, **Alternative 1 (No Action)** does not necessarily maximize economic returns for these for-profit businesses. Electronic data collection, in theory, leads to more timely monitoring of ACLs and ought to reduce the potential for overrunning an ACL and triggering an AM that might include future paybacks. **Alternative 2** could require commercial fishermen who choose to file electronically to incur costs. If the fisherman does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online, or continue to file paper logbooks at no additional cost. The only potential economic impacts to a fisherman from **Alternative 3** would come if the fisherman was out of compliance and could not sell fish until delinquent reports were filed. [Insert VMS tables]

Social: Alternative 1 (No Action) would not be expected to result in impacts on commercial fishermen but would reduce long-term social benefits associated with more accurate and timely data. **Alternatives 2** and **3** would extend reporting requirements for snapper grouper permit holders to all commercial permit holders, which would increase the burden on fishermen who do not currently hold snapper grouper permits. The option for paper or electronic reporting under **Alternative 2** would provide flexibility to fishermen who currently do not own the equipment necessary for electronic reporting. The VMS requirement under **Alternative 4** would result in a range of effects on the commercial fleet. It is likely that many fishermen will oppose a VMS requirement because of the independent characteristic of the industry. A VMS mandate for all commercial vessels will eliminate the unfair advantage to fishermen who do not comply with regulations and fish when and where it is not allowed.

Administrative: Alternative 2 would result in increased administrative impacts however they would not extend beyond the scope of data management and analysis. An additional requirement to submit a "no fishing form" under **Alternative 3** would result in moderate administrative impacts to both the agency

and the fishery participants related to compliance and processing. Administrative impacts associated with **Alternative 4** would be significant and relate to rule-making, enforcement, monitoring, and education and outreach. Establishing a VMS provision is a complicated administrative task for the agency and would result in considerable burden. It is expected that Alternative 4 would be a considerable burden for the fishery participants.

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

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

2.3 Action 3. Modify bycatch and discard reporting

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

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

Alternative 3. Bycatch data will be collected to meet or exceed the ACCSP standards.

IPT Recommendations
The IPT has recommended the following changes to the language of Action 3 and the alternatives:

- Change language of action to state: **Action 3. Amend the Snapper Grouper, Dolphin Wahoo, Coastal Migratory Pelagics, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting.**

- Remove "adopt" from the language in Alternative 1 (No Action) and indicate these are the current requirements in place.

- Change the language of Alternative 2 to state: **Alternative 2.** Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

- Remove Alternative 3 from consideration. Include new Alternative 3 to state: **Alternative 3.** Implement aspects of ACCSP that are not currently being done

Comparison of Alternatives

Biological: Alternative 1 (No Action) would continue the current situation whereby only 20% of commercial vessels are currently completing discard logbooks and the requirements of the ACCSP are not being fully implemented. **Alternative 2** would provide the required data collection program to meet the Magnuson-Stevens Act bycatch reporting requirements. Program standards specify the level of sampling needed. This would result in more positive indirect biological effects. **Alternative 3** would allow data to be collected using any means so long as the resulting data meet or exceed the ACCSP standards. 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.

Economic: When the NMFS/NOAA Fisheries implements the ACCSP standards (**Alternative 1(No Action)** and **Alternatives 2** and **3**), significant negative impacts could result if the fishery participants are required to fund the cost of at-sea observers or other data collection costs. The impact of the cost would be determined by the frequency with which fishermen would have to pay for observers, or other measures. 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 currently in place under **Alternative 1**, if these methods are not the most effective methods for bycatch monitoring and reporting this may result in considerable social action to publicize bycatch in a fishery, resulting in increased social conflict and polarization of the different perspectives. **Alternatives 2** and **3** are expected to improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions. Each alternative has the potential of imposing costs on individual fishery participants that could be excessive and result in fishery exit, which would be expected to result in additional personal, family, community, and associated industries stress and change.

Administrative: Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows. Administratively, **Alternative 2** would be difficult as it would require funding to be shifted from various sources to implement the reporting modules. Under **Alternative 3**, the agency would have more flexibility in how the bycatch information is collected and would be able to modify the collection to have the least amount of impacts on the agency while maintaining the standards of the ACCSP. At this point it is difficult to determine the administrative impacts of the action on fishery participants for **Alternative 3** because it is unclear which bycatch reporting methods would be selected.

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

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

Chapter 3. Affected Environment

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

- **Habitat environment** (Section 3.1)

  Examples include coral reefs and sea grass beds

- **Biological environment** (Section 3.2)

  Examples include populations of golden tilefish, corals, turtles

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

  Examples include fishing communities and economic descriptions of the fisheries

- **Administrative environment** (Section 3.6)

  Examples include the fishery management process and enforcement activities

3.1 Habitat Environment

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

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

[Insert]
Comp ACL and FEP reference for dolphin/wahoo.

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 is governed by temperature and salinity. All 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 little tunny and 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

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."

3.1.2 Offshore Habitat

Snapper Grouper

Predominant snapper grouper offshore fishing areas are located in live bottom and shelf-edge habitats, where water temperatures range from 11º to 27º C (52º to 81º F) due to the proximity of

the Gulf Stream, with lower shelf habitat temperatures varying from 11º to 14º C (52º to 57º F). Water depths range from 16 to 27 meters (54 to 90 feet) or greater for live-bottom habitats, 55 to 110 meters (180 to 360 feet) for the shelf-edge habitat, and from 110 to 183 meters (360 to 600 feet) for lower-shelf habitat areas.

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

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

Artificial reef structures are also utilized to attract fish and increase fish harvests; however, research on artificial reefs is limited and opinions differ as to whether or not these structures promote an increase of ecological biomass or merely concentrate fishes by attracting them from nearby, natural un-vegetated areas of little or no relief.

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

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

Dolphin Wahoo

[Insert]
Site FEP

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.

Cero
The range of the cero mackerel is limited to the western Atlantic Ocean, from Massachusetts

south to Brazil, including the Bahamas and West Indies. It is common in the Caribbean, Bahamas, and Florida. Usually solitary, the cero mackerel occasionally forms schools over coral reefs, wrecks, and along ledges at depths ranging from 3.3 to 66 ft. It is usually seen in midwater and near the water's surface.

Little Tunny

The little tunny is found worldwide in tropical to temperate waters, between 56°N-30°S. In the western Atlantic Ocean, it ranges from Massachusetts south to Brazil, including the Gulf of Mexico, Caribbean Sea, and Bermuda. It is the most common scombrid in the western north Atlantic. This fish is typically found in nearshore waters, inshore over the continental shelf in turbid, brackish waters. Adult little tunny school according to size with other scombrid species at depths ranging from 3-490 ft (1-150 m). However, during certain times of the year the schools break apart with individuals scattering throughout the habitat. Juveniles form compact schools offshore.

Dolphin

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).

Bluefish

Bluefish are a migratory, pelagic species generally found in shelf waters in temperate and semitropical oceans around the world, with the exception of the north and central Pacific. In North America, bluefish range from Nova Scotia to Florida in the northwestern Atlantic and from Florida to Texas in the Gulf. Temperature is probably the single most important environmental parameter determining distribution and migration. Juveniles inhabit water at temperatures between 64-79°F in summer, but are found 59-6°F in fall. Adults are found at temperatures of 64-74°F but have been caught in water temperatures as low as 48°F and as high as 86°F. Bluefish can withstand a high range of salinity.

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.

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, 1998c) (dolphin was included within the Coastal Migratory Pelagics FMP). This definition does not apply to extra-jurisdictional areas.

Coastal Migratory Pelagic

EFH for CMP species. [Insert if applicable]

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 1998) 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 NOAA Fisheries Service, actively comments on non-fishing projects or policies that may impact essential fish habitat. With guidance from the Habitat Advisory Panel, the South Atlantic Council has developed and approved policies on: energy exploration, development, transportation and hydropower re-licensing; beach dredging and filling and large-scale coastal engineering; protection and enhancement of submerged aquatic vegetation; alterations to riverine, estuarine and near shore flows; offshore aquaculture; marine invasive species and estuarine invasive species.

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 (dolphin was included within the Coastal Migratory Pelagics FMP).

Coastal Migratory Pelagic

HAPCs for CMP species [Insert if applicable]

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 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.

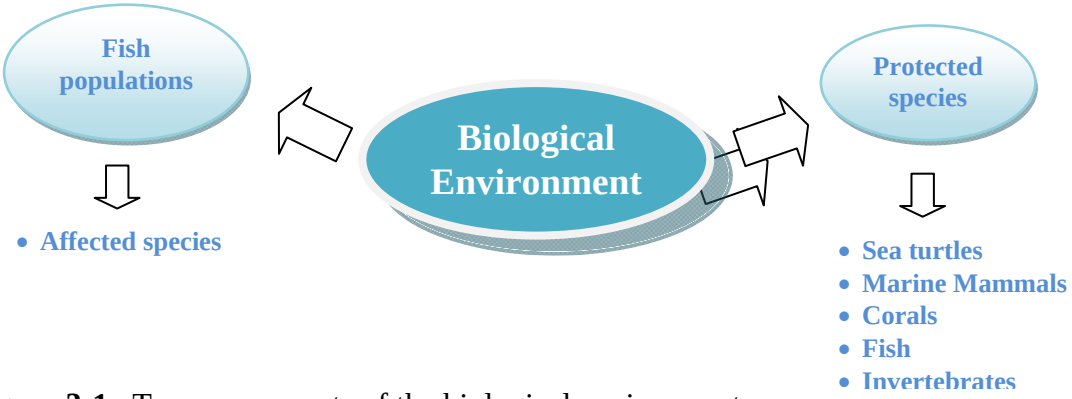

Figure 3-1. Two components of the biological environment described in this amendment.

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 73 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (black sea bass, red grouper) while the

tropical variety's core residence is in the waters off south Florida waters, Caribbean Islands, and northern South America (black grouper, mutton snapper).

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

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

Dolphin Wahoo

[Insert]

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.

King Mackerel

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.

Spanish Mackerel

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.

Cero

This swift, shallow water predator feeds primarily on clupeioid fish including herrings as well as silversides of the genus *Allanetta*. The diet of the cero mackerel also includes squid and shrimp. Predators of the cero mackerel include wahoo (*Acanthocybium solandri*), sharks, dolphins, and diving sea birds.

Little Tunny

Little tunny is an opportunistic predator, feeding on crustaceans, clupeid fishes, squids, and tunicates. It often feeds on herring and sardines at the surface of the water. Predators of little tunny include other tunas, including conspecifics and yellowfin tuna (*Thynnus albacares*). Fishes such as dolphin fish (*Coryphaena hippurus*), wahoo (*Acanthocybium solandri*), Atlantic sailfish (*Istiophorus albicans*), swordfish (*Xiphias gladius*), and various sharks as well as other large carnivorous fish all prey on the little tunny. Seabirds also prey on small little tunny.

Dolphin

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.

Bluefish

Migration of young-of-the-year bluefish into estuaries facilitates predation on local inshore fishes, largely juvenile anadromous fish, including striped bass, blueback herring, and American shad.

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).

<u>Reproduction</u>
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 500m off Pourtales 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”

<u>Development, growth and movement patterns</u>
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 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 et al. 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

[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.

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.

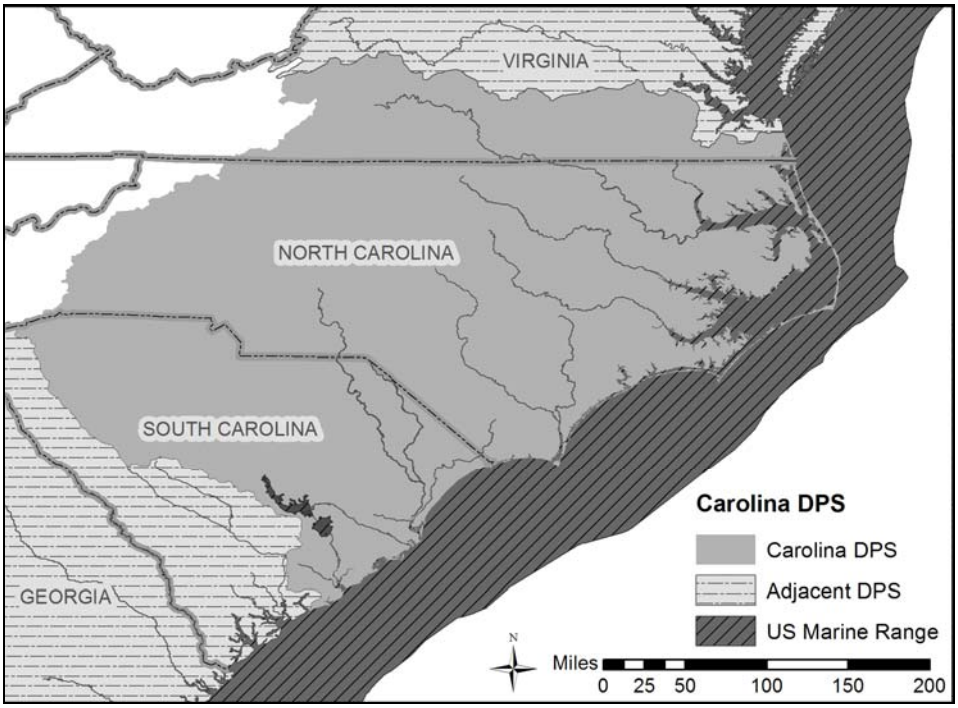

Figure 3-2. The Carolina DPS, Including the Marine Portion of the Range.

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.

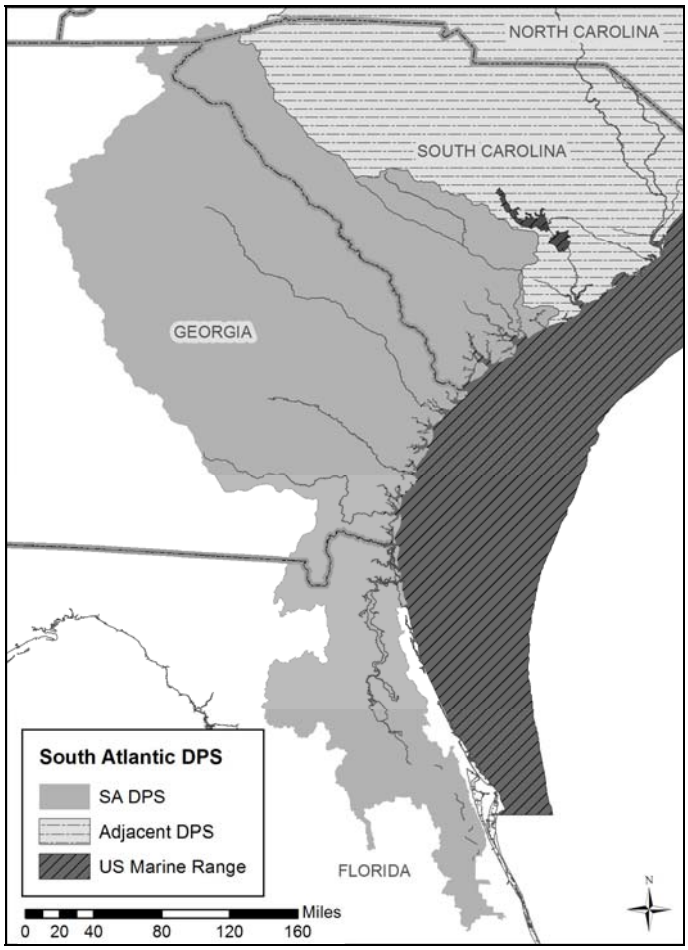

Figure 3-3. The South Atlantic DPS, Including the Marine Portion of the Range

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

[S.Holiman updating Section 3.3]

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

3.3.1 Economic Description of the Commercial Fishery

Additional information on the commercial snapper grouper fishery is contained in previous amendments [Amendment 13C (SAFMC 2006), Amendment 15A (SAFMC 2008a), Amendment 15B (SAFMC 2008b), Amendment 16 (SAFMC 2009a), and Amendment 18A (SAFMC 2011] and is incorporated herein by reference.

3.3.2 Economic Description of the Recreational Fishery

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

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

3.3.2.1 Harvest

3.3.2.2 Effort

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

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

3.3.2.3 Permits

For-hire vessels are required to have a for-hire snapper grouper permit to fish for or possess snapper grouper species in the South Atlantic EEZ. The number of vessels with for-hire snapper grouper permits for the period 2005-2010 is provided in **Table 3-1**. This sector operates as an open access fishery and not all permitted vessels are necessarily active in the fishery. Some vessel owners obtain open access permits as insurance for uncertainties in the fisheries in which they currently operate.

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

Table 3-1. Number of South Atlantic for-hire snapper-grouper vessel permits, 2005-2010.

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

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

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

3.3.2.4 Economic Value and Expenditures

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

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

Net operating revenues per angler trip are lower for headboats than for charterboats. Net operating revenue estimates for a representative headboat trip are $48 in the Gulf of Mexico (all states and all of Florida), and $63-$68 in North Carolina. For full-day and overnight headboat

trips, net operating revenues are estimated to be $74-$77 in North Carolina. Comparable estimates are not available for Georgia and South Carolina.

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

Estimates of the economic activity (impacts) associated with recreational fishing for any species could be derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009). Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

The current model to derive business activity is based on the number of recreational trips for a species. As previously discussed, more trips may catch a species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent.

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

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

3.3.2.5 Financial Operations of the Charter and Headboat Sectors

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

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

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

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

Carolina; $68,992 for charterboats in Georgia; and $261,990 for headboats in the other South Atlantic states.

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

A more recent study of the North Carolina for-hire fishery provides some updated information on the financial status of the for-hire fishery in the state (Dumas et al., 2009). Depending on vessel length, regional location, and season, charter fees per passenger per trip ranged from $168.14 to $251.59 for a full-day trip and from $93.63 to $123.95 for a half-day trip; headboat fees ranged from $72.50 to $81.78 for a full-day trip and from $38.08 to $45 for a half-day trip. Charterboats generated a total of $55.7 million in passenger fees, $3.2 million in other vessel income (e.g., food and beverages), and $4.8 million in tips. The corresponding figures for headboats were $9.8 million in passenger fees, $0.2 million in other vessel income, and $0.9 million in tips. Non-labor expenditures (e.g., boat insurance, dockage fees, bait, ice, fuel) amounted to $43.6 million for charterboats and $5.3 million for headboats. Summing across vessel lengths and regions, charter vessels had an aggregate value (depreciated) of $120.4 million and headboats had an aggregate value (depreciated) of $10.2 million.

3.4 Social and Cultural Environment

The proposed actions in this amendment may affect fishermen and communities associated with the snapper grouper fishery, the coastal migratory pelagic fisheries, the dolphin and wahoo fisheries, 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 Annual Catch Limit Amendment (SAFMC 2011).

3.4.1 Fishing Communities

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

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

3.4.2 Snapper Grouper Fishing Communities

Figure 3-4 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 3-2 were those with Pounds RQ larger than 3 percent. Therefore, because so many communities have snapper grouper landings, many had low RQs and are not included in the figure. There are also communities that have high landings of a particular species, such as black sea bass in Sneads Ferry, NC, or golden tilefish in Port Orange, FL.

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

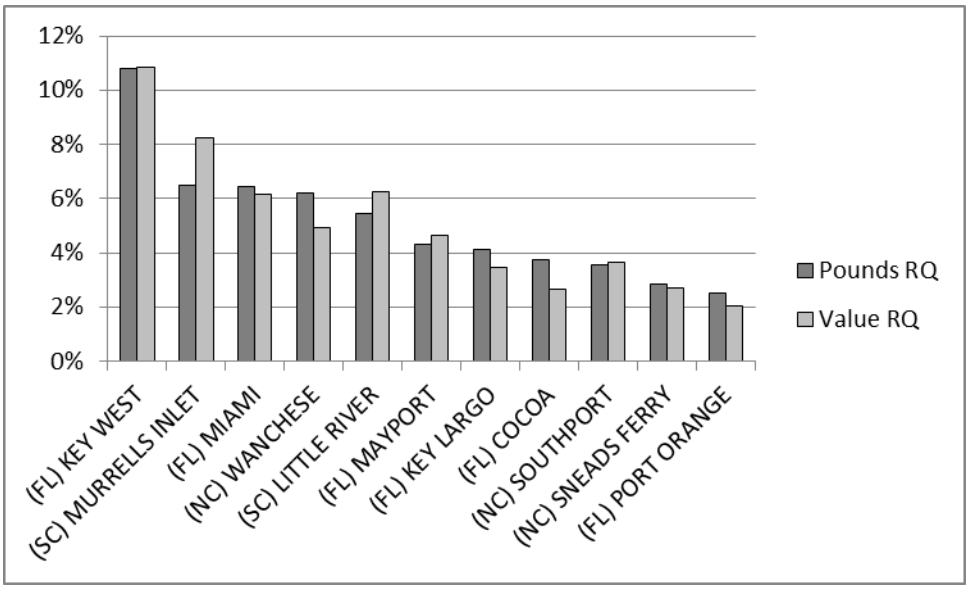

Figure 3-4. The top eleven South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of Snapper Grouper species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.8-11. Overall, Florida has the largest number of charter permits (**Table 3-2**). 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 3-2. 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.

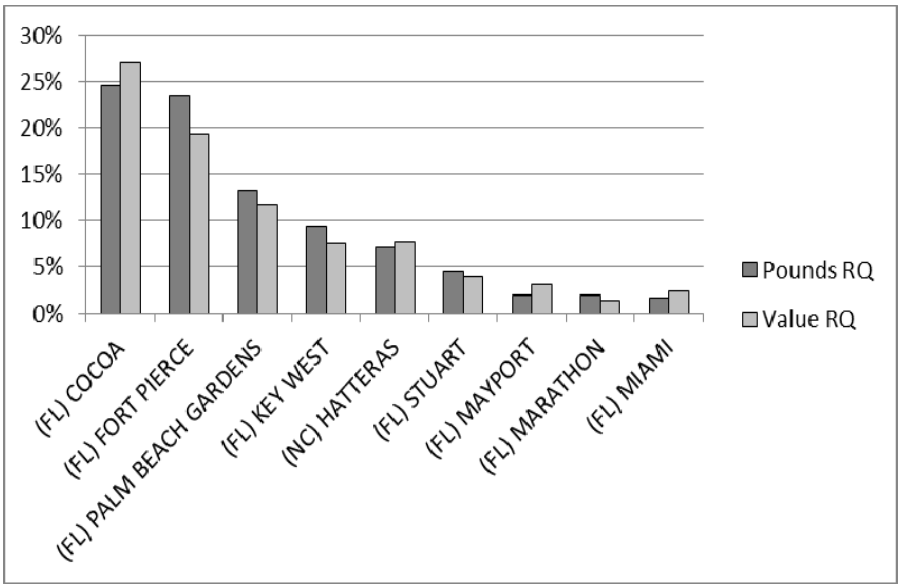

Figure 3-5. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of coastal migratory pelagic species. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.8-11. 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 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 3-3. Federal CMP charter permits in the South Atlantic region (2012).

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

3.4.4 Dolphin-Wahoo Fishing Communities

Detailed demographic information on communities that target dolphin and wahoo is available in the Comprehensive ACL Amendment (SAFMC 2011). **Figure 3-6** shows the top communities ranked by commercial pounds and value for dolphin and wahoo. Wanchese, NC makes up the significant proportion of commercial dolphin and wahoo landings and value. The value of dolphin and wahoo varies in the communities.

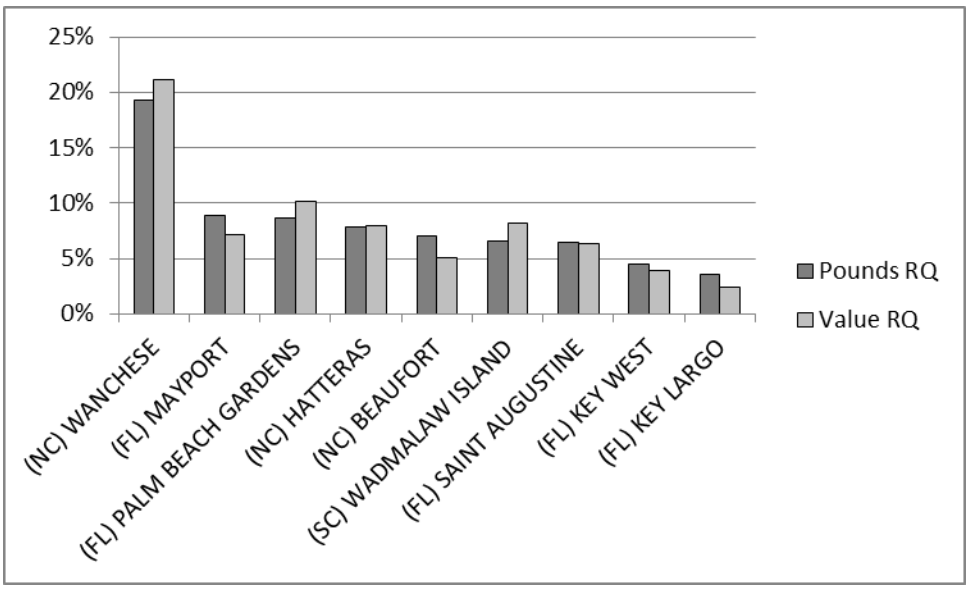

Figure 3-6. The top South Atlantic communities ranked by Pounds and Value Regional Quotient (RQ) of dolphin and wahoo. Only communities with Pounds RQ larger than 3% were included. Data source: ALS 2010.

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 3.4.8-11. 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 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 3-4. 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, FL and Fort Lauderdale, FL (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 Fishery Management Council.

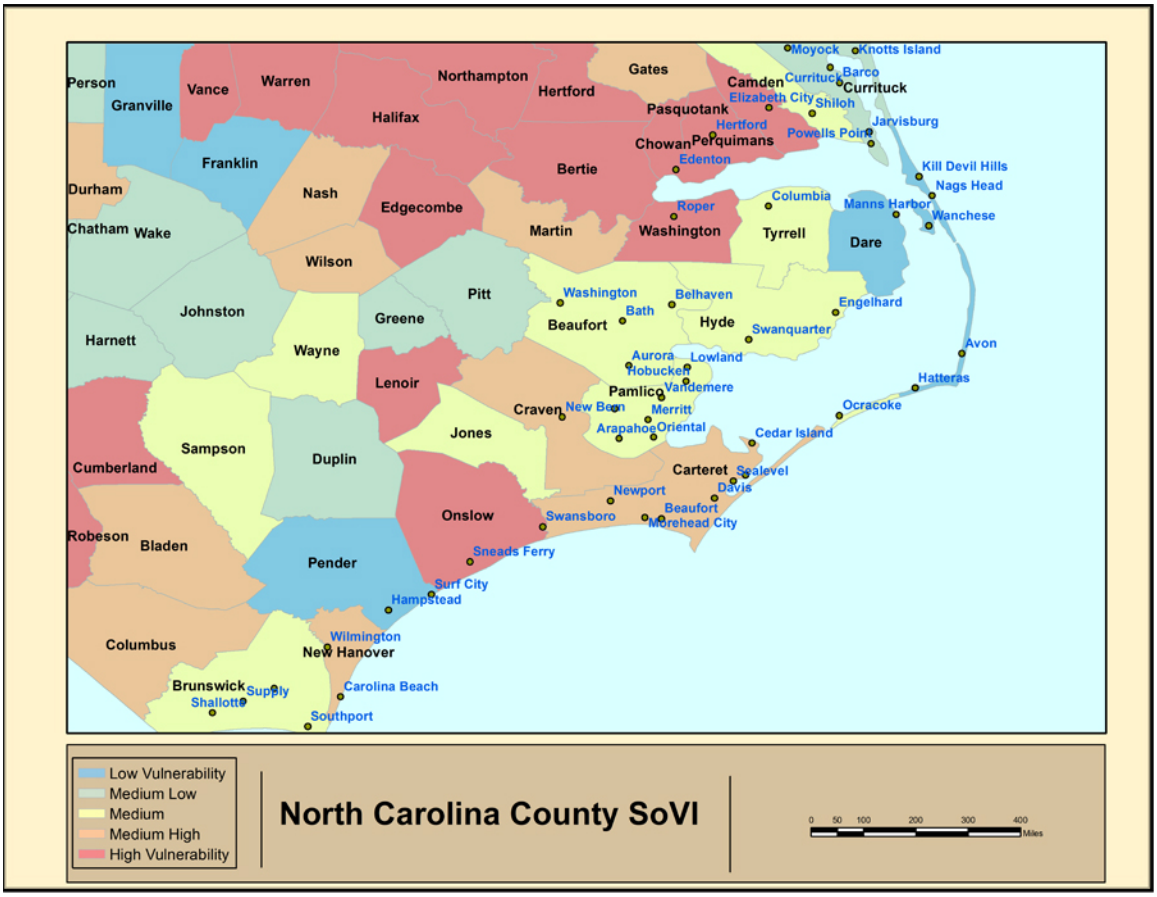

Figure 3-7. The Social Vulnerability Index applied to North Carolina Coastal Counties**.**

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 3-5**). 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 3-5. 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 3-6**). Almost all of the dealer permits are snapper grouper and dolphin-wahoo permits.

Table 3-6. 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 3-7**)

Table 3-7. 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 3-8**). 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 3-8. Federal charter permits in North Carolina coastal counties (2012).

County*	Dolphin Wahoo	Mackerels and Cobia	Snapper Grouper	Total
Beaufort	1	1	1	3
Brunswick	46	46	44	136
Carteret	40	34	34	108
Craven	3	2	2	7
Dare	89	83	78	250
Hyde	4	4	4	12
New Hanover	36	33	29	98
Onslow	6	7	7	20
Pasquotank	3	3	2	8
Pamlico	0	0	0	0
Pender	7	7	7	21
Total	**235**	**220**	**208**	**663**

* Based on the mailing address of the permit holder.

3.4.7 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.

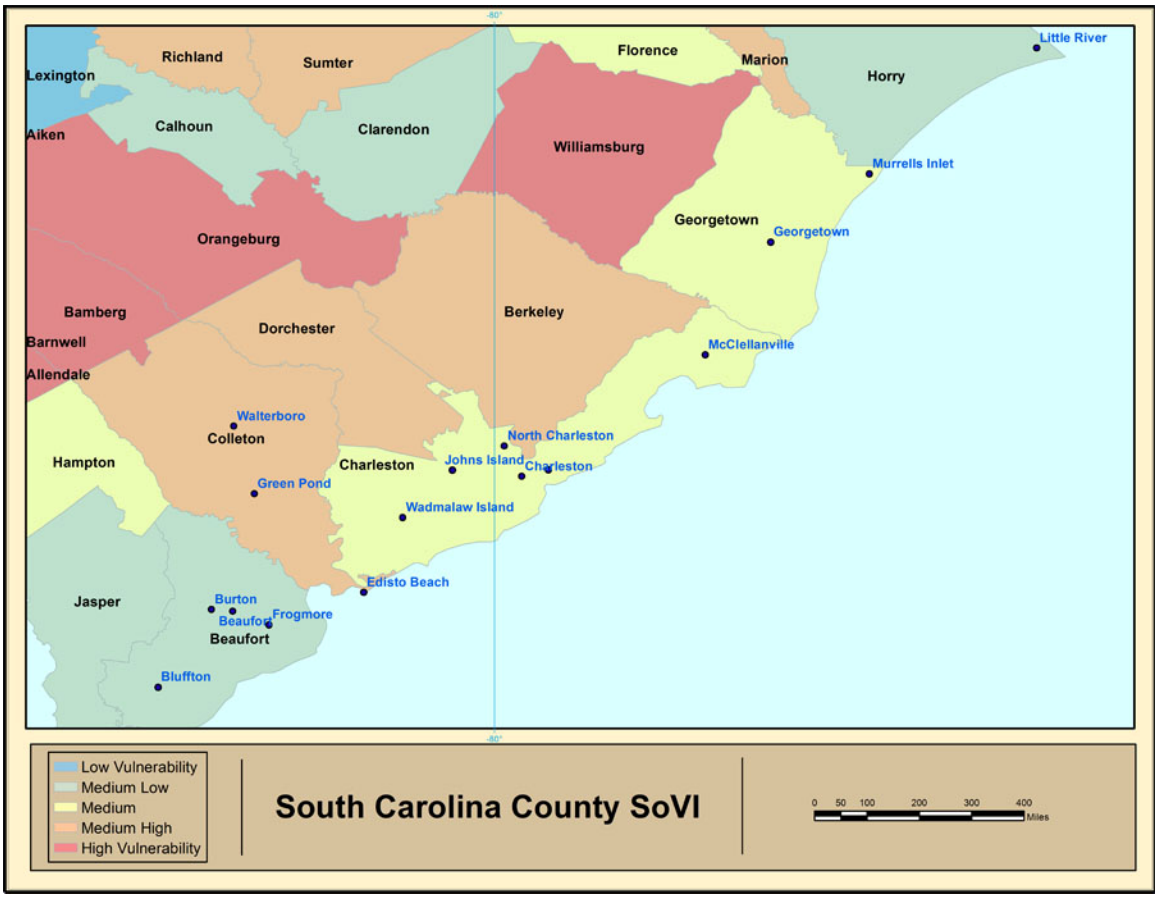

Figure 3-8. The Social Vulnerability Index applied to South Carolina Coastal Counties.

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 3-9**). 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 3-9. 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 3-10. 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 3-11**). Most are in Charleston County. There are no federal dealer permits in Beaufort or Berkeley Counties.

Table 3-11. 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 3-12**). It is common for charter vessels to have all three federal charter permits.

Table 3-12. 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 3-13**).

Table 3-13. 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

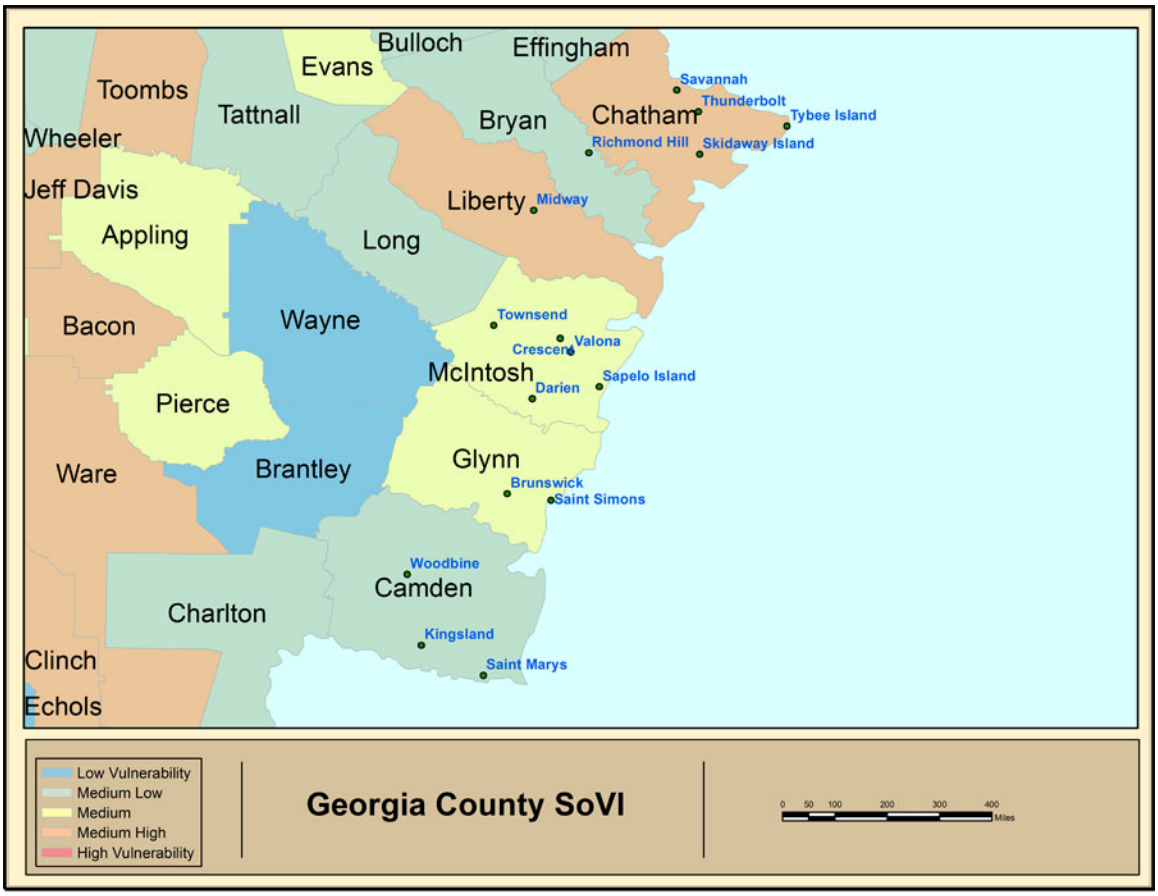

Figure 3-9. The Social Vulnerability Index applied to Georgia Coastal Counties.

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 3-14**). Many Georgia fishermen target shrimp or hold state commercial fishing permits.

Table 3-14. 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 3-15**).

Table 3-15. 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 3-16**). 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 3-17**) 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 3-16. 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 3-17. 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

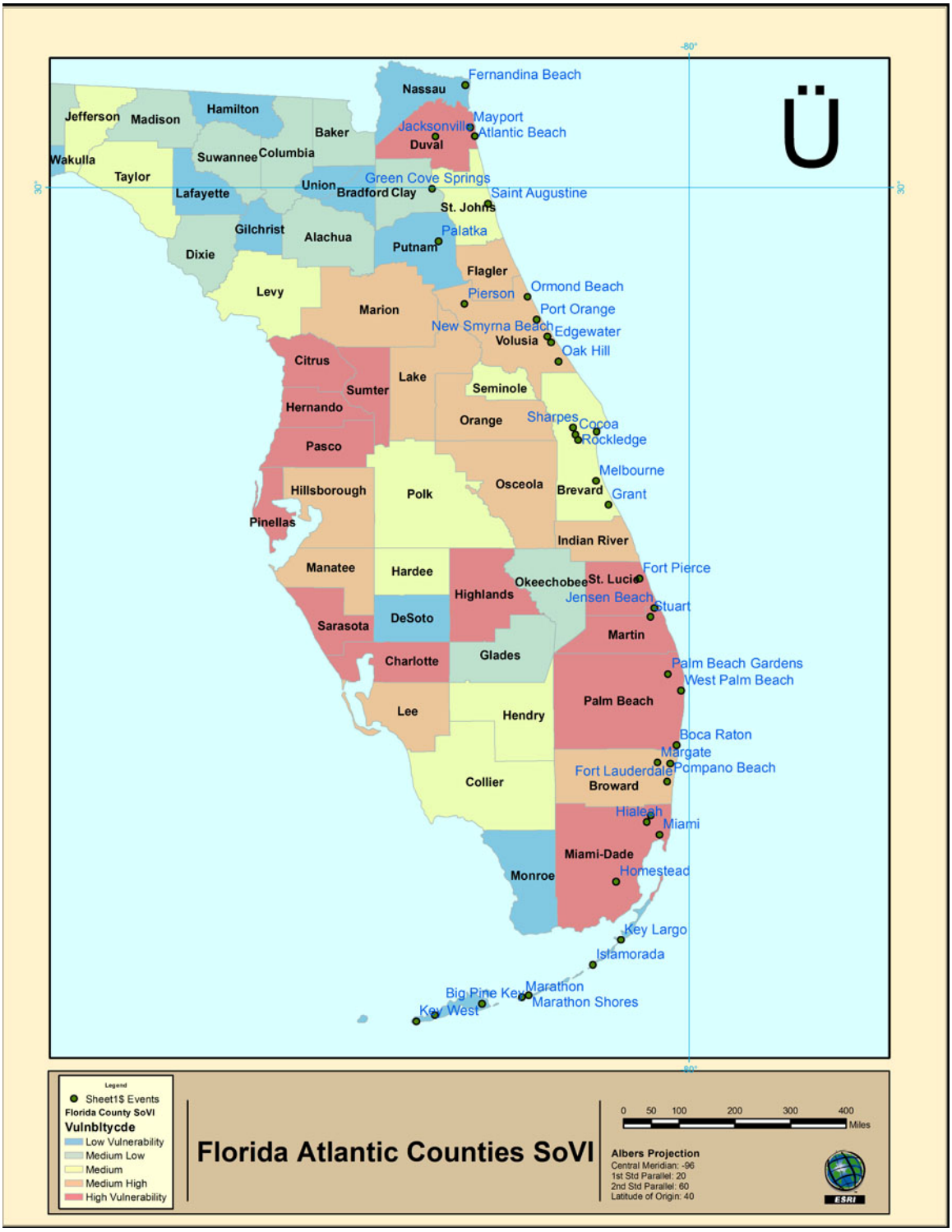

Figure 3-10. The Social Vulnerability Index applied to South Atlantic Florida Counties.

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 Fishery Management Council and the Gulf of Mexico Fishery Management Council.

Commercial Fishing

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

Florida has the largest number of commercial permits in the region (**Table 3-18**). 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 3-18. 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 3-19. 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 3-20**).

Table 3-20. 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 3-21**), but there are at least 20 permits in all counties.

Table 3-21. 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 3-22**; 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 3-22. 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

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

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

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

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

3.6 Administrative Environment

3.6.1 The Fishery Management Process and Applicable Laws

3.6.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources

within the U.S. Exclusive Economic Zone (EEZ), an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the U.S. EEZ.

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

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

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

3.6.1.2 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.

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

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

Alternative 1 (No Action). Retain existing permits and data reporting systems for the for-hire sector. Currently, the owner or operator of a vessel for which a charter vessel / headboat permit for Gulf coastal migratory pelagic fish, South Atlantic coastal migratory pelagic fish, Gulf reef fish, South Atlantic snapper grouper, or Atlantic dolphin and wahoo has been issued, or whose vessel fishes for or lands such coastal migratory pelagic fish, reef fish, snapper-grouper, or Atlantic dolphin or wahoo in or from state waters adjoining the applicable Gulf, South Atlantic, or Atlantic EEZ, and who is selected to report by the SRD, must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD. Completed records for charter vessels must be submitted to the Science and Research Director weekly, postmarked no later than 7 days after the end of each trip (Sunday). Completed records for headboats must be submitted to the Science and Research Director monthly and must either be made available to an authorized statistical reporting agent or be postmarked no later than 7 days after the end of each month.

Alternative 2. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

> **Sub-Alternative 2a.** Charter and headboat
> **Sub-Alternative 2b.** Headboat only

Alternative 3. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) daily via electronic reporting (via computer or internet). Daily = by noon of the following day.

> **Sub-Alternative 3a.** Charter and headboat
> **Sub-Alternative 3b.** Headboat only

Alternative 4. Require that charter and headboat vessels submit fishing records to the Science and Research Director (SRD) weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

> **Sub-Alternative 4a.** Charter and headboat
> **Sub-Alternative 4b.** Headboat only

IPT Recommendations
The IPT has recommended the following changes to the language of Action 1 and the alternatives:

- Change the language of the Action to state: **Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for charter/headboat vessels.**

- Remove "require that charter and headboat vessels" from Alternative 2-4 and replace with "require that vessels". This information is clear in the sub-alternatives.

  The Alternatives should read:
  Alternative 2. Require that vessels submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).
  Alternative 3. Require that vessels submit fishing records to the Science and Research Director (SRD) daily via electronic reporting (via computer or internet). Daily = by noon of the following day.
  Alternative 4. Require that vessels submit fishing records to the Science and Research Director (SRD) weekly or at intervals shorter than a week if notified by the SRD via electronic reporting (via computer or internet). Weekly = 7 days after the end of each week (Sunday).

- For sub-alternatives in Alternatives 2-4, split out "charter" as one sub-alternative and "headboat" as the other sub-alternative. If the Council's interest is to select both vessel types, selection of muti-preferred sub-alternatives is an option.

  The Sub-alternatives should read:
  Sub-Alternative 2a (and **3a & 4a**). Charter
  Sub-Alternative 2b (and **3b & 4b**). Headboat

<u>Background</u>

Currently, for-hire vessels are subject to the following permitting and reporting requirements:
Code of Federal Regulations: Title 50
§ 622.2 Definitions and acronyms.
Science and Research Director (SRD), for the purposes of this part, means the Science and Research Director, Southeast Fisheries Science Center, NMFS (see Table 1 of § 600.502 of this chapter).

§ 622.4 Permits and fees.
(a) Permits required. To conduct activities in fisheries governed in this part, valid permits, licenses, and endorsements are required as follows: (1) Charter vessel/headboat permits. (i) For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess, in or from the EEZ, species in any of the following species groups, a valid charter vessel/headboat permit for that species group must have been issued to the vessel and must be on board--
(A) Gulf coastal migratory pelagic fish.
(B) South Atlantic coastal migratory pelagic fish.
(C) Gulf reef fish.
(D) South Atlantic snapper-grouper.
(E) Atlantic dolphin and wahoo. (See paragraph (a)(5) of this section for the requirements for operator permits in the dolphin and wahoo fishery.)

(ii) See paragraph (r) of this section regarding a limited access system for charter vessel/headboat permits for Gulf reef fish and Gulf coastal migratory pelagic fish.

(iii) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the bag limits.

§ 622.5 Recordkeeping and reporting.
Participants in fisheries governed in this part are required to keep records and report as follows.

(b) Charter vessel/headboat owners and operators—
(1) Coastal migratory pelagic fish, reef fish, snapper-grouper, and Atlantic dolphin and wahoo. The owner or operator of a vessel for which a charter vessel/headboat permit for Gulf coastal migratory pelagic fish, South Atlantic coastal migratory pelagic fish, Gulf reef fish, South Atlantic snapper-grouper, or Atlantic dolphin and wahoo has been issued, as required under § 622.4(a)(1), or whose vessel fishes for or lands such coastal migratory pelagic fish, reef fish, snapper-grouper, or Atlantic dolphin or wahoo in or from state waters adjoining the applicable Gulf, South Atlantic, or Atlantic EEZ, and who is selected to report by the SRD, must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2) of this section.

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

4.1.1 Biological Effects

Modifying permits and data reporting for for-hire vessels is itself an administrative process for providing a means of collecting data from the industry but in itself does not directly affect the biological environment but does have an indirect effect. There will be positive indirect biological effects because having electronic reporting will make it easier to track landings in a timely manner. This will help prevent exceeding annual catch limits (ACLs).

Alternative 1 (No Action) would not require for-hire vessels to submit their data via electronic reporting (computer/internet) and would retain existing data reporting systems for the for-hire sector (see Discussion above). Currently, harvest and bycatch in the private and for-hire charter vessel sector is monitored by MRFSS/MRIP. The survey uses a combination of random digit dialed telephone intercepts of coastal households for effort information and dock-side intercepts for individual trips for catch information to statistically estimate total catch and discards by species for each sub-region, state, mode, primary area, and wave. Bycatch is enumerated by disposition code for each fish caught but not kept (B2). Prior to 2000, sampling of the charter vessel sector resulted in highly variable estimates of catch. However, since 2000, a new sampling methodology has been implemented. A 10% sample of charter

vessel captains is called weekly to obtain trip level information. In addition, the standard dockside intercept data are collected from charter vessels and charter vessel clients are sampled through the standard random digital dialing of coastal households. Precision of charter vessel effort estimates has improved by more than 50% due to these changes (Van Voorhees *et al.* 2000). Recent improvements have been made and the program is now called MRIP. Samples will now be drawn from a known universe of fishermen rather than randomly dialing coastal households. Other improvements have been and will be made that should result in better estimating recreational catches and the variances around those catch estimates.

Harvest from headboats is monitored by NOAA Fisheries Service at the SEFSC's Beaufort Laboratory. Collection of discard data began in 2004. Daily catch records (trip records) are filled out by the headboat operators, or in some cases by NOAA Fisheries Service approved headboat samplers based on personal communication with the captain or crew. Headboat trips are subsampled for data on species lengths and weights. Biological samples (scales, otoliths, spines, reproductive tissues, and stomachs) are obtained as time permits. Lengths of discarded fish are occasionally obtained but these data are not part of the headboat database.

Alternatives 2-4 would require that data be submitted to the Science Center more frequently than the current situation and electronically via computer resulting in positive indirect biological effects. Sub-Alternatives under **Alternatives 2-4** would apply to Charter and Headboat (**Sub-Alternatives a**) or Headboats only (**Sub-Alternatives b**). Requiring charter vessels to report weekly or daily would greatly improve the timeliness of reporting over the current 2 month wave plus 45 days under MRFSS/MRIP. **Alternative 3** would require daily reporting resulting in the most positive indirect biological effects, and **Alternative 2** would require weekly which is the same required deadline as **Alternative 1**; however, **Alternative 2** would require data be submitted via computer. **Alternative 4** would initially require weekly, with the additional requirement for data to be submitted via computer, but allow the SRD to require faster data submissions in the future without the Council having to prepare an additional amendment.

Overall, ranked in terms of highest to lowest positive indirect biological effects, the alternatives/sub-alternatives are as follows:

1. **Sub-Alternative 3a.**
2. **Sub-Alternative 4a.**
3. **Sub-Alternative 2a.**
4. **Sub-Alternative 3b.**
5. **Sub-Alternative 4b.**
6. **Sub-Alternative 2b.**
7. **Alternative 1 (No Action).**

4.1.2 Economic Effects

Action 1 (No Action) will maintain the current reporting requirements for commercial and headboat vessels. While the status quo will not change the economic effects, **Action 1 (No Action)** does not necessarily maximize economic returns for these for-profit businesses. **Alternatives 2 – 4** including the sub-alternatives could increase potential economic return for these businesses by leading to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of ACLs

and ought to reduce the potential for overrunning an ACL, triggering an AM that might include future paybacks, thus reducing the possibility of future fishing opportunities. At this point, without knowing how much ACLs would be overrun in the future, it is impossible to know the actual impact.

Alternatives 2–4 could require for-hire businesses to incur costs. If the business does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online. Buying a computer would be a onetime cost. An adequate computer could be purchased for less than $500. However, there would be a monthly internet service charge, depending on local availability, approximately $20 - $50 per month. Currently, there is no estimate of the number of for-hire operations that do not have a computer or internet access.

4.1.3 Social Effects

The social effects of changing permits and reporting requirements for the for-hire sector will most likely be associated with changes in frequency and method of reporting. In general, increased frequency in reporting under **Alternatives 2-4** may have some negative effects on vessel owners and captains by imposing additional time and money requirements. The daily reporting requirement under **Alternative 3** and the potential for daily reporting requirement under **Alternative 4** will be more burdensome for vessel owners and captains than the weekly reporting in **Alternative 2**. **Alternative 1 (No Action)** would not be expected to negatively impact the for-hire sector in terms of additional time and money requirements. Charter boat owners and captains will not be impacted under **Sub-alternative b** under **Alternatives 2-4**, but requirements for only headboats may not improve quota monitoring and accuracy.

The requirement for electronic reporting under **Alternatives 2-4** will affect vessel owners who do not already use computer systems in their businesses. Some fishermen are not familiar with computers or internet, and some may simply be more comfortable with paper fishing records. There may also be an increased risk of errors for electronic reporting by fishermen who typically do not use computers and internet in their businesses.

Although there are some expected impacts from changes in reporting requirements, there also would be long-term broad social benefits under **Alternatives 2-4**. More frequent reporting would be expected to improve quota monitoring, allowing NOAA Fisheries to better track landings and calculate expected closures and electronic reporting would be expected to produce the most accurate means of tracking landings. This improved monitoring would also be expected to reduce the likelihood of the recreational sector exceeding the ACL and the associated AMs. Improvements in monitoring would be beneficial to the for-hire fleet by minimizing the negative social effects of AMs such as early closures, reduced trip limits, or reduced ACL in the subsequent year ("pay-backs"). Monitoring improvements and reduced risk of exceeding an ACL would also be expected to contribute to sustainability in the fisheries and maintenance of the fish stocks. These benefits to the for-hire sector, recreational sector, and the public would not be expected under **Alternative 1 (No Action)**.

4.1.4 Administrative Effects

The administrative effects of changing permits and reporting requirements for the for-hire sector will most likely be associated with rule-making, outreach and implementation of the revised reporting scheme. In

general, increased frequency in reporting under **Alternatives 2-4** would increase the administrative burden on the agency. As the number of vessels affected increases (under the sub-alternatives), so do the administrative impacts. **Alternative 3** would have the greatest increase in the administrative burden on both the agency and the vessel owners and captains due to the requirement for daily reporting. The alternative requires information to be sent via computer/internet which may alleviate burden for some fishery participants and increase the burden for those who do not have access to a computer system. **Alternative 4** would allow for the SRD to modify the frequency of reporting in the future. This alternative would have the potential to increase or decrease the administrative impacts on the fishery participants depending on what the SRD deems appropriate. **Alternative 4** would reduce the administrative impacts on the agency as the SRD could change the frequency of reporting without going through the Council and rule-making process. Of the three action alternatives and associated sub-alternatives, **Alternative 3** would be the most administratively burdensome to both the agency and fishery participants. Requiring daily reporting will increase the burden on anglers and require the agency to process data at a more rapid speed than the status quo.

4.1.5 Conclusion

4.2 Action 2. Modify permits and data reporting for commercial vessels

Alternative 1. (No Action) Retain existing permits and data reporting systems for the commercial sector. Snapper grouper logbooks are required to be submitted 7 days after the end of each trip.

Alternative 2. Modify permits and data reporting for commercial vessels as follows:

> **Sub-Alternative 2a.** Require NMFS to develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available online. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

Alternative 3. "No fishing forms" must be submitted at the same frequency [currently submitted monthly], via the same process, and for all species as is currently specified for snapper grouper species. A fisherman would only be authorized to sell commercially-harvested species if the fisherman's previous reports have been submitted by the fisherman and received by NMFS in a timely manner. Any delinquent reports would need to be submitted by the fisherman and received by NMFS before a fisherman could sell commercially harvested species from a federally-permitted U.S. vessel.

Alternative 4. Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the shareholder.

IPT Recommendations

The IPT has recommended the following changes to the language of Action 2 and the alternatives:

- Change language of Action to state: **Action 2. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify data reporting for commercial vessels.**

- Remove Alternative 2 and Sub-Alternative 2a becomes the new Alternative 2. Replace "online" with "computer or internet" in this alternative and it should read: **Alternative 2**. Require NMFS to develop a system for commercial permit holders to submit their logbook entries electronically via an electronic version of the logbook made available via computer or internet. Fishermen are encouraged to submit their logbook reports electronically but would be allowed to submit paper logbooks. Commercial landings and catch/effort data are to be submitted in accordance with ACCSP standards. Require that the three logbooks (landings, economic, and bycatch) be submitted within 21 days after the end of each trip.

- Begin Alternative 3 with an action word: "**Alternative 3.** Require "No fishing forms" to be submitted at the same frequency…"

- Change the wording of "shareholder" to "permit holder" in Alternative 4 because there are no shareholders.

  The language in Alternative 4 should read: **Alternative 4.** Require all commercial snapper grouper fishing vessels to be equipped with VMS. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

- Remove Alternative 4 from Action 2 and make this measure a stand-alone Action. The Action would read:

  Action 3. Require all commercial snapper grouper fishing vessels to be equipped with VMS.

  Alternative 1. No Action.

  Alternative 2. The purchase, installation, and maintenance of VMS equipment must conform to the protocol established by NMFS in the *Federal Register*. The purchase of VMS equipment will be reimbursed by the National Office of Law Enforcement VMS reimbursement account if funding is available. Installation, maintenance, and communication costs will be paid for or arranged by the permit holder.

<u>Background</u>

Snapper Grouper Fishery Management Plan and Amendments

The Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 1983) was prepared by the South Atlantic Fishery Management Council and implemented by the Secretary of Commerce on August 31, 1983 [48 Federal Register 39463]. Management Measure #18: Statistical Reporting and Data Collection: "Data will be collected from a sample of commercial and recreational catch for YPP analysis. Those fishermen and dealers selected must make their fish available for inspection (measurement) by statistical reporting agents. Dealers will continue voluntary reporting of landings and value by species for those species reported in Fishery Statistics of the United States."

Amendment 4 (SAFMC 1991b) was prepared by the South Atlantic Fishery Management Council and approved by the Secretary of Commerce on August 26, 1991 and all regulations were effective on January 1, 1992 except the bottom longline prohibition for wreckfish was implemented on October 25, 1991 [56 Federal Register 56016]. Data measures were included as follows:

To exceed bag limits in the snapper grouper fishery, an owner or operator of a vessel that fishes in South Atlantic federal waters is required to obtain an annual vessel permit. For individuals to qualify for a permit they must have at least 50 percent of their earned income, or $20,000 in gross sales, derived from commercial, charter, or headboat fishing. For a corporation to be eligible for a permit, the corporation or shareholder or officer of the corporation or the vessel operator would be required to have at least $20,000 in gross sales derived from commercial fishing. For partnerships, the general partner or operator of the vessel is required to meet the same qualifications as a corporation. A permit, gear, and vessel and trap identifications are required to fish with black sea bass traps. Amendment 4 also included Action 4: Data Collection to track the Gulf Council's reef fish regulations as closely as is feasible: Item #3. Established reporting requirements for dealers.

Amendment 6 (SAFMC 1993b) was prepared by the South Atlantic Fishery Management Council and submitted to the Secretary of Commerce in December 1993. Commercial trip limits for snowy grouper and golden tilefish became effective June 6, 1994, and the remainder of the regulations became effective June 27, 1994 [59 Federal Register 27242]. Data will be collected to evaluate shifts in fishing effort (effort shifts) among fisheries and for future evaluation of an "Individual Transferable Quota" (ITQ) type of management approach. Action 12 proposed to track and monitor total quotas by species to ensure that TAC is not exceeded and to document production by species by individual fishermen. Require 100% logbook coverage and some form of verification with information from dealers. This in effect requires the Science and Research Director to select and analyze mandatory logbooks for all snapper grouper permitted vessels. The catch by divers is to be separated by gear (powerheads, spearing, etc.). Amendment 6 was approved on May 5, 1994 with the exception of the 100 percent logbook coverage [Note: Rationale for rejection was "The National Marine Fisheries Service (NMFS) believes that the methods employed to obtain necessary management data and the appropriate sampling strategy for such data are determinations properly made by the Science Director of the Southeast Fisheries Science Center." NMFS did and has to date continued the 100% logbook coverage.] and the anchoring prohibition within the Oculina Bank.

Golden Crab Fishery Management Plan
The Fishery Management Plan (FMP) for the Golden Crab Fishery of the South Atlantic Region (SAFMC 1995) was prepared by the South Atlantic Fishery Management Council and implemented by the Secretary of Commerce on August 27, 1996 [61 Federal Register 43952]. The FMP required vessel permits (Action 14), dealer permits (Action 15), vessel/fishermen reporting (Action 16), and dealer reporting (Action 17).

Dolphin/Wahoo Fishery Management Plan
The Fishery Management Plan (FMP) for the Dolphin and Wahoo Fishery of the Atlantic (SAFMC 2003) was prepared by the South Atlantic Fishery Management Council in cooperation with the New England and Mid-Atlantic Fishery Management Councils. The FMP was implemented by the Secretary of Commerce on May 27, 2004 [69 Federal Register 30235]. The FMP required dealer permits (Action 3), for-hire and commercial vessel permits (Action 4)(Note: NMFS disapproved the qualifying criteria proposed to obtain a commercial vessel permit.), and for-hire and commercial operator's permits (Action

5). The FMP also required reporting of vessel permit holders (commercial and for-hire) and included the reporting requirements as specified in the Atlantic Coastal Cooperative Statistics Program (ACCSP) through Action 6.

Coastal Migratory Pelagics Fishery Management Plan and Amendments
The Fishery Management Plan (FMP) for the Coastal Migratory Pelagic Resources (Mackerels) (GMFMC and SAFMC 1983) was prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils and implemented by the Secretary of Commerce on February 4, 1983 [48 Federal Register 5270]. The FMP specified statistical reporting measures (Section 12.3.6).

Amendment 1 (GMFMC and SAFMC 1985) was prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils and implemented by the Secretary of Commerce on August 28, 1985 [50 Federal Register 34840]. Amendment 1 required commercial king mackerel permits to fish under the commercial quota on the Gulf king mackerel group; these vessels are exempt from the recreational bag limit. The amendment also specified statistical reporting measures (Section 12.6.10).

Amendment 2 (GMFMC and SAFMC 1987) was prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils and implemented by the Secretary of Commerce on June 30, 1987 and August 24, 1987 [52 Federal Register 23836]. Amendment 2 required commercial vessel permits to fish under the commercial quota on king or Spanish mackerel (Action 10, Section 12.6.4.1 A); these vessels are exempt from the recreational bag limit. The amendment also required charterboat permits for coastal migratory pelagic for-hire (Action 10, Section 12.6.4.1 B).

Amendment 8 (GMFMC and SAFMC 1996) was prepared by the Gulf of Mexico and South Atlantic Fishery Management Councils and implemented by the Secretary of Commerce on March 3, 1998 and April 3, 1998 [63 Federal Register 10561]. Amendment 8 required dealer permits and dealer record keeping (Section 2.5.1).

With regards to Alternative 4, Shrimp Amendment 5 (SAFMC 2002) required the use of VMS technology for South Atlantic permitted rock shrimp vessels. The Council concluded that rock shrimp vessels carrying an approved VMS unit would improve compliance and allow the rock shrimp industry to demonstrate they are not fishing within any closed areas, specifically the Oculina Bank Coral Habitat Area of Particular Concern. The CE-BA 1 explored the idea of VMS for the golden crab fishery but after many discussions with the fishery participants and law enforcement, it was determined that VMS is not an effective tool to monitor the location of golden crab fishing gear.

VMS unit costs differ depending upon the model purchased. The NMFS-approved VMS unit costs are shown in **Table 4-1**.

Table 4-1. NMFS-approved VMS units and costs.

Brand and Model	Cost
Boatracs FMCT-G	$3095
Thrane and Thrane TT-3026D	$2495
Faria Watchdog KTW304	$3295
CLS America Thorium TST	$3095

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

The current reimbursement amount from NOAA Fisheries Service for the purchase of a VMS unit to meet a regulatory requirement is up to $3,100, assuming an owner has not previously been reimbursed for another VMS unit on the same vessel.

The VMS regulations changed in 2008 and now only authorize the purchase of Enhanced Mobile Transmitting Units (EMTU). These are VMS units that have a computer screen which enables the fishermen to submit any required forms or make required declarations or prelanding notices. Previously, HMS and rock shrimp vessel owners were able to purchase "pingers" only, which were half the cost of these newer units. All fisheries are now required to comply with the new EMTU requirements and those estimated costs are provided in **Table 4-1**.

While installation costs are approximately $300 per unit depending upon location of the vessel and installer, maintenance costs cannot be estimated with existing information. Communication costs for each of the models average from $35 to $80 per month, depending on owner data usage, and are provided in (**Table 4-2)**.

Table 4-2. NMFS-approved VMS communications costs.

1. Qualcomm (for Boatracs units) $30/mo satellite fee, $.30/message, $.006 per character for messaging (average price estimated $35/month which includes 24/7 operations center support)
2. Telenor (for Thrane units) $.06 per position report or $1.44 per day for 1 hour reporting. If in the "In Harbor" mode, then $.36 per day. Messaging costs $.24 per e-mail. ($30/mo average)
3. Iridium/Cingular Wireless (for Faria units) $50.25 per month which includes 12,000 Iridium bytes and 35,000 GSM bytes for email and e-forms reporting.
4. Iridium (for CLS America units) $45 per month for hourly reporting, $1.75 per kbyte for e-mail or forms submission.

Source: Data provided by NMFS Office of Law Enforcement, July 2012.

4.2.1 Biological Effects

Modifying permits and data reporting for commercial vessels is itself an administrative process for providing a means of collecting data from the industry but in itself does not directly affect the biological environment but does have an indirect effect. There will be positive indirect biological effects because having more timely, complete, and electronic reporting will make it easier to verify landings in a timely manner. This will help prevent exceeding annual catch limits (ACLs) by providing a data source to double check the dealer reporting. In addition to monitoring quotas in a more timely fashion than under the current quota monitoring system, the SAFIS has the potential to improve the quality of data and stock assessments.

Alternative 1 (No Action) would retain existing data reporting systems for the commercial sector (**Table 1-3**) including new regulations implemented through Amendment 15B which require a vessel that fishes in the EEZ, if selected by NOAA Fisheries Service, to carry an observer and install an electronic logbook (ELB) and/or video monitoring equipment provided by NOAA Fisheries Service. For the South Atlantic snapper grouper commercial fishery, current regulations (50CFR §622.5) require participants in the South

Atlantic snapper grouper fishery who are selected by the Southeast Science and Research Director (SRD) to maintain and submit a fishing record on forms provided by the SRD.

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

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

At the June 2012 Council meeting, the SEFSC updated the Council on current quota monitoring efforts. The details are included as **Appendix K**. The SEFSC also updated the Council on the level of late reporting by fishermen submitting logbooks and the details are included as **Appendix L**.

Alternative 1 (No Action) would continue current reporting requirements but would not require that commercial vessels with a snapper grouper permit to use vessel monitoring systems (VMS). **Alternative 1 (No Action)** would also not make any improvements to the accountability of fishermen to submit logbooks in a timely manner or provide fishermen a means to report their information electronically using a NMFS-developed electronic version of the logbook.

Alternative 2 would give fishermen the option to submit their logbooks electronically via an online form developed by NMFS and would change the deadline for submission of logbooks from 7 days after the trip to 21 days after the trip. This period of time is necessary for fishermen to receive all the necessary information from the fishhouse complete the three logbooks. This would result in more positive indirect biological effects.

Alternative 3 would require “no fishing forms” when fishermen don’t fish and would address the extensive late reporting by requiring that a fisherman would only be authorized to sell fish if the previous reports have been submitted by the fisherman and received by NMFS. This would result in more positive indirect biological effects.

NMFS could work with ACCSP and have fishermen use the online eTRIPS capability of the SAFIS system or they could develop a separate electronic version of the existing logbooks.

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

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

Alternative 4 would require use of VMS that would greatly improve our biological understanding of the fishery. Knowing where fishermen are fishing would help understand how fishing pressure is distributed across the bottom habitat. This information could be used in stock assessments and would be helpful in documenting impacts of regulations that may close fishing in certain areas (e.g., MPAs are under consideration in CE-BA 4). This would result in more positive indirect biological effects.

Overall, selection of **Alternatives 2**, **3,** and **4** as preferred would result in the highest level of positive indirect biological effects.

4.2.2 Economic Effects

Action 1 (No Action) will maintain the current reporting requirements for commercial and headboat vessels. While the status quo will not change the economic effects, **Action 1 (No Action)** does not necessarily maximize economic returns for these for-profit businesses. **Alternative 2** could increase potential economic return for these businesses by leading to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of ACLs and ought to reduce the potential for overrunning an ACL, triggering an AM that might include future paybacks, thus reducing the possibility of future fishing opportunities. At this point, without knowing how much ACLs would be overrun in the future, it is impossible to know the actual impact.

Alternative 2 could require commercial fishermen who choose to file electronically to incur costs. If the fisherman does not currently have access to a computer, they would need to either purchase one or take time to go to a public access source to enter their landings online, or simply continue to file paper logbooks at no additional cost. Buying a computer would be a onetime cost. An adequate computer could be purchased for less than $500. However, there would be a monthly internet service charge, depending on local availability, approximately $20 - $50 per month. Currently, there is no estimate of the number of affected commercial fishing operations that would like to file electronically, but do not have a computer or internet access.

The economic impacts of complying with **Alternative 3** would be minimal. Fishermen would simply be required to report to NMFS when they are not fishing so that it will be known whether or not they are delinquent in turning in landings reports. The only potential economic impacts to a fisherman from **Alternative 3** would come if the fisherman was out of compliance and could not sell fish until delinquent reports were filed.

The background of **Action 2 (Tables 4-1** and **4-2)** describes economic impacts for implementation of VMS (**Alternative 4)**.

The annual aggregate costs of implementing VMS assuming management does not help subsidize the cost of the VMS units is summarized in **Table 4-3** and the annual aggregate costs of implementing VMS assuming management helps subsidize the cost of the VMS units is summarized in **Table 4-4**.

Table 4-3. Summary of annual costs to fishermen of implementation assuming VMS unit cost is not subsidized[1]. [Input updates from P.OShaugnessy]

Alternatives	**Total VMS Purchase Cost**	**Total Installation Cost**	**Total Annual Maintenance Cost**	**Total Annual Communication Cost**	**Total Cost**[2]
First year	$34,045-$39,545	$3,300	Unknown	$3,960-$10,560	$41,305-$53,405+ maintenance cost
Subsequent years	NA	NA	Unknown	$3,960-$10,560	$3,960-$10,560+ maintenance cost

Note 1: This table assumes that the VMS unit cost is not subsidized by management.
Note 2: The Total Cost column uses the lower Unit Cost and lower Communication Cost estimates to calculate the value at the lower end of the range. Likewise, the Total Cost column uses the higher Unit Cost and higher Communication Cost estimates to calculate the value at the lower end of the range.
Note 3: These costs do not include the incremental administrative costs associated with data collection, employees, function, and maintenance of the VMS system for fisheries.

Table 4-4. Summary of potential annual costs to fishermen of implementation assuming VMS unit cost is subsidized[1]. [Input updates from P.OShaugnessy]

Alternatives	**Unit Cost (fishermen/ management)**	**Implementation of Unit (fishermen)**	**Unit Maintenance (fishermen)**	**Communication Costs (fishermen)**	**Total Cost (fishermen/ management)**[2]
First year	($0-$3,465)/ ($21,700)	$2,100	Unknown	$2,520-$6,720	$4,620-$12,285 + maintenance cost
Subsequent year	NA	NA	Unknown	$2,520-$6,720	$2,520-$6,720 + maintenance cost

Note 1: This table assumes that the VMS unit cost is subsidized
Note 2: The Total Cost column uses the lower Unit Cost and lower Communication Cost estimates to calculate the value at the lower end of the range. Likewise, the Total Cost column uses the higher Unit Cost and higher Communication Cost estimates to calculate the value at the lower end of the range.

Note 3: This $0 estimate does not account for the fact that management may subsidize VMS units that need replacement. It is not possible to make an estimate as to how many units may need replacement at this time.
Note 4: These costs do not include the incremental administrative costs associated with data collection, employees, function, and maintenance of the VMS system for the golden crab fishery.

If the fleet pays the cost of VMS**,** the producer surplus would be expected to decrease by the variable component of the total VMS costs, since VMS is expected to neither increase revenue nor decrease fishing costs not associated with the VMS. If NOAA Fisheries Service pays for the cost of the VMS it would not change producer surplus because transfer payments are excluded from the calculation.

4.2.3 Social Effects

Similar to effects on for-hire vessel owners and captains, changes in frequency of reporting requirements for commercial vessels may also have some negative effects on commercial vessel owners and captains by imposing additional time and money requirements. **Alternative 1 (No Action)** would be expected to not result in impacts on commercial fishermen but would reduce long-term social benefits associated with more accurate and timely data that would be expected under **Alternatives 2** and **3**. **Alternatives 2** and **3** would extend reporting requirements for snapper grouper permit holders to all commercial permit holders, which will increase the burden on fishermen who do not currently hold snapper grouper permits. The option for paper or electronic reporting under **Alternative 2** would provide flexibility to fishermen who currently do not own the equipment necessary for electronic reporting or are not familiar with electronic reporting.

The VMS requirement under **Alternative 4** would result in a range of effects on the commercial fleet. In part, negative impacts would be associated with the economic impacts of additional cost for the vessel owner, but it is likely that many fishermen will oppose a VMS requirement because of the independent characteristic of the industry.

VMS on all commercial vessels would be expected to improve enforcement and compliance with reporting requirements, area closures, seasonal closures, and other management measures. A VMS mandate for all commercial vessels will eliminate the unfair advantage to fishermen who do not comply with regulations and fish when and where it is not allowed. Overall, the benefits to the entire fleet would be expected to outweigh the negative impacts of the VMS requirement in **Alternative 4**.

4.2.4 Administrative Effects

Under **Alternative 1 (No Action)** no administrative impacts would be incurred outside of the status-quo. Reporting mechanisms would continue unchanged and impacts associated with them would also remain unchanged. **Alternative 2** would result in an increased administrative burden; however that burden would not extend beyond the scope of data management and analysis. The resultant increased data management workload would be considered a minimal to moderate adverse administrative impact. **Alternative 3** would require the fishermen to submit a form when they are not fishing. This requirement would result in a moderate administrative impact to both the agency and the fishery participants related to compliance and processing. **Alternative 4** would result in large administrative impacts to both the agency and the fishery participants. Under **Alternative 4**, all commercial snapper grouper vessels would be required to have VMS onboard their vessel. Administrative impacts associated with this alternative relate

to rule-making, enforcement, monitoring, and education and outreach. Establishing a VMS provision is not a trivial administrative task on the side of the agency and would result in significant burden. For the fishery participants, the same is true.

4.2.5 Conclusion

Snapper Grouper Advisory Panel

The Snapper Grouper Advisory Panel (AP) has recommended to the Council on numerous occasions they consider a requirement to carry VMS for both recreational and commercial vessels in the South Atlantic. In April 2010, the SG AP approved a motion to recommend mandatory VMS for all vessels that interact with snapper grouper species in the EEZ and accountability measures that would prevent fishing in the absence of VMS. Again in April 2012, the SG AP approved a motion to recommend the Council require VMS for any vessel harvesting fish in South Atlantic waters.

4.3 Action 3. Modify bycatch and discard reporting

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

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

Alternative 3. Bycatch data will be collected to meet or exceed the ACCSP standards.

IPT Recommendations
The IPT has recommended the following changes to the language of Action 3 and the alternatives:

- Change language of action to state: **Action 3. Amend the Snapper Grouper, Dolphin and Wahoo, Coastal Migratory Pelagic Resources, and Golden Crab Fishery Management Plans to modify bycatch and discard reporting.**

- Remove "adopt" from the language in Alternative 1 (No Action) and indicate these are the current requirements in place.

- Change the language of Alternative 2 to state: **Alternative 2.** Implement the Atlantic Coastal Cooperative Statistics Program (ACCSP) Release, Discard and Protected Species Module as the preferred methodology.

- Remove Alternative 3 from consideration. Include new Alternative 3 to state: **Alternative 3.** Implement aspects of ACCSP that are not currently being done.

Background

The following material is an excerpt from the ACCSP Data Collection Standards for 2012. The full report is included as **Appendix J**.

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 entanglement1 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.

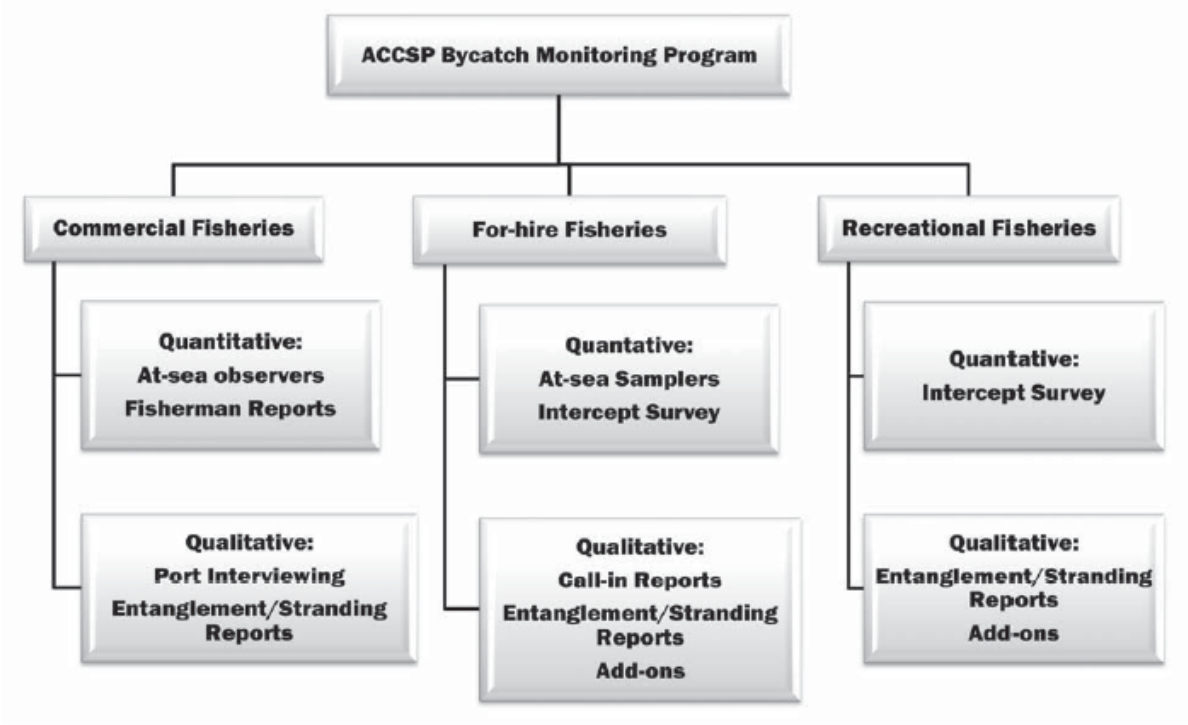

Figure 4-1. The ACCSP bycatch data collection methods for commercial, recreational, and for-hire fisheries.

Table 4-5. ACCSP reporting standards and status of implementation of modules.

ACCSP Requirements	Fulfilled?	Method
Reporting Requirements (Discards)		
Commercial	Partial	Supplemental Discards logbook (20% permit holders/year)
For Hire	Full	MRFSS & Headboat Survey
Private/Recreational	Full	MRFSS
Required Reporting (Protected Species Interactions)		
Commercial	Partial	-Supplemental Discards logbook (20% permit holders/year
For-Hire (All vessels)	Partial	Reporting of protected resources interactions not mandatory.
Private/Rec	Partial	Reporting of protected species resources interactions only one year (2006)
Target Sampling -Bandit (h/l) 5% of trips -BSB Pots 3.5% of trips -For-Hire (h/l) 5% of trips	Full	-Supplemental Discards logbook (20% permit holders/year)
Commercial Fishermen reporting system must have standardized data	Full	

elements		
Mandatory reporting of threathened species and protected finfish species	Partial	-Supplemental Discards logbook (20% permit holders/year)
Observer Coverage		
Pilot program to determine appropriate coverage	Ongoing	Gulf and South Atlantic Fisheries Foundation has a project to implement a pilot observer program in the vertical hook and line fishery.
Commercial	Partial	Cooperative Research Program (Only 2006-2007)
For-Hire	None	
Private/Rec	None	
Outreach/Training:		
Programs on Reporting	None	
Note: Both the commercial and for-hire sectors are required to utilize observers, fishermen reporting, and port interviewing to qualitatively and quantitatively describe release, discards, and protected resources interactions.		

4.3.1 Biological Effects

Modifying bycatch and discard reporting requirements for recreational and commercial vessels is itself an administrative process for providing a means of collecting data from the industry but in itself does not directly affect the biological environment but does have an indirect effect. There will be positive indirect biological effects because having more timely and complete bycatch/discard reporting will make it easier to track total mortality. This will help prevent exceeding acceptable biological catch levels (ABCs). 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.

Included in **Alternative 1 (No Action)** would be the measures in Snapper Grouper Amendment 15B, which was approved and implemented by the Secretary with regulations effective in late 2009 and early 2010. The Council's preferred alternative allows for the implementation of interim programs to monitor and assess bycatch in the South Atlantic snapper grouper fishery until the ACCSP Release, Discard and Protected Species (Bycatch) Module can be fully funded. The interim programs or first phase of the alternative allow for the collection of bycatch information utilizing a variety of methods and sources as follows:

1. Require that selected vessels carry observers funded by the agency.
2. Require selected vessels employ electronic logbooks or video monitoring funded by the agency.
3. Utilize bycatch information collected in conjunction with grant-funded programs such as MARFIN and Cooperative Research Program (CRP). Require that raw data be provided to NOAA Fisheries Service and the Council.
4. Request that bycatch data collected by states be provided to NOAA Fisheries Service and the Council. Many states may have collected data on snapper grouper bycatch in the past.

Furthermore, some states may be currently collecting bycatch data through studies that are conducted in state waters.

5. Develop outreach and training programs to improve reporting accuracy by fishermen.

Bycatch data on protected species are currently collected in the commercial snapper grouper fishery through the supplementary discard form. In 1990, the SEFSC initiated a logbook program for vessels with federal permits in the snapper grouper fishery from the Gulf of Mexico and South Atlantic. In 2001, a separate bycatch reporting logbook was added to include numbers on the average size of discarded fish by species. The discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders. The sample selections are made each year and the selected fishermen/vessels are required to complete and submit the form for the trips they make during the following calendar year. Fishermen are not selected for the next four years after they submit a discard form for a year. However, over a five-year period, 100% of snapper grouper permit holders will have been required to report in one of the five years. **Alternative 1 (No Action)** would continue the current situation whereby only 20% of commercial vessels are currently completing discard logbooks.

In addition, information is collected on protected species interactions. The key advantage of logbooks is the ability to use them to cover all fishing activity relatively inexpensively. However, in the absence of any observer data, there are concerns about the accuracy of logbook data in collecting bycatch information. Biases associated with logbooks primarily result from inaccuracy in reporting of species that are caught in large numbers or are of little economic interest (particularly of bycatch species), and from low compliance rates. Many fishermen may perceive that accurate reporting will result in restricted fishing effort or access. This results in a disincentive for reporting accurate bycatch data and an incentive to under-report or not report. Therefore, logbook programs are more useful in recording information on infrequently caught species and providing estimates of total effort by area and season that can then be combined with observer data to estimate total bycatch.

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

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

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

Alternative 2 would provide the required data collection program to meet the Magnuson-Stevens Act bycatch reporting requirements. Program standards specify the level of sampling needed. This would result in more positive indirect biological effects.

Alternative 3 would allow data to be collected using any means so long as the resulting data meet or exceed the ACCSP standards. 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.

4.3.2 Economic Effects

The alternatives under Action 3 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 NMFS/NOAA Fisheries implements the ACCSP standards (**Alternative 1 (No Action)** and **Alternative 2**), significant, negative impacts could result if the fishery participants are required to fund the cost of at-sea observers or other data collection costs. The impact of the cost would be determined by the frequency with which fishermen would have to pay for observers, or other measures. Until the ACCSP standards are implemented (see **Table 4-5**), it is impossible to know the potential impact to individual fishermen or overall. However, if requiring fishermen to pay for observers or other expensive data collection measures become requirements, it is possible the increased cost may cause some fishermen to leave the fishery.

4.3.3 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 currently in place under **Alternative 1**, if these methods are not the most effective methods for bycatch monitoring and reporting this may result in considerable social action to publicize bycatch in a fishery, resulting in increased social conflict and polarization of the different perspectives.

Alternatives 2 and **3** are expected to improve the collection of bycatch data, thereby improving the quality of stock assessments and subsequent fishery decisions. Each alternative has the potential of imposing costs on individual fishery participants that could be excessive and result in fishery exit, which

would be expected to result in additional personal, family and community, and associated industries stress and change.

4.3.4 Administrative Effects

Under the status quo (**Alternative 1**), modules of the ACCSP are implemented as funding allows (**Table 4-5**). **Alternative 2** would require that the ACCSP be implemented regardless of funding availability. Administratively, this would be difficult as it would require funding to be shifted from various sources to implement the reporting modules. The administrative impacts under **Alternative 3** would be less than those of **Alternative 2**. Under **Alternative 3**, the agency would have more flexibility in how the bycatch information is collected and would be able to modify the collection to have the least amount of impacts on the agency while maintaining the standards of the ACCSP. At this point it is difficult to determine the administrative impacts of the action on fishery participants for **Alternative 3**. **Alternative 2** would increase the administrative impacts on fishery participants.

4.3.5 Conclusion

Chapter 5. Council's Choice for the Preferred Alternative

Action 1. Modify permits and data reporting for for-hire vessels

Action 2. Modify permits and data-reporting for commercial vessels

Action 3. Modify bycatch and discard reporting

Chapter 6. Cumulative Effects

6.1 Biological

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

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

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

2. Establish the geographic scope of the analysis.

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Council's area of jurisdiction. 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 FMP for the Snapper Grouper Fishery of the South Atlantic Region (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 FMP for the Snapper Grouper Fishery of the South 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 FMP for the Snapper Grouper Fishery of the South Atlantic Region (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 FMP for the Snapper Grouper Fishery of the South Atlantic Region (SAFMC 2008b) was approved by the Secretary. Management measures in Amendment 15B that affect species in the Comprehensive ACL Amendment include 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 a deepwater snapper grouper closure seaward of 240 ft in addition to establishing annual catch limits and accountability measures for species experiencing overfishing.

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 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).

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 NC/SC 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.

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. 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 FMP for the Golden Crab Fishery of the South Atlantic Region (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.

B. Present

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

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

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

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

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

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

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

[Include all recent amendment information**]**

C. Reasonably Foreseeable Future

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

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

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

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

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

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

Fish populations

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

Climate change

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

It is unclear how climate change would affect 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 (SAFMC 1988a & b).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
Pre-January 1, 1992	Overfishing of many snapper grouper species.	Spawning stock ratio of these species is estimated to be less than 30% indicating that they are overfished.
January 1992	Prohibited gear: fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. Size/Bag limits: 10” TL vermilion snapper (recreational only); 12” TL	Reduce mortality of snapper grouper species.

Time period/dates	Cause	Observed and/or Expected Effects
	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).	
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 (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

Time period/dates	Cause	Observed and/or Expected Effects
		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.
Target 2012	Snapper Grouper FMP Amendment 18A (SAFMC 2011f)	Prevent overexploitation in the black sea bass fishery.
Target 2011	Comprehensive ACL Amendment (SAFMC 2011c)	ACLs ACTs, and AMs for species not experiencing overfishing; accountability measures; an action to remove species from the fishery management unit as appropriate; and management measures to limit recreational and commercial sectors to their ACTs.
Target 2011	Regulatory Amendment 11 (SAFMC 2011b)	Re-addresses the deepwater area closure implemented in Amendment 17B
Effective Date July 15, 2011	Regulatory Amendment 9 (SAFMC 2011a)	Harvest management measures for black sea bass; commercial trip limits for gag, vermilion and greater amberjack
Target 2012	Amendment 20A (Wreckfish) (SAFMC 2011e)	Redistribute inactive wreckfish shares.

Time period/dates	Cause	Observed and/or Expected Effects
Target 2012	Amendment 24 (Red Grouper) (SAFMC 2011d)	Establishes a rebuilding plan for red grouper, specifies ABC, and establishes ACL, ACT and revises AMs for the commercial and recreational sectors.
Target 2012	Regulatory Amendment 12 (SAFMC 2012)	Adjusts the golden tilefish ACL based on the results of a new stock assessment and modifies the recreational golden tilefish AM.
Target 2013	Snapper Grouper Amendment 22 (under dev)	Develop a long-term management program for red snapper in the South Atlantic.

9. Determine the magnitude and significance of cumulative effects.

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

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

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

6.2 Socioeconomic

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.

Amendment 3 to the Golden Crab 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.

Approved in 2003, the FMP for *Sargassum* Pelagic Habitat (SAFMC 2002) of the South Atlantic Region 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 NC/SC 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.

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 fishery, dolphin and wahoo fishery, golden crab fishery as well as associated key fishing communities is contained in **Section 3.8** and incorporated herein by reference. There is currently no fishery for *Sargassum*. A description of the history of management of the fisheries addressed in this document is contained in Appendix D and is incorporated herein by reference. A description of the cumulative effects of actions in Amendments 17A and 17B, which established ACLs and AMs for snapper grouper species are contained in those amendments and incorporated herein by reference (SAFMC 2010a; SAFMC 2010b).

A detailed description of the expected social and economic impacts of the actions in this document is contained elsewhere in Sections 4 and 5 and is incorporated herein by reference. In general, the actions in the Comprehensive ACL Amendment are expected to establish ACLs and AMs for species in four FMPs that are not experiencing overfishing. Actions in the Comprehensive ACL Amendment, however, are expected to have different effects in different areas. At any rate, the actions contained in this document are expected to prevent overfishing from occurring and to support the achievement of OY in the respective fisheries over time, resulting in social and economic gains.

ACLs, AMs and management measures have been developed in CE-BA 2 (SAFMC 2011), Amendment 18 to the Coastal Migratory Pelagics FMP (SAFMC under review), and Amendment 10 to the Spiny Lobster FMP (SAFMC under review). CE-BA 2 contains actions to establish ACLs and AMs for octocorals, transfer management of octocorals to the state of Florida, modify regulations in special management zones, and amend FMPs to designate new essential fish habitat-habitat areas of particular concern. Amendment 18 to the Coastal Migratory Pelagics FMP is being developed by the South Atlantic Council and the Gulf of Mexico Council to establish ACLs and AMs for species in the FMP for Coastal Migratory Pelagic Resources in the Atlantic and Gulf of Mexico. Amendment 10 to the Spiny Lobster FMP is being developed by the South Atlantic Council and the Gulf of Mexico Council to establish ACLs and AMs as well as management actions for spiny lobster including tailing permits, the use of undersized lobster as an attractant, and gear markings on trap lines.

Furthermore, additional actions are being considered for snapper grouper species in Amendment 18A, Amendment 18B, Amendment 24, and Regulatory Amendment 9 (SAFMC 2011b) . Snapper Grouper Amendment 18A (SAFMC under development) will examine limiting participation and effort in the golden tilefish and black sea bass pot fisheries, among other actions. While restrictions of this nature would in theory allow status quo total harvests for the respective species to continue, these restrictions may result in the redistribution of harvests among traditional users, resulting in some participants who are able to increase their harvests, and associated social and economic benefits, and some participants who suffer reduced harvests, with associated losses in benefits. For those who would be expected to experience a possible

reduction in harvests, these reductions may occur on top of declining benefits as a result of other recent or developing management action.

Snapper Grouper Amendments 20A and 20B (SAFMC under development) will include a formal review of the current wreckfish individual transferable quota (ITQ) program and will update/modify that program according to recommendations from the review. Depending on the actual management measures adopted, this amendment could provide increased or decreased opportunities for those whose fishing operations have been restricted by the present and past snapper grouper amendments.

Amendment 18 to the Coastal Migratory Pelagics FMP (SAFMC under review) will establish ACLs, AMs, and ACTs for king mackerel, Spanish mackerel, and cobia, and Spiny Lobster Amendment 10 (SAFMC under review) will establish ACLs, AMs, and ACTs for lobsters. Snapper grouper fishermen, and associated businesses and communities, who also participate in these fisheries could potentially face limited prospects for continued participation in multiple fisheries, at least in the short-term, as a result of these amendments.

Snapper Grouper Amendment 24 (SAFMC under development) will establish a rebuilding program for red grouper, which has recently been determined to be overfished and experiencing overfishing. Regulatory Amendment 9 (SAFMC 2011b) addressed trip limits for vermilion snapper, gag, and greater amberjack. Regulatory Amendment 9 also modified the bag limit for black sea bass.

The cumulative social and economic effects of past, present, and future amendments may be described as limiting fishing opportunities in the short-term. 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). A brief summary of those effects follows:

7.2 Effects of the Fishery on Essential Fish Habitat

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

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

7.3 Damage to Ocean and Coastal Habitats

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

[CMP, DW, GC information]

The alternatives and proposed actions are not expected to have any adverse effect on the ocean and coastal habitat. Management measures implemented in the original Snapper Grouper FMP

through Amendment 7 to the Snapper Grouper FMP (SAFMC 1994a) combined have significantly reduced the impact of the snapper grouper fishery on essential fish habitat (EFH). The South Atlantic Council has reduced the impact of the fishery and protected EFH by prohibiting the use of poisons and explosives; prohibiting use of fish traps and entanglement nets in the EEZ; banning use of bottom trawls on live/hard bottom habitat north of Cape Canaveral, Florida; restricting use of bottom longline to depths greater than 50 fathoms north of St. Lucie Inlet; and prohibiting use of black sea bass pots south of Cape Canaveral, Florida. These gear restrictions have significantly reduced the impact of the fishery on coral and live/hard bottom habitat in the South Atlantic Region.

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

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

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

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

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

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

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

7.5 Irreversible and Irretrievable Commitments of Resources

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

7.6 Unavailable or Incomplete Information

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

Chapter 8. Other Applicable Law

8.1 Administrative Procedures Act

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

8.2 Information Quality Act

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

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

The information contained in this document was developed using best available scientific information. Therefore, this Amendment and Environmental 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 golden tilefish and is consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina. This determination has been submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management Programs in the States of Florida, South Carolina, Georgia, and North Carolina.

8.4 Endangered Species Act

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

The IPT, Council Staff, and Council reviewed the actions proposed in 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. An ESA determination was made that the proposed actions will not affect protected species in the action area in ways that have not been addressed in previous ESA consulations.

8.5 Executive Order 12612: Federalism

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

8.6 Executive Order 12866: Regulatory Planning and Review

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

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

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

8.7 Executive Order 12962: Recreational Fisheries

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

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

8.8 Executive Order 13089: Coral Reef Protection

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

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

8.9 Executive Order 13158: Marine Protected Areas

E. O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of Marine Protected Areas (MPAs). The E.O. defined MPAs as "any area of the marine environment that has been reserved by Federal, State, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein". It directs federal agencies to work closely with state, local, and non-governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources".

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

8.10 Marine Mammal Protection Act

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

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

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

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

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

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

8.11 Migratory Bird Treaty Act and Executive Order 13186

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

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

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

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

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

8.12 National Environmental Policy Act

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

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

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

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

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

8.13 National Marine Sanctuaries Act

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

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

8.14 Paperwork Reduction Act

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

8.15 Regulatory Flexibility Act

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

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

8.16 Small Business Act

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

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

8.17 Public Law 99-659: Vessel Safety

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

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

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

Chapter 9. List of Preparers

Table 8-1. List of Amendment 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
Rick DeVictor	NMFS/SF	Fishery Biologist
David Dale	NMFS/HC	EFH Specialist
Amanda Frick	NMFS/PR	Geographer
Andy Herndon	NMFS/PR	Biologist
Nick Farmer	NMFS/SF	Biologist
Stephen Holiman	NMFS/SF	Economist
Kenneth Brennan	SEFSC	Fishery Scientist
Jack McGovern	NMFS/SF	Fishery Scientist
Kate Michie	NMFS/SF	Fishery Management Plan Coordinator
Monica Smit-Brunello	NOAA/GC	Attorney Advisor
Brian Cheuvront	SAFMC	Fishery Economist
Kari MacLauchlin	SAFMC	Social Scientist
Myra Brouwer	SAFMC	Fishery Biologist
Gregg Waugh	SAFMC	Deputy Executive Director

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

Table 8-2. List of CE-BA 3 interdisciplinary plan team members.

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

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

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

Responsible Agency

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

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

List of Agencies, Organizations, and Persons Consulted

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

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