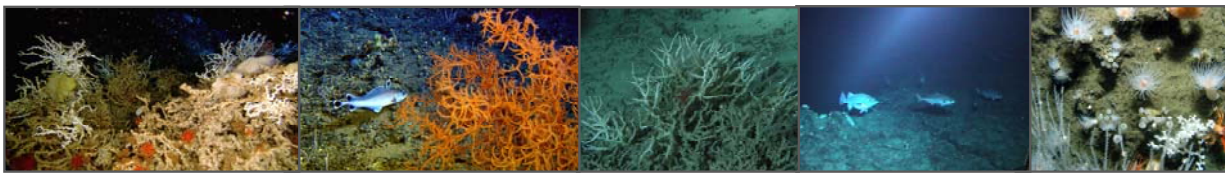
Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment



AMENDMENT 31 TO THE FISHERY MANAGEMENT PLAN FOR THE SNAPPER GROUPER FISHERY OF THE SOUTH ATLANTIC REGION
AMENDMENT 6 TO THE FISHERY MANAGEMENT PLAN FOR THE DOLPHIN AND WAHOO FISHERY OF THE ATLANTIC
AMENDMENT 22 TO THE FISHERY MANAGEMENT PLAN FOR COASTAL MIGRATORY PELAGIC RESOURCES IN THE GULF OF MEXICO AND ATLANTIC REGION

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

Fishery Impact Statement

Final Version

April 22, 2013

A publication of the South Atlantic Fishery Management Council pursuant to

National Oceanic and Atmospheric Administration

Award Number FNA10NMF4410012

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

Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment

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

---

Proposed actions:	Improve data collection methods.
Lead agency:	FMP Amendment – South Atlantic Fishery Management Council EA – National Marine Fisheries Service (NMFS)
For Further Information Contact:	Robert K. Mahood South Atlantic Fishery Management Council 4055 Faber Place, Suite 201 North Charleston, SC 29405 843-571-4366 866-SAFMC-10 Robert.Mahood@safmc.net Phil Steele NMFS, Southeast Region 263 13th Avenue South St. Petersburg, FL 33701 727-824-5301 Phil.Steele@noaa.gov
Scoping meetings held:	January 24, 26, and January 30-February 2, 2012
Public Hearings held:	August 6-9, 14, and 16, 2012

*This action was originally included in the Comprehensive Ecosystem-Based Amendment 3 but was moved to a separate amendment based on the South Atlantic Fishery Management Council's actions at the December 2012 meeting.

Table of Contents

Table of Contents ... III
List of Appendices ... V
List of Figures ... VI
List of Tables ... VII
Joint South Atlantic/Gulf of Mexico ... VIII
Generic Charter/Headboat Reporting in the South Atlantic Amendment ... VIII
List of Approved Actions ... VIII
SUMMARY ... S-1
Chapter 1. Introduction ... 1
1.1 What Actions Are Being Proposed? ... 1
1.2 Who is Proposing the Actions? ... 1
1.3 Where is the Project Located? ... 2
1.4 Why is the South Atlantic Council Considering Action? ... 2
Chapter 2. Proposed Action and Alternatives ... 4
2.1 Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat vessels ... 4
Chapter 3. Affected Environment ... 9
3.1 Habitat Environment ... 10
3.1.1 Inshore/Estuarine Habitat ... 10
3.1.2 Offshore Habitat ... 11
3.1.3 Essential Fish Habitat ... 14
3.1.3.1 Habitat Areas of Particular Concern ... 15
3.2 Biological and Ecological Environment ... 16
3.2.1 Fish Populations ... 17
3.2.2 Protected Species ... 18
3.3 Economic Environment ... 22
3.4 Social and Cultural Environment ... 25
3.4.1 Fishing Communities ... 26
3.4.2 Snapper Grouper Fishing Communities ... 27
3.4.3 Coastal Migratory Pelagic Fishing Communities ... 27
3.4.4 Dolphin-Wahoo Fishing Communities ... 28
3.4.5 North Carolina ... 29
3.4.6 South Carolina ... 31
3.4.7 Georgia ... 33
3.4.8 Florida ... 35
3.5 Environmental Justice Considerations ... 37
3.6 Administrative Environment ... 39
3.6.1 The Fishery Management Process and Applicable Laws ... 39
3.6.1.2 State Fishery Management ... 40
3.6.1.3 Enforcement ... 41
Chapter 4. Environmental Consequences ... 42

4.1 Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat vessels 42
4.1.1 Biological Effects 45
4.1.2 Economic Effects 49
4.1.3 Social Effects 52
4.1.4 Administrative Effects 54
Chapter 5. Council's Choice for the Preferred Alternative 56
Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat vessels 56
Chapter 6. Cumulative Effects 59
6.1 Biological 59
6.2 Socioeconomic 75
Chapter 7. Other Things to Consider 78
7.1 Unavoidable Adverse Effects 78
7.2 Effects of the Fishery on Essential Fish Habitat 78
7.3 Damage to Ocean and Coastal Habitats 78
7.4 Relationship of Short-Term Uses and Long-Term Productivity 79
7.5 Irreversible and Irretrievable Commitments of Resources 79
7.6 Unavailable or Incomplete Information 79
Chapter 8. Other Applicable Law 80
8.1 Administrative Procedure Act 80
8.2 Information Quality Act 80
8.3 Coastal Zone Management Act 80
8.4 Endangered Species Act 81
8.5 Executive Order 12612: Federalism 81
8.6 Executive Order 12866: Regulatory Planning and Review 82
8.7 Executive Order 12962: Recreational Fisheries 82
8.8 Executive Order 13089: Coral Reef Protection 83
8.9 Executive Order 13158: Marine Protected Areas 83
8.10 Marine Mammal Protection Act 83
8.11 Migratory Bird Treaty Act and Executive Order 13186 84
8.12 National Environmental Policy Act 85
8.13 National Marine Sanctuaries Act 85
8.14 Paperwork Reduction Act 86
8.15 Regulatory Flexibility Act 86
8.16 Small Business Act 86
8.17 Public Law 99-659: Vessel Safety 87
Chapter 9. List of Preparers 88
Chapter 10. List of Agencies, Organizations, and Persons Consulted 89
Chapter 11. References 90

List of Appendices

Appendix A. Alternatives the Council Considered But Eliminated From Detailed Study

Appendix B. Glossary

Appendix C. Essential Fish Habitat and Movement towards Ecosystem-Based Management

Appendix D. Initial Regulatory Flexibility Act Analysis

Appendix E. Regulatory Impact Review

Appendix F. Fishery Impact Statement

Appendix G. Bycatch Practicability Analysis

Appendix H. History of Management

Appendix I. Summary of February 2, 2012 Workshop on Opt-In Angler Panels

List of Figures

Figure 1-1. Jurisdictional boundaries of the South Atlantic Council..... 2
Figure 3-1. Two components of the biological environment described in this amendment..... 16
Figure 3-2. The Carolina DPS, Including the Marine Portion of the Range..... 20
Figure 3-3. The South Atlantic DPS, Including the Marine Portion of the Range..... 21
Figure 3-4. The Social Vulnerability Index applied to North Carolina Coastal Counties..... 29
Figure 3-5. The Social Vulnerability Index applied to South Carolina Coastal Counties..... 31
Figure 3-6. The Social Vulnerability Index applied to Georgia Coastal Counties..... 33
Figure 3-7. The Social Vulnerability Index applied to South Atlantic Florida Counties..... 35

List of Tables

Table 3-1. Average annual economic activity associated with the recreational target effort1 (all modes) for the respective species. All dollar values are in 2008 dollars (millions). Output and value added impacts are not additive. Totals are not additive across species or states. 24
Table 3-2. South Atlantic recreational fishing communities..... 26
Table 3-3. Federal snapper grouper charter permits in the South Atlantic region (2012). 27
Table 3-4. Federal CMP charter permits in the South Atlantic region (2012)..... 28
Table 3-5. Federal dolphin-wahoo charter permits in the South Atlantic region (2012)..... 28
Table 3-6. Coastal recreational fishing license sales by year and type..... 30
Table 3-7. Federal charter permits in North Carolina coastal counties (2012)..... 30
Table 3-8. Federal charter permits in South Carolina coastal counties (2012)..... 32
Table 3-9. Sales of all saltwater recreational license types in South Carolina..... 32
Table 3-10. Federal charter permits in Georgia coastal counties (2012). 34
Table 3-11. Sales of recreational fishing license types that include saltwater in Georgia..... 34
Table 3-12. Federal charter permits in Florida coastal counties (2012)..... 36
Table 3-13. 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. 38
Table 6-1. The cause and effect relationship of fishing and regulatory actions for snapper grouper within the time period of the Cumulative Effects Analysis (CEA)..... 67
Table 6-2. The cause and effect relationship of fishing and regulatory actions for dolphin and wahoo within the time period of the Cumulative Effects Analysis (CEA)..... 71
Table 9-1. List of preparers for the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment. 88

Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment

List of Approved Actions

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat vessels

Preferred 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).

Preferred Sub-Alternative 4b. Headboat

It is the South Atlantic Councils' intent that headboats must remain current with reporting to remain in compliance with the conditions of a valid permit (i.e., to be authorized to conduct trips) and that in catastrophic conditions (i.e., when electronic means to report data are not feasible) paper reporting be authorized.

This page intentionally left blank.

SUMMARY

For
Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment

South Atlantic Region - Amends the Snapper Grouper Fishery Management Plan

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

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

What Actions are the Councils Proposing in the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment?

The approved alternative in the action would:

- Modify required logbook reporting for headboat vessels to require electronic reporting.

Which Fisheries Would be Affected?

The action would affect fisheries for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP), Fishery Management Plan (FMP) for the Dolphin and Wahoo Fishery of the Atlantic, and FMP Coastal Migratory Pelagics Resources in the Gulf of Mexico and Atlantic Region (Coastal Migratory Pelagics FMP). Actions that would amend the Coastal Migratory Pelagic FMP would apply only to fishing in South Atlantic waters. The South Atlantic and Gulf of Mexico Councils decided to make changes within the South Atlantic through this Joint Amendment. The changes for the Gulf of Mexico are included in a framework action addressing the Gulf Reeffish and CMP FMPs. The South Atlantic Council will have to approve the Gulf Council's CMP actions.

What Data are Currently Being Collected?

Landings information from the Marine Recreational Information Program (MRIP) and the National Marine Fisheries Service (NMFS) Headboat Survey provide information on landed and discarded catch in the recreational sector (for-hire and private).

What are the Current Coverage Levels for Data Collection Programs?

For-hire vessels (charter and headboat) selected to report by the Science and Research Director (SRD) must maintain a fishing record for each trip, or a portion of such trips as specified by the Science and Research Director, and on forms provided by the Science and Research Director. Furthermore, the owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, who is selected to report by the Science and Research Director must participate in the National Marine Fisheries Service-sponsored electronic logbook and/or video monitoring reporting program as directed by the Science and Research Director. The video monitoring reporting program is currently in the proposal stage.

Completed paper 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) (Amendment 4 to the Snapper Grouper FMP; SAFMC 1991). Completed paper 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 (Snapper Grouper Amendment 4; SAFMC 1991).

Harvest and bycatch in the private and for-hire charter vessel sector was monitored by the Marine Recreational Fisheries Statistical Survey (MRFSS). MRFSS has been replaced by the Marine Recreational Information Program (MRIP). 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 through the standard random digital dialing of coastal households. Currently, landings data are provided 45 days following the end of a two-month wave.

Harvest from headboats is monitored by NMFS at the Southeast Fisheries Science Center's (SEFSC) Beaufort Laboratory. Collection of discard data began in 2004. Daily catch records are obtained for all trips and are filled out by the headboat operators, or approved crew. Headboat trips are sub-sampled for data on species lengths and weights. Biological samples (scales, otoliths, spines, reproductive tissues, and stomachs) are also collected as part of the Southeast Region Headboat Survey (SRHS) dockside sampling protocols. Lengths of discarded fish are obtained by state administered at-sea headboat sampling programs, but these data are not part of the headboat database.

For-Hire Pilot Projects

There have been two data collection projects in the Gulf of Mexico to evaluate programs with the goal of improving accuracy and timeliness of fisheries data from for-hire vessels. In September 2010, a one-year for-hire electronic pilot study was conducted in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system, as well as methods to independently verify self-reported catch and effort data in the for-hire sector. The expectation of a mandatory reporting system was that a complete census of effort and catch among all participants would be obtained. However, methods to independently validate self-reported fisheries data are needed to certify whether a true and accurate census of catch and effort is actually achieved, and to account for instances when it is not. Tracking methods are also important with any mandatory reporting requirement so that late or missing reports can be identified and participants in the fishery can be contacted in a timely manner. The full report from this project is expected to be completed in early 2013.

The iSnapper Electronic Logbook Project was conducted in the Gulf of Mexico using charter vessels and headboats during the 2011 and 2012 recreational red snapper fishing seasons. This pilot program distributed iPhones/iPads pre-loaded with the iSnapper application to charter and headboat captains in the for-hire sector in Texas, Louisiana, Alabama, and Florida. The iSnapper application is a program that allows for real time data recording from mobile devices. These for-hire fishing vessels targeted both reef fish (e.g., red snapper) and a variety of other pelagic

species (e.g., king mackerel). In 2011, 16 captains participated from June 1 through July 18, 2011. Collectively, the group reported catches data from 327 trips, harvested more than 10,000 fish of five major species, and provided information on discard rates and fish size.

Voluntary Angler Surveys, such as those used in the iSnapper application, can provide useful data but there are concerns about such data being susceptible to bias. The Mid-Atlantic Fishery Management Council, in cooperation with the Marine Recreational Information Program (MRIP), brought together a group of people involved in such programs in February 2012. They concluded that "Opt-in angler data may be useful for certain kinds of data that are not likely to be susceptible to bias, although it is difficult to anticipate what these data may be. However, the unique characteristics of self-selected participants are likely to introduce bias into certain kinds of data, especially catch and effort data. Managers must be made aware of such biases, and the likely extent of such biases should be examined when implementation of these programs is considered." The Summary of the February 2, 2012, Workshop is included as **Appendix I**.

The Southeast Region Headboat Survey (SRHS) received FY2012 funding from the MRIP Operations Team for - *Pilot Project, Phase II: Survey-Wide Implementation of Electronic Logbook Reporting on Headboats Operating in the U.S. South Atlantic and Gulf of Mexico*. The objective of this project was to develop and implement a web-based portal for electronic logbook data entry in the U.S. Atlantic and Gulf of Mexico headboat sector. This project included development by a software contractor of additional features of the web-based data form useful to users and scientists (e.g., depth, location, on-demand fish identification catalogue, etc.). The software contractor and SRHS staff provided technical support to all participants during each stage of the transition process. These procedures were tested for the first 60 days of the project.

Why are the Councils taking Action?

In **Action 1**, the South Atlantic Fishery Management Council (South Atlantic Council) considered alternatives that could increase the reporting frequency by charter and headboat fishermen, and require electronic reporting by for-hire fishermen in fisheries for snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries. The South Atlantic Council concluded that improving data reporting in these fisheries could reduce the chance that the recreational annual catch limits (ACLs) are exceeded and accountability measures (AMs) are triggered. 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) but headboat catches are monitored separately. Delays in receiving and processing headboat data could contribute to the recreational annual catch limit (ACL) being exceeded. Electronic reporting via computer/internet could reduce delays and result in fewer recreational annual catch limit (ACL) overruns.

The South Atlantic Council considered sub-alternatives to require electronic reporting for the charter sector in **Action 1** but did not select it as their preferred sub-alternative due to results from pilot studies indicating possible biases associated with use of these self-reported data. Further, the SRD noted that projections of harvest and bycatch for charter vessels are not conducted through the SEFSC, but rather through MRIP. The SRD noted that further

consultation with MRIP would be necessary before moving forward with electronic reporting for the charter sector. Therefore, the South Atlantic Council instead chose to defer the data reporting measures for the charter sector to a future joint amendment with the Gulf of Mexico Fishery Management Council. This will allow the details of such a program to be worked out with MRIP and for the SEFSC to develop a data reporting system for the charter sector.

Sub-alternative 2b, 3b, and 4b would require the charter sector to submit fishing records to the Science and Research Director (SRD) weekly via electronic reporting. It is the South Atlantic Council's opinion that under these sub-alternatives, NMFS would be able to focus the limited funding through MRIP on private recreational anglers and thereby improve those estimates. If the entire for-hire sector was providing weekly electronic reports, NMFS could use those estimates to track the for-hire component of the recreational ACLs. It is the South Atlantic Council's intent that NMFS use the headboat landings from the weekly electronic reporting specified in this amendment to track headboat landings to help ensure the recreational ACL is not exceeded. Further, it is the South Atlantic Council's intent that the joint amendment addressing headboat reporting be completed during 2013 with regulations in place beginning in 2014.

Purpose for Action

The ***purpose*** of the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment is to: Improve for-hire data collection methods to help ensure recreational annual catch limit overages do not occur in South Atlantic fisheries.

Need for Action

The ***need*** for the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment is to: Improve data collection methods and timeliness of reporting to limit overages of annual catch limits, to improve stock assessments, and to improve compliance in South Atlantic fisheries.

What Are the Alternatives for Actions Being Considered?

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat 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 exclusive economic zone (EEZ), and who is selected to report by the Science and Research Director (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 (SRD) 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 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
Sub-Alternative 2b. Headboat

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.

Sub-Alternative 3a. Charter
Sub-Alternative 3b. Headboat

Preferred 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).

Sub-Alternative 4a. Charter
Preferred Sub-Alternative 4b. Headboat

It is the South Atlantic Councils' intent that headboats must remain in compliance with the reporting requirements to be authorized to conduct trips (compliance measure). NMFS has also specified measures to be used in cases of catastrophic conditions when electronic means to report

data are not feasible. Under the alternatives with weekly reporting, Monday through Sunday is the fishing week and reports are due seven days after the end of each week that ends on Sunday. The reports are due are due by midnight of the following Sunday. This is contained in the current regulations for charter vessels. Under the alternative with daily reporting, reports would have been due by noon of the following day to ensure the data are available more frequently than weekly.

What data collection programs are currently in place for charter and headboat vessels in fisheries for snapper grouper, coastal migratory pelagic, and dolphin/wahoo?

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 (SRD) (at the Southeast Fisheries Science Center), on forms that are provided. Forms include instructions, which 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 from charter and private vessels 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 (SRD). 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.

Headboat trips are sub-sampled dockside for data on species lengths and weights. Biological samples are also collected as part of the dockside sampling protocols. Lengths of discarded fish on headboats are obtained by state administered at-sea sampling programs.

The owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, who is selected to report by the Science and Research Director (SRD) must participate in the NMFS-sponsored electronic logbook and/or video monitoring reporting program as directed by the Science and Research Director (SRD).

[Note: More details are included in the Summary beginning on page S-2.]

Summary of Effects

Biological: Alternative 1 (No Action) would retain existing data reporting systems for the for-hire sector. Currently, for-hire vessels for the snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries selected to report by the Science and Research Director (SRD) need to maintain a fishing record for each trip, or a portion of such trips as specified by the Science and Research Director (SRD), and on forms provided by the Science and Research Director (SRD).

Furthermore, the owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, who is selected to report by the Science and Research Director (SRD) must participate in the NMFS-sponsored electronic logbook and/or video monitoring reporting program as directed by the Science and Research Director (SRD).

Under **Alternative 1 (No Action)**, for-hire vessels in fisheries for coastal migratory pelagics and dolphin wahoo would not be required to submit their data via electronic reporting (computer/internet). **Alternatives 2-Preferred Alternative 4** would require data be submitted to the Southeast Fisheries Science Center (SEFSC) more frequently via computer/internet. Assuming compliance and accurate reporting by for-hire participants, all of the action alternatives could result in positive indirect biological effects, if the data were reported in a timelier and efficient manner resulting in better monitoring of recreational annual catch limits (ACLs). The South Atlantic Council did not select alternatives that would require the charter sector to report landings electronically due to a recently completed pilot study in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system in the charter sector. The preliminary findings indicated that there may be problems with using logbook data from charterboats to track landings at this time. Further, the SRD noted that projections of harvest and bycatch for charter vessels are not conducted through the SEFSC, but rather through MRIP. The SRD noted that further consultation with MRIP would be necessary before moving forward with electronic reporting for the charter sector.

Alternative 3 would require daily electronic reporting resulting in the greatest positive indirect biological effects among the action alternatives. **Alternative 2** would require weekly reporting, which is the same as the status quo (**Alternative 1)** for charter vessels; however, **Alternative 2** would require data be submitted electronically. Further, **Alternative 2** would increase the reporting frequency for headboat vessels. Therefore, **Alternative 2** would have the least amount of biological benefits among the alternatives being considered. **Preferred Alternative 4** would initially require weekly reporting, with the additional requirement for data to be submitted via computer. **Preferred Alternative 4** would allow the Science and Research Director (SRD) to require more frequent data submissions in the future, upon notice, without the South Atlantic Council having to prepare an additional amendment. **Preferred Sub-Alternative 4b** would implement this new reporting for headboats. **Sub-alternative 4a** would require the electronic weekly reporting by charter vessels as well which would be more biologically beneficial. However, funding is not available, and a program has not been developed to collect electronic data from charter boats at this time. It is the South Atlantic Council's intent to move towards this goal in the future.

Economic: In summary, all alternatives except **Alternative 1 (No Action)** would change how the for-hire sector reports landings. The other alternatives would require weekly (**Alternative 2**) or daily (**Alternative 3**) electronic reporting. **Alternative 4 (Preferred)** would require weekly electronic reporting, but could modify the reporting frequency via notice as necessary and determined by the SRD. The sub-alternatives for **Alternatives 2 - 4 (Preferred)** would differentiate whether the alternative would apply to just the charter boat sector (**Sub-Alternative a**) or to just the headboat sector (**Sub-Alternative b**). **Alternatives 2 - 4 (Preferred)** would incur costs of time for fishermen to enter data and perhaps costs for computer equipment, as well as staff time. However, each alternative other than **Alternative 1 (No Action)** would provide

managers with data in a more timely manner that could allow for increased precision for recreational sector management, and help prevent ACL overruns for species that have in-season closures like black sea bass. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. If fishermen do not maintain reporting, they will not be in compliance to fish and this could result in negative economic impacts.

Social: In general, negative social effects of for-hire reporting requirements would likely be associated with any added time and financial burden for permit holders to meet the requirements. Increased frequency in reporting under **Alternatives 2-Preferred Alternative 4** may have some negative effects on vessel owners and captains because businesses would need to allocate additional time or staff to submit reports. However, reporting is currently required and these alternatives would modify the way and frequency in which the reports are prepared. It is expected after the initial learning curve, the electronic logbook would be more efficient for the fishermen to complete. The more frequent than weekly reporting requirement under **Alternative 3** and the potential for more frequent than weekly reporting requirement under **Preferred Alternative 4** would be more burdensome for for-hire permit holders 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. Charterboat owners and captains would not be impacted under **Sub-alternative 2b, Sub-alternative 3b,** and **Preferred Sub-alternative 4b**, but requirements for only headboats may not improve quota monitoring and accuracy to the extent that inclusion of the same requirements for charterboats under **Sub-alternatives 2a, 3a,** and **4a.**

The requirement for electronic reporting under **Alternatives 2- Preferred Alternative 4** would 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. However, it is expected after the initial learning curve, the electronic logbook would be more efficient for the fishermen to complete.

Requiring all for-hire permit holders to report electronically and more frequently (**Alternatives 2 - Preferred Alternative 4**) is expected to result in broad social benefits. Recreational AMs vary from in-season closures for some species such as black sea bass, red grouper, and golden tilefish to a reduction in the length of the fishing season in the year following an ACL overage for many other species. More frequent and timely reporting would be expected to improve monitoring of recreational landings, with which it would be less likely that an annual catch limit (ACL) would be exceeded during the fishing season for species such as black sea bass, red grouper, and golden tilefish, or in the year following an ACL overage for many other species. AMs can have significant direct and indirect effects on for-hire fishermen, and associated communities and businesses, because they usually impose some restriction on harvest, during either the current season or the next. Early closures of species such as black sea bass and paybacks (which in turn increase the likelihood of an earlier closure in the following year) are directly linked to the ability of NMFS to monitor recreational landings. While the negative effects of AMs are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or

business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Although additional reporting requirements may not prevent AMs from being triggered, these requirements would be expected to provide additional information to better forecast early closures and minimize post-season AMs, such as "pay-backs." Under **Alternative 1 (No Action)**, there would be no improvements to monitoring as a result of more timely reporting, and it would be more likely that post-season AMs would continue to impact for-hire businesses, communities, and customers.

Using electronic reporting is much more efficient for NMFS to monitor landings and the data can be analyzed in a timely manner. With electronically reported data, NMFS would be able to identify permits that are not in compliance with the reporting requirements. If permitted fishermen are out of compliance with reporting requirements, they would not be able to legally harvest the species covered by their permit, and this could result in negative social impacts.

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

Using electronic reporting is much more efficient for NMFS and the data can be analyzed more quickly. With electronically reported data, NMFS would be able to determine which permits are not in compliance with the reporting requirements, and timely reporting would be a condition of the permit. The electronic reporting system would provide NMFS information on compliance with reporting requirements, and NMFS would be able to invoke penalties to those who are in violation. As such, the administrative burden related to enforcement is likely to increase.

In general, increased frequency in reporting under **Alternatives 2- Preferred Alternative 4** would increase the administrative burden on NMFS. As the number of vessels affected increases, and reporting frequency increases (under the sub-alternatives), so do the administrative impacts.

Chapter 1. Introduction

1.1 What Actions Are Being Proposed?

Fishery managers are proposing changes to regulations through the Joint South Atlantic/Gulf of Mexico Charter/Headboat Reporting Amendment in the South Atlantic Amendment. The preferred alternative for the action considered would improve headboat data collection, and allow for better fishery management in the South Atlantic. The action in this document would only apply to fishing occurring in the South Atlantic.

1.2 Who is Proposing the Actions?

The South Atlantic Fishery Management Council (South Atlantic Council) is proposing the actions contained within this document. This document amends the CMP Resources FMP and, as the CMP Resources FMP is a joint FMP, the Gulf of Mexico Council must approve the actions. The South Atlantic and Gulf of Mexico Councils decided to make changes within the South Atlantic through this Joint Amendment. The changes for the Gulf of Mexico are included in a framework action addressing the Gulf Reeffish and CMP FMPs. The South Atlantic Council will have to approve the CMP actions. The Councils recommend management measures and regulations to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves, and implements the actions in the amendment through regulations on behalf of the Secretary of Commerce. NMFS 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 Administrator of NMFS; and 4 non-voting members
- Management area is from 3 to 200 miles off the coasts of North Carolina, South Carolina, Georgia, and east Florida through Key West with the exception of Coastal Migratory Pelagics which is from New York to Florida and Dolphin Wahoo which is from Maine to Florida
- Develops management plans and recommends regulations to NMFS for implementation

1.3 Where is the Project Located?

Management of the federal snapper grouper, dolphin wahoo, and coastal migratory pelagic fisheries located off the South Atlantic in the 3-200 nautical mile U.S. Exclusive Economic Zone (**Figure 1-1**) is conducted under the fisheries' respective Fishery Management Plans (FMPs). The FMPs and their amendments were developed under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), other applicable federal laws, and executive orders and affect the management of 60 species of snapper grouper, dolphin and wahoo, and 3 species of coastal migratory pelagics.

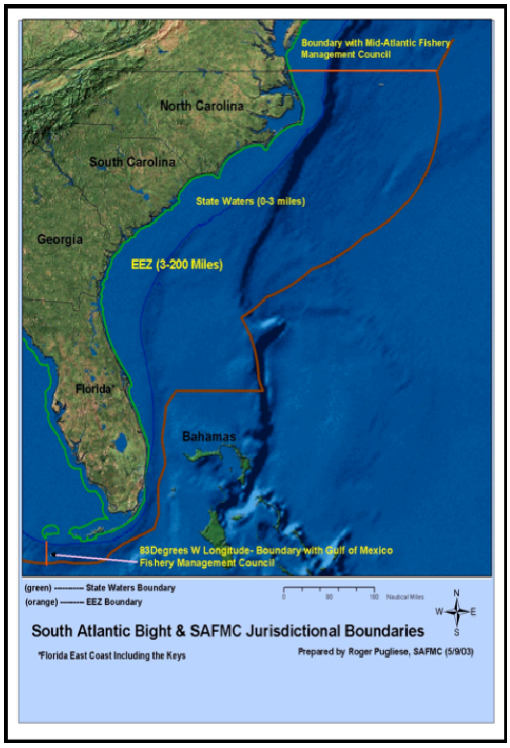


Figure 1-1. Jurisdictional boundaries of the South Atlantic Council.

1.4 Why is the South Atlantic Council Considering Action?

In **Action 1**, the South Atlantic Council considered alternatives that could: (1) increase the reporting frequency by charter and headboat fishermen, and (2) require electronic reporting by for-hire fishermen in fisheries for snapper grouper, coastal migratory pelagic, and dolphin/wahoo fisheries. The South Atlantic Council concluded that improving data reporting in these fisheries could reduce the chance that the recreational annual catch limits (ACLs) are exceeded and accountability measures are triggered. The for-hire sector contributes to recreational landings that count towards the recreational ACL. Catches from charter vessels are captured in the Marine Information Program (MRIP) but headboat catches are monitored separately. Delays in receiving and processing headboat data could contribute to a recreational ACL being exceeded. Electronic reporting via computer/internet could reduce delays and result in fewer recreational ACL overruns in the charter sector.

The South Atlantic Council did not select alternatives in **Action 1** that would require the charter sector to report landings electronically due to a recently completed pilot study in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system. Preliminary findings indicate that there may be problems with using logbook data to track charterboat landings. Further, the Science and Research Director (SRD) noted that projections of harvest and bycatch for charter vessels are not conducted through the Southeast Fisheries Science Center (SEFSC), but rather through MRIP. The SRD noted that further consultation with MRIP would be necessary before moving forward with electronic reporting for the charter sector. The South Atlantic Council requirements did not select any of the charter sector sub-alternatives as preferred. The South Atlantic Council decided to defer the charter actions to a future joint amendment with the Gulf of Mexico Fishery Management Council to allow the details to be

worked out with MRIP and for the SEFSC to develop a data reporting system for the charter sector. The South Atlantic Council is interested in evaluating a requirement for the charter sector to submit fishing records to the SRD weekly via electronic reporting similar to what is being proposed for headboats in this amendment. If the entire for-hire sector was providing weekly electronic reports, NMFS could use those estimates to track the for-hire component of the recreational ACLs. It is the South Atlantic Council's intent that NMFS use the headboat landings from the weekly electronic reporting specified in this amendment to track headboat landings to help ensure the recreational ACL is not exceeded.

Purpose for Action

The ***purpose*** of the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment is to: Improve for-hire data collection methods to help ensure recreational annual catch limit overages do not occur in South Atlantic fisheries.

Need for Action

The ***need*** for the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment is to: Improve data collection methods and timeliness of reporting to limit overages of annual catch limits, to improve stock assessments, and to improve compliance in South Atlantic fisheries.

Chapter 2. Proposed Action and Alternatives

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 Fishery Management Council (South Atlantic Council) considered but eliminated from detailed study during the development of this amendment are described in **Appendix A**.

2.1 Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat 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 exclusive economic zone (EEZ), and who is selected to report by the Science and Research Director (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 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
Sub-Alternative 2b. Headboat

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.

Sub-Alternative 3a. Charter
Sub-Alternative 3b. Headboat

Preferred 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).

Sub-Alternative 4a. Charter
Preferred Sub-Alternative 4b. Headboat

It is the South Atlantic Councils' intent that headboats must remain in compliance with the reporting requirements to be authorized to conduct trips (compliance measure). NMFS has also specified measures to be used in cases of catastrophic conditions when electronic means to report data are not feasible. Under the alternatives with weekly reporting, Monday through Sunday is the fishing week and reports are due seven days after the end of each week that ends on Sunday. The reports are due are due by midnight of the following Sunday. This is contained in the current regulations for charter vessels. Under the alternative with daily reporting, reports would have been due by noon of the following day to ensure the data are available more frequently than weekly. These are described in detail in **Section 4.1** when electronic means to report data are not feasible.

Comparison of Alternatives

Biological: Alternative 1 (No Action) requires for-hire vessels in fisheries for snapper grouper, coastal migratory pelagic, and dolphin/wahoo selected to report by the SRD to maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, and on forms provided by the SRD. Furthermore, the owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper grouper has been issued, who is selected to report by the SRD must participate in the National Marine Fisheries Service (NMFS)-sponsored electronic logbook and/or video monitoring reporting program as directed by the SRD. **Alternative 1 (No Action)** does not require for-hire fisheries for coastal migratory pelagic, snapper grouper, and dolphin/wahoo to submit their data via electronic reporting (computer/internet), and would retain existing data reporting systems for the for-hire sector.

Alternatives 2-Preferred Alternative 4 would require electronic submission of reports, the difference between alternatives being the frequency of requirement. Under **Alternative 2,** charter vessel operators would be required to report on the same weekly schedule as they currently report. However, weekly reporting would be an approximately fourfold increase in reporting frequency for headboat operators. **Alternative 3** would require daily electronic reporting, while **Preferred Alternative 4** is a hybrid of **Alternatives 2** and **3** requiring weekly unless the SRD requires more frequent reporting. Under each of these alternatives, headboat operators would be required to report more frequently. Each of the **Alternatives 2–Preferred Alternative 4** has the same set of **sub-alternatives**. **Sub-Alternatives 2a, 3a,** and **4a** would require electronic reporting for charter vessels. **Sub-Alternatives 2b, 3b,** and **Preferred Sub-Alternative 4b** would require electronic reporting for headboat vessels.

Assuming compliance and accurate reporting by for-hire participants, all of the action alternatives could result in positive indirect biological effects, as the data would be reported in a more timely and efficient manner resulting in better monitoring of recreational annual catch

limits (ACLs). A pilot study in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system in the for-hire sector was recently completed. Preliminary findings indicate that there may be problems with using logbook data from charterboats to track landings. Therefore, the South Atlantic Council did not select alternatives that would require the charter sector to report landings electronically.

Alternative 3 would require daily reporting resulting in the most positive indirect biological effects, and **Alternative 2** would require weekly reporting, which is the same as the status quo (**Alternative 1)** for the charter vessels; however, **Alternative 2** would require data be submitted electronically. Further, **Alternative 2** would increase the reporting frequency for headboat vessels. Therefore, **Alternative 2** would have the least amount of biological benefits among the alternatives being considered. **Preferred Alternative 4** would initially require weekly reporting, with the additional requirement for data to be submitted via computer. **Preferred Alternative 4** would allow the SRD to require more frequent data submissions in the future, via notice. This would give the SRD the flexibility to collect the data with more frequency, as needed without the South Atlantic Council having to prepare an additional amendment.

Economic: Recreational accountability measures (AMs) vary from in-season closures for some species such as black sea bass, red grouper, and golden tilefish to a reduction in the length of the fishing season in the year following an ACL overage for many other species. The current frequency of data reporting could be expected to increase the likelihood of harvest overages for species that have in-season closures like black sea bass. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. Only in extreme situations would potential overages be expected to be so severe that the status of a stock or a recovery plan would be jeopardized under the current reporting schedule. However, overages have the potential, depending on the AMs, to result in significant disruption in fishing behavior and reduce revenue and profit for for-hire vessels and associated businesses, and reduce potential fishing opportunities for anglers. **Alternative 1 (No Action)** could be expected to continue to result in these indirect economic effects.

Alternatives 2-Preferred Alternative 4 would require electronic submission of reports, the difference between alternatives being the frequency of requirement. Under **Alternative 2,** charter vessel operators would be required to report on the same weekly schedule as they currently report. However, weekly reporting would be an approximately fourfold increase in reporting frequency for headboat operators. **Alternative 3** would require daily electronic reporting, while **Preferred Alternative 4** is a hybrid of **Alternatives 2** and **3** requiring either weekly or more frequent reporting if the SRD determines more frequent reporting is required. Under each of these alternatives, headboat operators would be required to report more frequently. Each of the **Alternatives 2–Preferred Alternative 4** has the same set of **sub-alternatives**. **Sub-Alternatives 2a, 3a,** and **4a** would require electronic reporting for charter vessels. **Sub-Alternatives 2b, 3b,** and **Preferred Sub-Alternative 4b** would require electronic reporting for headboat vessels.

Potential regulatory change resulting from **Action 1** would result in the highest costs to for-hire permit holders under **Alternative 3**, followed by **Preferred Alternative 4**, and **Alternative 2**. The use of computers, the internet, and other forms of electronic connections and communication is

commonplace in the business environment, so the differences in the costs between these alternatives associated with reporting method may be minimal.

Under electronic reporting, NMFS would be able to process reports more quickly and would be able to determine which fishermen are in violation of the reporting requirements associated with their permit. Fishermen who do not report according to the regulations may be penalized and they cannot legally fish while not in compliance with the reporting requirements associated with their permit. This may lead to economic impacts associated with lost fishing time and law enforcement penalties.

Social: In general, negative social effects of for-hire reporting requirements would likely be associated with any added time and financial burden for permit holders to meet the requirements. Increased frequency in reporting under **Alternatives 2-Preferred Alternative 4** may have some negative effects on vessel owners and captains because businesses would need to allocate additional time or staff to submit reports. The daily reporting requirement under **Alternative 3** and the potential for more frequent than weekly reporting requirement under **Preferred Alternative 4** would be more burdensome for for-hire permit holders 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. Charterboat owners and captains would not be impacted under **Sub-alternative b** since it was not chosen as preferred under **Alternatives 2-Preferred Alternative 4**, but requirements for only headboats may not improve quota monitoring and accuracy as much as if both sectors were included.

The requirement for electronic reporting under **Alternatives 2-Preferred Alternative 4** would affect vessel owners who do not already use computer systems in their businesses. However, requiring all headboat and charterboat permit holders to report electronically and more frequently (**Alternatives 2-Preferred Alternative 4**) would be expected to result in broad social benefits from increased reporting that could allow for improved quota monitoring. Improved monitoring would make it less likely that an ACL would be exceeded for species with in-season recreational closures, and the associated AMs would negatively impact the for-hire fishermen, and associated communities and businesses. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage.

Under electronic reporting, NMFS would be able to process reports more quickly and would be able to determine which fishermen are in violation of the reporting requirements associated with their permit. Fishermen who do not report according to the regulations may be penalized and they cannot legally fish while not in compliance with the reporting requirements associated with their permit. This may lead to economic and social impacts associated with lost fishing time and law enforcement penalties.

Administrative: The administrative effects of changing reporting requirements for the for-hire sector would most likely be associated with rule-making, outreach, and implementation of the revised reporting scheme. In general, increased frequency in reporting under **Alternatives 2-Preferred Alternative 4** would increase the administrative burden on NMFS. However, it is expected that the electronic reporting system would be established to allow for ease of processing and quality checking the data.

Under electronic reporting, NMFS would be able to process reports faster and would be able to determine which fishermen are in violation of the reporting requirements associated with their permit. Fishermen who do not report according to the regulations may be penalized if they are not in compliance with the reporting requirements associated with their permit. This may lead to increased administrative burden on the agency related to law enforcement.

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, sea grass beds, and rocky hard-bottom substrates

- **Biological environment** (Section 3.2)

  Examples include populations of golden tilefish, corals, and turtles

- **Human environment** (Sections 3.3, 3.4, & 3.5)

  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

This amendment addresses modifications to headboat reporting requirements in three of the South Atlantic Fishery Management Council (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 been described in the Comprehensive Annual Catch Limit (ACL) Amendment (SAFMC 2011c), Amendment 17B (Amendment 17B) to the Fishery Management Plan for the Snapper Grouper of the South Atlantic Region (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 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/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 Council Web site (www.safmc.net).

3.1.1 Inshore/Estuarine Habitat

Snapper Grouper

Many deepwater snapper grouper species utilize both pelagic and benthic habitats during several stages of their life histories; larval stages of these species live in the water column and feed on plankton. Most juveniles and adults are demersal (bottom dwellers) and associate with hard structures on the continental shelf that have moderate to high relief (e.g., coral reef systems and

artificial reef structures, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings). Juvenile stages of some snapper grouper species also utilize inshore seagrass beds, mangrove estuaries, lagoons, oyster reefs, and embayment systems. In many species, various combinations of these habitats may be utilized during daytime feeding migrations or seasonal shifts in cross-shelf distributions. More detail on these habitat types can be found in Volume II of the Fishery Ecosystem Plan (SAFMC 2009b).

Dolphin Wahoo

Dolphin and wahoo do not use inshore/estuarine habitat.

Coastal Migratory Pelagic

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

3.1.2 Offshore Habitat

Snapper Grouper

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

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

presence of extensive, rugged living fossil coral reefs, and dominance of a tropical Caribbean fauna are distinctive benthic characteristics of this area.

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

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

The distribution of coral and live hard bottom habitat as presented in the Southeast Marine Assessment and Prediction (SEAMAP) Bottom Mapping Project is a proxy for the distribution of the species within the snapper grouper complex. The method used to determine hard bottom habitat relied on the identification of reef obligate species including members of the snapper grouper complex. The Florida Fish and Wildlife Research Institute (FWRI), using the best available information on the distribution of hard bottom habitat in the south Atlantic region, prepared ArcView maps for the four-state project. These maps, which consolidate known distribution of coral, hard/live bottom, and artificial reefs as hard bottom, are available on the South Atlantic Council Internet Mapping System website: http://ocean.floridamarine.org/safmc_atlas/. An introduction to the system is found at: http://www.safmc.net/EcosystemManagement/EcosystemBoundaries/MappingandGISData/tabid/632/Default.aspx .

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 South Atlantic Council's Internet Mapping System at the above address.

Dolphin Wahoo

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

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

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

Coastal Migratory Pelagic

King Mackerel

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

Spanish Mackerel

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

Cobia

The cobia is distributed worldwide in tropical, subtropical, and warm-temperate waters. In the western Atlantic Ocean, this pelagic fish occurs from Nova Scotia (Canada), south to Argentina, including the Caribbean Sea. It is abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico. Cobia prefers 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, cobias 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.

3.1.3 Essential Fish Habitat

Snapper Grouper

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

EFH utilized by snapper grouper species in this region includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs and medium to high profile outcroppings on and around the shelf break zone from shore to at least 183 meters [600 feet (but to at least 2,000 feet for wreckfish)] where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical fish complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for survival of larvae and growth up to and including settlement. In addition, the Gulf Stream is also EFH because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine-dependent and near shore snapper grouper species, EFH includes areas inshore of the 30 meter (100-foot) contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom habitats.

Dolphin Wahoo

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

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

Coastal Migratory Pelagic

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

EFH for cobia specifically is high salinity bays, estuaries, and seagrass habitat.

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

Dolphin Wahoo

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

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

Coastal Migratory Pelagic

EFH-HAPCs for coastal migratory pelagic species includes sandy shoals of Capes Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); Phragmatopoma (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; Pelagic Sargassum; and Atlantic coast estuaries with high numbers of Spanish mackerel (Bogue Sound and New River, NC) and Cobia (Broad River, SC).

3.2 Biological and Ecological Environment

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

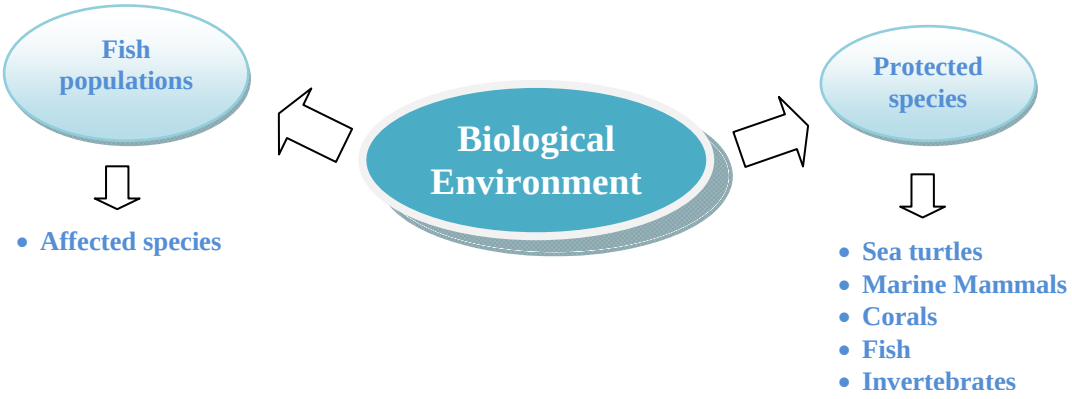


Figure 3-1. Two components of the biological environment described in this amendment.

3.2.1 Fish Populations

Snapper Grouper

The waters off the South Atlantic coast are home to a diverse population of fish. The snapper grouper fishery management unit currently contains 60 species of fish, many of them neither "snappers" nor "groupers". These species live in depths from a few feet (typically as juveniles) to hundreds of feet. As far as north/south distribution, the more temperate species tend to live in the upper reaches of the South Atlantic management area (black sea bass, red grouper) while the tropical variety's core residence is in the waters off south Florida waters, Caribbean Islands, and northern South America (black grouper, mutton snapper).

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

Dolphin Wahoo

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

Coastal Migratory Pelagic

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

<u>King Mackerel</u>
Like other members of this genus, king mackerel feed primarily on fishes. They prefer to feed

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

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 crab eater. 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, and they sneak 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. Dolphins (*Coryphaena hippurus*) have been reported to feed on small cobia.

3.2.2 Protected Species

There are 31 different species of marine mammals that may occur in the exclusive economic zone (EEZ) of the South Atlantic region. All 31 species are protected under the Marine Mammal Protection Act (MMPA) and six are 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 sturgeons spawn in freshwater rivers, federal fisheries of the South Atlantic generally do not interact with spawning sturgeon. However, the populations of Atlantic sturgeon in spawning rivers and threats to animals occurring in those rivers is of significant importance to the species overall survival and recover. Additional information on specific river systems where Atlantic sturgeon spawn, and the threats to animals in those systems, can be found in ASSRT (2007).

Atlantic sturgeon are long-lived (approximately 60 years), late maturing, relatively large, anadromous[1] fish (Bigelow and Schroeder 1953, Vladykov and Greeley 1963, Mangin 1964, Pikitch et al. 2005, Dadswell 2006, ASSRT 2007). Atlantic sturgeon may reach lengths up to 14 feet and weigh over 800 pounds. They are distinguished by armor-like plates and a long protruding snout that is ventrally located. Atlantic sturgeons are bottom feeders that use four barbells in front of the mouth assist in locating prey (Bigelow and Schroeder 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 sturgeons mature between the ages of 5 and 19 years in South Carolina (Smith et al. 1982). The age of maturity is unknown for animals originating in Florida, Georgia, and North Carolina rivers. In general, male Atlantic sturgeons grow faster than females and attain larger sizes (Smith et al. 1982, Smith and Dingley 1984, Smith 1985, Scott and Scott 1988, Young et al. 1998, Collins et al. 2000, Caron et al. 2002, Dadswell 2006, ASSRT 2007, Kahnle et al. 2007, DFO 2011). Females can produce from 400,000 to 4 million eggs per spawning year, but only spawn every 2-5 years; males spawn every 1-5 years (Vladykov and Greeley 1963, Smith et al. 1982, Smith 1985, Van Eenennaam et al. 1996, Van Eenennaam and Doroshov 1998, Stevenson and Secor 1999, Collins et al. 2000, Caron et al. 2002, Dadswell 2006). In the South Atlantic region, spawning occurs in specific, freshwater rivers in North Carolina, South Carolina, and Georgia. Water temperature appears to trigger spawning migrations (ASMFC 2009), which generally occur during February-March in the South Atlantic region (Murawski and Pacheco 1977, Smith 1985, Bain 1997, Smith and Clugston 1997, Caron et al. 2002).

The Carolina DPS includes all Atlantic sturgeons that spawn or are spawned in the watersheds (including all rivers and tributaries) from Albemarle Sound southward along the southern

[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.

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 are 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.

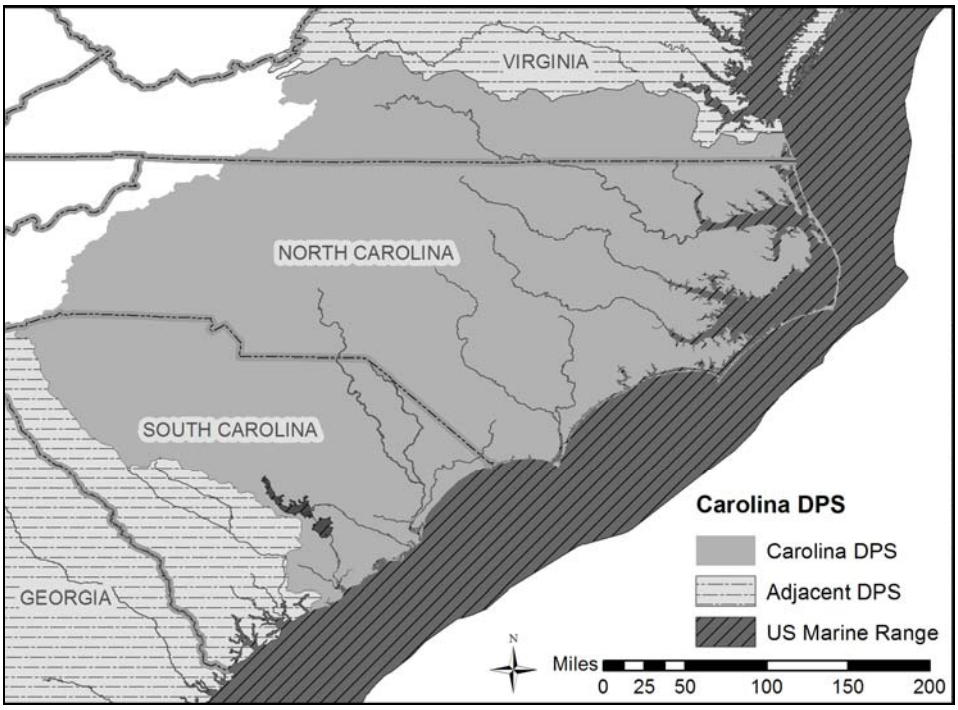


Figure 3-2. The Carolina DPS, Including the Marine Portion of the Range.

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.

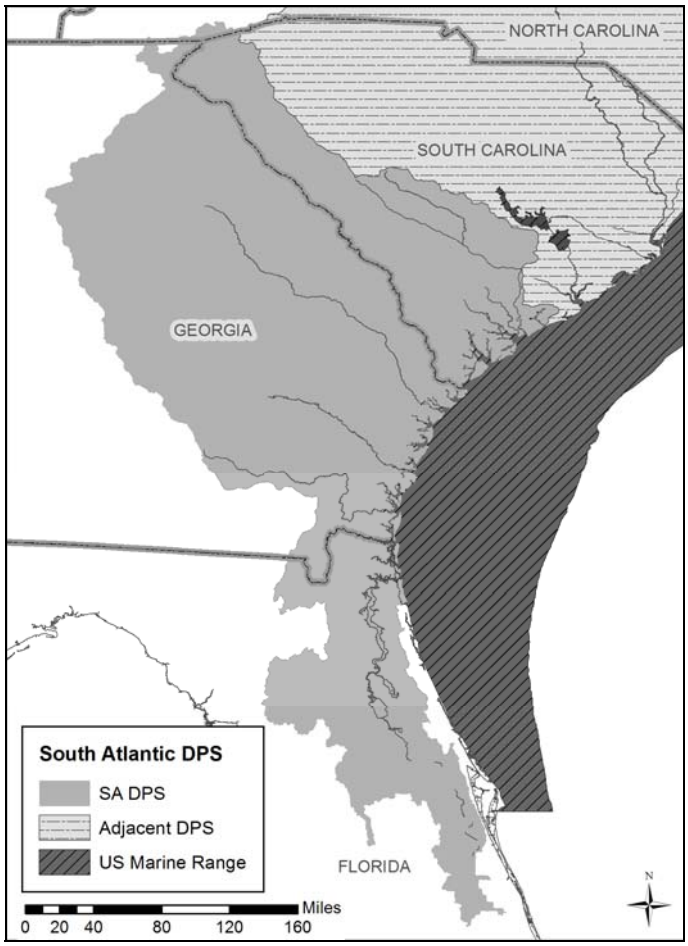


Figure 3-3. The South Atlantic DPS, Including the Marine Portion of the Range.

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 is 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 Economic Environment

Economic descriptions of the snapper-grouper, coastal migratory pelagic (CMP), and dolphin-wahoo recreational fisheries are contained in the Comprehensive ACL Amendment (SAFMC 2011c; snapper-grouper and dolphin-wahoo fisheries), and CMP Amendment 18 (GMFMC/SAFMC 2011; CMP fishery) and are incorporated herein by reference.

The recreational sector is comprised of the private sector and for-hire sector. The private sector includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire sector is composed of the charterboat and headboat (also called partyboat) sectors. Charterboats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats generally carry more passengers and payment is per person. For-hire vessels are required to have a charter/headboat permit to fish for or possess snapper-grouper, king mackerel, Spanish mackerel, dolphin, or wahoo in the South Atlantic EEZ. Separate charter/headboat permits exist for snapper-grouper, CMP species (king or Spanish mackerel and cobia), and dolphin/wahoo. Each of these permits is an open access permit. The following provides updated information on the number of charter/headboat permits in the respective fisheries.

On July 27, 2012, the number of valid (non-expired) charter/headboat permits for the following components of the recreational for-hire sector were: 1,543 snapper-grouper; 1,555 CMP (king or Spanish mackerel); and 1,734 dolphin/wahoo. Charter/headboat permits do not distinguish charterboats from headboats. However, headboats that operate in the EEZ are required to participate in the NMFS headboat logbook program and 75 headboats are listed in the 2012 headboat registry.

Recreational anglers who fish in the EEZ are required to either possess a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. An estimate of the number of anglers who fished in the South Atlantic EEZ is not available. The estimated number of anglers (participants) from the Marine Recreational Information Program who fished in the South Atlantic in 2011 is approximately 2.34 million. However, this estimate includes all marine anglers and not just those who fished in the EEZ and does not include out-of-state anglers (anglers who reside in states outside the South Atlantic region but travel to the South Atlantic to fish).

Estimates of the economic activity associated with recreational fishing were derived using average coefficients for recreational angling across all fisheries (species), as derived through an economic add-on to the Marine Recreational Fisheries Statistics Survey (MRFSS), and described and utilized in NMFS (2011), and are provided in **Table 3-1**. Business activity is characterized in the form of full time equivalent jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-

added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. The estimates of economic activity should not be added across species because of possible duplication (some trips may target multiple species). Also, the estimates should not be added across states to generate a regional total because state-level impacts reflect the economic activity expected to occur within the state before the revenues or expenditures "leak" outside the state, possibly to another state within the region. Under a regional model, economic activity that "leaks" from, for example, Florida into Georgia would still occur within the region and continue to be tabulated. As a result, regional totals would be expected to be greater than the sum of the individual state totals. Regional, or national, estimates of the economic activity associated with these species are unavailable at this time.

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

Table 3-1. Average annual economic activity associated with the recreational target effort1 (all modes) for the respective species. All dollar values are in 2008 dollars (millions). Output and value added impacts are not additive. Totals are not additive across species or states.

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

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

[1]2005-2009 average annual target trips.

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

3.4 Social and Cultural Environment

The proposed actions in this amendment may affect individuals, businesses, and communities associated with the snapper grouper fishery, the coastal migratory pelagic fishery, and the dolphin and wahoo fishery. Communities associated with each of the fisheries will be described in the sections below. 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, restaurants, recreational anglers, businesses associated with recreational fishing, businesses associated with coastal tourism, and coastal communities. In addition to regulatory change, individuals who may be affected by proposed actions also live and work in an environment with natural, economic, social, and political dynamics.

Coastal growth and development affects many coastal communities, especially those with either or both commercial and recreational working waterfronts. The rapid disappearance of these types of waterfronts has important implications as the disruption of various types of fishing-related businesses and employment. The process of "gentrification," which tends to push those of a lower socio-economic class out of traditional communities as property values and taxes rise has become common along coastal areas of the U.S. and around the world. Working waterfronts tend to be displaced with development that is often stated as the "highest and best" use of waterfront property, but often is not associated with water-dependent occupations. However, with the continued removal of these types of businesses over time the local economy becomes less diverse and more reliant on the service sector and recreational tourism. As home values increase, people within lower socio-economic strata find it difficult to live within these communities and eventually must move. Consequently, they spend more time and expense commuting to work, if jobs continue to be available. Newer residents often have no association with the water-dependent employment and may see that type of work and its associated infrastructure as unappealing. They often do not see the linkage between those occupations and the aesthetics of the community that produced the initial appeal for many migrants. The demographic trends within counties can provide some indication as to whether these types of coastal change may be occurring if an unusually high rate of growth or change in the demographic character of the population is present. A rise in education levels, property values, fewer owner occupied properties and an increase in the median age can at times indicate a growing process of gentrification (Colburn and Jepson 2012). Demographic profiles of coastal communities can be found in the Comprehensive ACL Amendment (SAFMC 2011c).

3.4.1 Fishing Communities

Identified recreational fishing communities in the South Atlantic are listed in **Table 3-2**. These communities were selected by their ranking on a number of criteria including number of charter permits per thousand population and recreational fishing infrastructure identified within each community as listed within the MRIP site survey.

Table 3-2. South Atlantic recreational fishing communities.

Community	State	Community	State
Jekyll Island	GA	Cape Carteret	NC
Hatteras	NC	Kill Devil Hill	NC
Manns Harbor	NC	Murrells Inlet	SC
Manteo	NC	Little River	SC
Atlantic Beach	NC	Georgetown	SC
Wanchese	NC	Islamorada	FL
Salter Path	NC	Cudjoe Key	FL
Holden Beach	NC	Key West	FL
Ocean Isle	NC	Tavernier	FL
Southport	NC	Little Torch Key	FL
Wrightsville Beach	NC	Ponce Inlet	FL
Marshallberg	NC	Marathon	FL
Carolina Beach	NC	Sugarloaf Key	FL
Oriental	NC	Palm Beach Shores	FL
Topsail Beach	NC	Big Pine Key	FL
Swansboro	NC	Saint Augustine	FL
Nags Head	NC	Key Largo	FL
Harkers Island	NC	Summerland Key	FL
Calabash	NC	Sebastian	FL
Morehead City	NC	Cape Canaveral	FL

Source: SERO permit office 2008, MRIP site survey 2010.

The social vulnerability index (SoVI) was created to understand social vulnerability of communities to coastal environmental hazards and can also be interpreted as a general measure of vulnerability to other social disruptions, such as adverse regulatory change or manmade hazards. Detailed information about the SoVI can be found in Comprehensive ACL Amendment (SAFMC 2011c). High social vulnerability does not necessarily mean that there will be adverse effects of proposed actions in this amendment, only that there may be a potential for adverse effects under the right circumstances. Fishing communities in these counties may have more difficulty adjusting to regulatory changes if those impacts affect employment or other critical social capital. The SoVI for counties in each state is illustrated in the maps in **Sections 3.4.5** through **3.4.8**.

3.4.2 Snapper Grouper Fishing Communities

The recreational sector of the snapper grouper fishery is very important throughout the region, and estimates of recreational landings 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 3.4.5** through **3.4.8**. Overall, Florida has the largest number of charter permits (**Table 3-3**). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are in Charleston County and Horry County, and in Georgia, most of the permits are associated with communities in Chatham County and Glynn County. In Florida, almost half of the permits are from Monroe County, and a majority of the permits are associated with communities in south Florida (Brevard, Palm Beach, and Miami-Dade Counties).

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

State	Number of Snapper Grouper Charter Permits
North Carolina	253
South Carolina	105
Georgia	25
Florida	641
TOTAL	1,024

3.4.3 Coastal Migratory Pelagic Fishing Communities

The recreational sector of the CMP fishery is very important throughout the region, and estimates of recreational landings 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 3.4.5** through **3.4.8**. Overall, Florida has the largest number of charter permits (**Table 3-4**). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are Charleston and Horry Counties, with some permits associated with Beaufort County and Georgetown County. Most Georgia permits are in Chatham and Glynn County. Almost half of the Florida permits are associated with Monroe County, followed by Palm Beach, Brevard, and Broward Counties.

Table 3-4. Federal CMP charter permits in the South Atlantic region (2012).

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

3.4.4 Dolphin-Wahoo Fishing Communities

There is a federal charter permit required for dolphin-wahoo and the distribution of charter permits at the county level is included in **Sections 3.4.5** through **3.4.8**. Overall, Florida has the largest number of charter permits (**Table 3-5**). The primary communities in North Carolina are part of Dare County, New Hanover County, Brunswick County, and Carteret County. Communities in South Carolina with significant for-hire fleets are in Charleston County, and in Georgia, most of the permits are associated with communities in Chatham County and Glynn County. In Florida, almost half of the permits are from Monroe County, and a majority of the permits are associated with communities in south Florida (Brevard, Palm Beach, and Broward Counties).

Table 3-5. Federal dolphin-wahoo charter permits in the South Atlantic region (2012).

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

3.4.5 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 3-4**). Those counties that are considered 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.

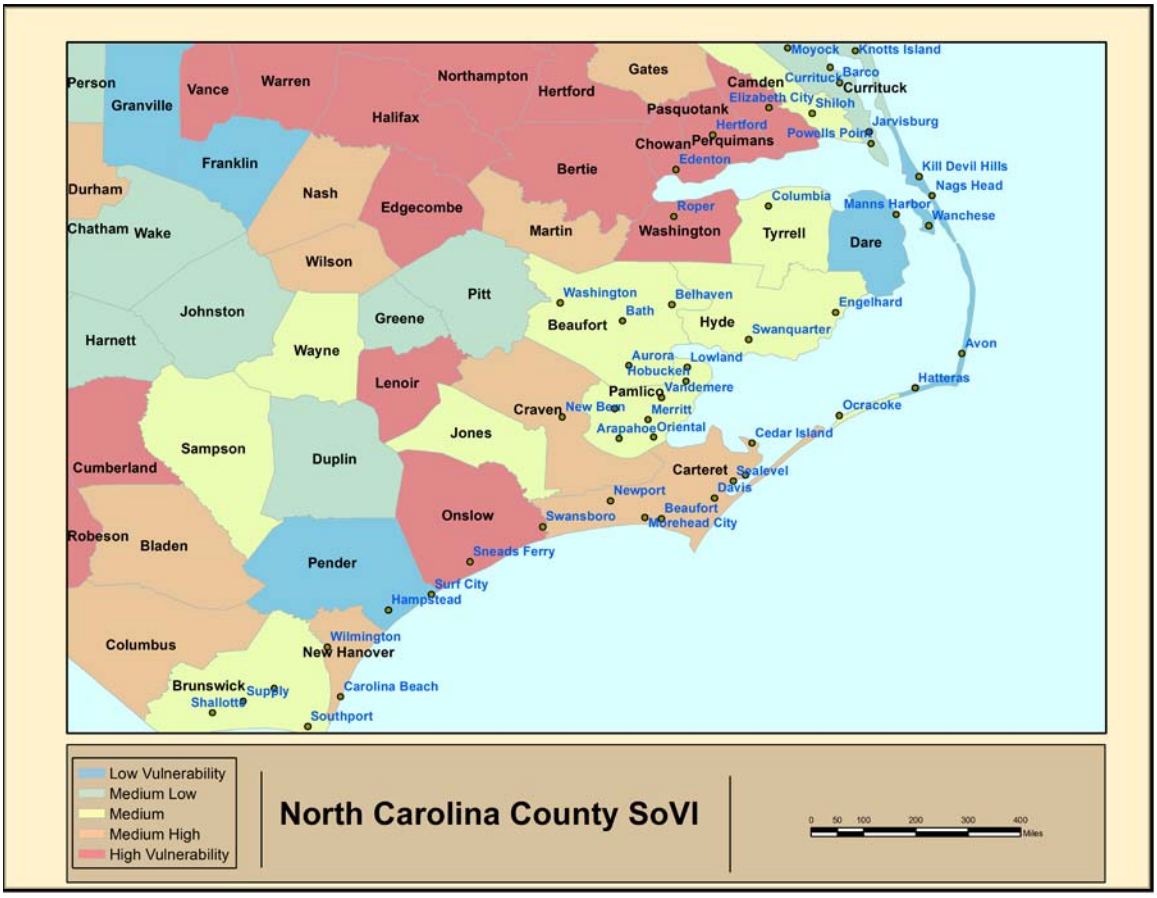


Figure 3-4. The Social Vulnerability Index applied to North Carolina Coastal Counties.

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 3-6**).

Table 3-6. 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 3-7**). 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 3-7. Federal charter permits in North Carolina coastal counties (2012).

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

* Based on the mailing address of the permit holder.

3.4.6 South Carolina

Coastal South Carolina had no counties that were either medium or highly vulnerable (**Figure 3-5**). 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.

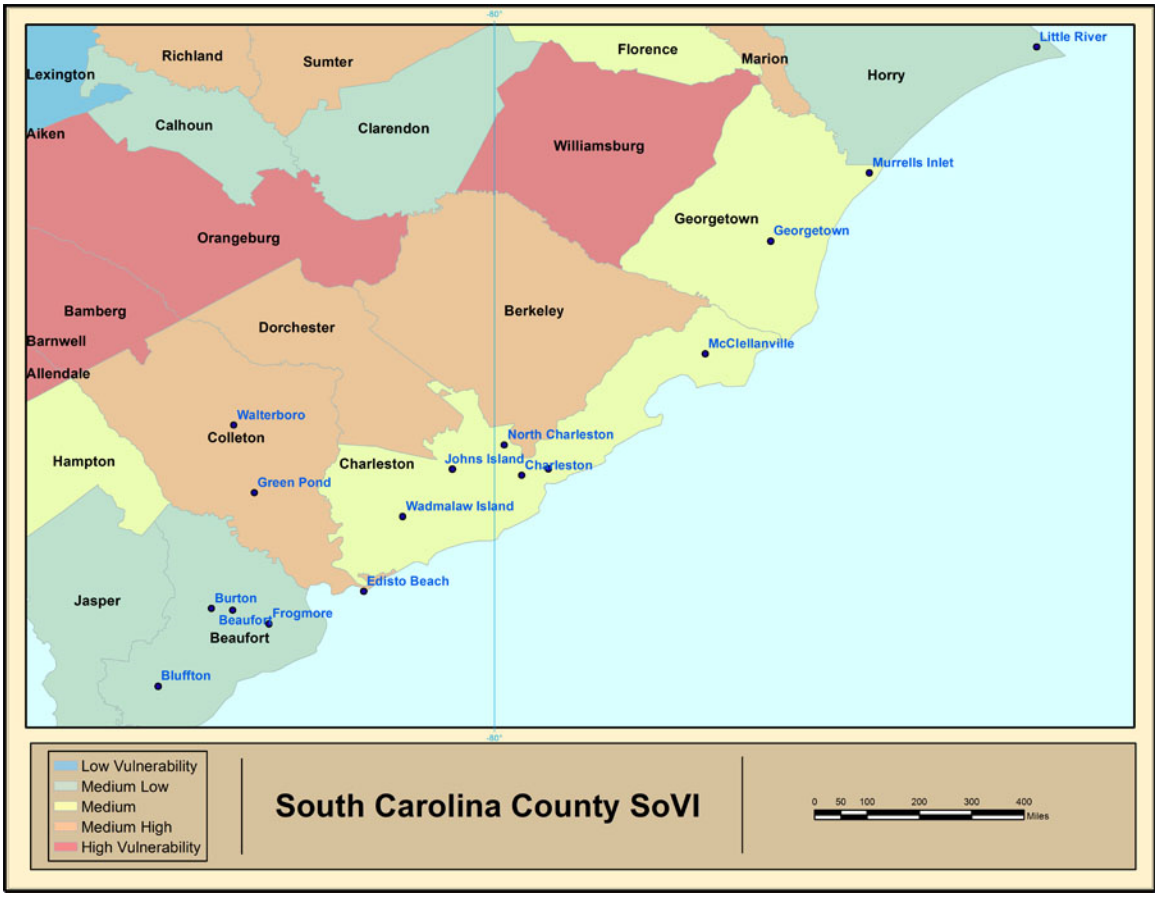


Figure 3-5. The Social Vulnerability Index applied to South Carolina Coastal Counties.

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 3-8**). It is common for charter vessels to have all three federal charter permits.

Table 3-8. 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 3-9**).

Table 3-9. 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.

3.4.7 Georgia

Overview

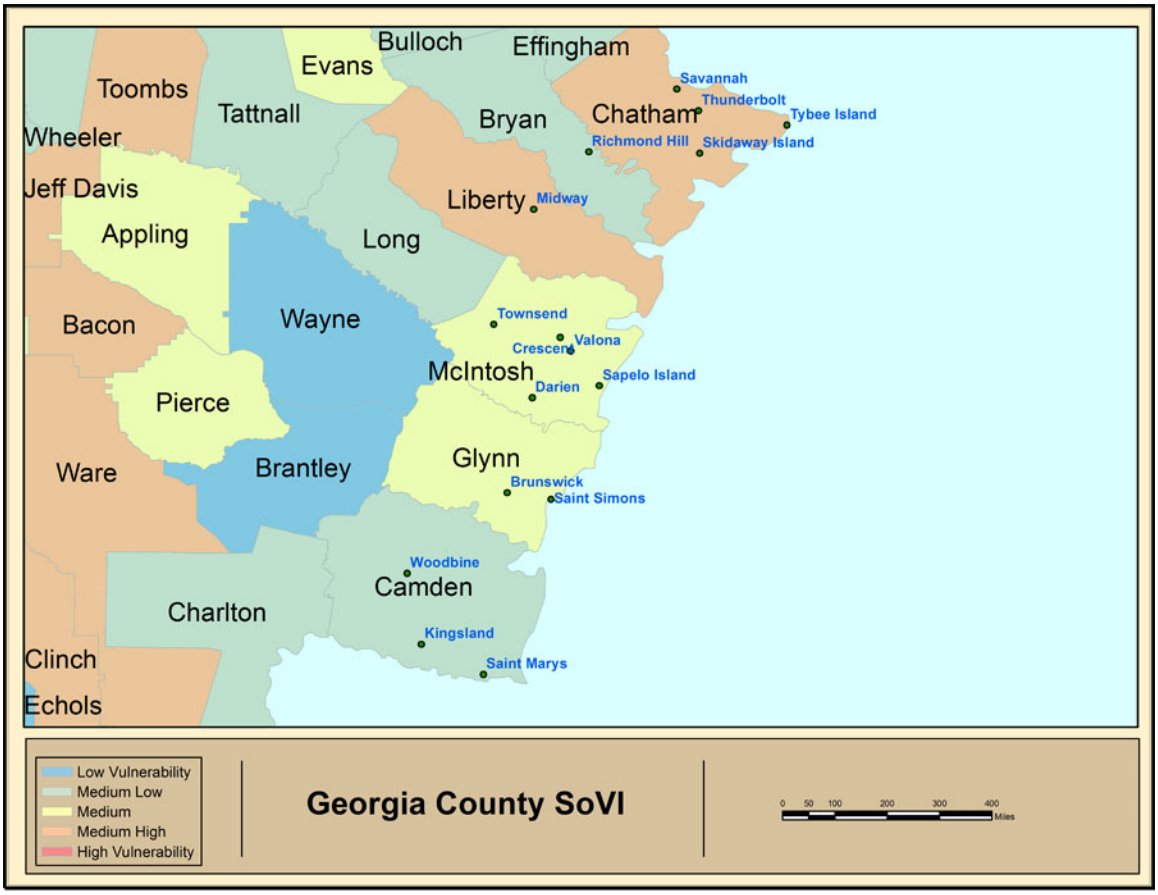


Figure 3-6. The Social Vulnerability Index applied to Georgia Coastal Counties.

There were two counties in Georgia with medium high vulnerability and those were Liberty and Chatham (**Figure 3-6**). The fishing communities located in those counties are Savannah, Thunderbolt, Tybee Island, and Skidaway Island in Chatham County, and Midway in Liberty County.

Recreational Fishing

Most federal charter permits are associated with Chatham and Glynn County (**Table 3-10**). 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 3-11**) 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 3-10. 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 3-11. 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.

3.4.8 Florida

Figure 3-7. The Social Vulnerability Index applied to South Atlantic Florida Counties.

A good portion of Florida's east coast (**Figure 3-7**) is considered either medium high or highly vulnerable in terms of social vulnerability. In fact, the only counties not included in those two categories are Nassau, St. John's, and Monroe.

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

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 3-12**), but there are at least 20 permits in all counties.

Table 3-12. 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 (Florida Fish and Wildlife Commission data from 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 action 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 were used. Estimates of the state minority and poverty rates, associated thresholds, and community rates are provided in **Table 3-13**; 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 because 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 headboat 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 3-13. Environmental Justice thresholds (2010 U.S. Census data) for counties in the South Atlantic region. Only coastal counties (east coast for Florida) with minority and/or poverty rates that exceed the state threshold are listed.

State	County	Minority Rate	Minority Threshold*	Poverty Rate	Poverty Threshold*
Florida		47.4	56.88	13.18	15.81
	Broward	52.0	-4.6	11.7	4.11
	Miami-Dade	81.9	-34.5	16.9	-1.09
	Orange County	50.3	-2.9	12.7	3.11
	Osceola	54.1	-6.7	13.3	2.51
Georgia		50.0	60.0	15.0	18.0
	Liberty	53.2	-3.2	17.5	0.5
South Carolina		41.9	50.28	15.82	18.98
	Colleton	44.4	-2.5	21.4	-2.42
	Georgetown	37.6	4.3	19.3	-0.32
	Hampton	59.0	-17.1	20.2	-1.22
	Jasper	61.8	-19.9	9.9	-0.92
North Carolina		39.1	46.92	15.07	18.08
	Bertie	64.6	-25.50	22.5	-4.42
	Chowan	39.2	-0.1	18.6	-0.52
	Gates	38.8	0.3	18.3	-0.22
	Hertford	65.3	-26.2	23.5	-5.42
	Hyde	44.5	-5.4	16.2	1.88
	Martin	48.4	-9.3	23.9	-5.82
	Pasquotank	43.4	-4.3	16.3	1.78
	Perquimans	27.7	11.4	18.6	-0.52
	Tyrrell	43.3	-4.2	19.9	-1.82
	Washington	54.7	-15.6	25.8	-7.72

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

All of the fisheries affected by the proposed actions are economically and socially important to coastal counties in the South Atlantic region. The action in this proposed amendment is 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

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. 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 NMFS.

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

Public interests also are involved in the fishery management process through participation on Advisory Panels and through council meetings, which, with few exceptions for discussing personnel matters, are open to the public. The South Atlantic Council uses a Scientific and Statistical Committee (SSC) 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 South Atlantic Council level, but does not have voting authority at the South Atlantic Council level.

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

3.6.1.3 Enforcement

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

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

Administrative monetary penalties and permit sanctions are issued pursuant to the guidance found in the Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions for the NOAA Office of the General Counsel – Enforcement Section. This Policy is published at the Enforcement Section's website: http://www.gc.noaa.gov/enforce-office3.html.

Chapter 4. Environmental Consequences

4.1 Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat 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 exclusive economic zone (EEZ), and who is selected to report by the Science and Research Director (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 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
Sub-Alternative 2b. Headboat

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.

Sub-Alternative 3a. Charter
Sub-Alternative 3b. Headboat

Preferred 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).

Sub-Alternative 4a. Charter
Preferred Sub-Alternative 4b. Headboat

Discussion

Compliance Measure

It is the South Atlantic Councils' intent that headboats must remain in compliance with the reporting requirements to be authorized to conduct trips to fish for snapper grouper, dolphin wahoo, and coastal migratory pelagic species (compliance measure). NMFS has also specified measures to be used in cases of catastrophic conditions when electronic means to report data are not feasible. Under the alternatives with weekly reporting, Monday through Sunday is the fishing week and reports are due seven days after the end of each week that ends on Sunday. The reports are due are due by midnight of the following Sunday. This is contained in the current regulations for charter vessels. Under the alternative with daily reporting, reports would have been due by noon of the following day to ensure the data are available more frequently than weekly.

"No-fishing forms" must be submitted at the same frequency, via the same process as specified in **Action 1**.

Reporting is currently a condition of the permits issued for the snapper-grouper, dolphin/wahoo, and coastal migratory pelagic fisheries. Not reporting does not meet the conditions of the permit and the permit becomes invalid. Under the current reporting scenario, it is difficult to determine which permits have met the reporting frequency requirements due to the lag between the submittal of reports and the processing of the data. Electronic reporting would allow for better enforcement of current permit conditions. Any delinquent reports would need to be submitted and received by the National Marine Fisheries Service (NMFS) before a headboat could legally harvest and/or possess the affected species.

In situations where there is no fishing occurring, either by choice or due to a closed fishing season, "no fishing reports" are currently required to be submitted. These forms would still be required and could be submitted electronically, and should be submitted by the timeframe specified to remain in compliance with the permit requirements.

A headboat would only be authorized to harvest and/or possess species in the Snapper Grouper, Dolphin/Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans if the headboat's previous reports have been submitted by the headboat owner and received by the NMFS in the time specified. Any delinquent reports would need to be submitted and received by NMFS before a headboat could legally harvest and/or possess the affected species. Headboats reporting ahead of time if they are closed/not fishing for an extended period, meets the intent of the weekly reporting in the preferred alternative.

This measure would require that headboats remain current on their reports as a requirement to continue legally harvesting and/or possessing the affected species. This would improve timeliness and accuracy of headboat reporting, decreasing the likelihood of exceeding recreational annual catch limits (ACLs) for species that have in-season closures like black sea bass. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year

following an overage. The requirement to submit no-fishing forms reduces the uncertainty of reported headboat landings**.** NMFS would be better able to differentiate between periods when headboats were fishing and periods with missing reports.

Catastrophic Measure

It is the South Atlantic Councils' intent that the headboat program would be allowed to use paper-based reporting only as a backup during catastrophic conditions, when electronic means to report data are not feasible,. The Regional Administrator (RA) would determine when catastrophic conditions exist, the duration of the catastrophic conditions, and which participants or geographic areas are deemed affected by the catastrophic conditions. The RA would provide timely notice to affected participants via publication of notification in the *Federal Register*, NOAA weather radio, fishery bulletins, and other appropriate means and would authorize the affected participants' use of paper-based components for the duration of the catastrophic conditions. The paper forms would be available from NMFS. The RA would have the authority to waive or modify reporting time requirements. The need for paper-based reporting is expected to occur infrequently and for relatively short time periods.

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.
(ii) Electronic logbook/video monitoring reporting. The owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, as required under § 622.4(a)(1), who is selected to report by the SRD must participate in the NMFS-sponsored electronic logbook and/or video monitoring reporting program as directed by the SRD. Compliance with the reporting requirements of this paragraph (b)(1)(ii) is required for permit renewal.

(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 no 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 data reporting for for-hire vessels is an administrative process for providing a means of collecting data from the industry but in itself does not directly affect the biological environment. Assuming compliance and accurate reporting by participants, there would be positive indirect biological effects from requiring electronic reporting if landings could be tracked accurately and in a timely manner. This could help prevent ACLs from being exceeded for species that have in-season closures like black sea bass. For species with a recreational accountability measure (AM) that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage.

Alternative 1 (No Action) requires for-hire vessels for snapper grouper, coastal migratory pelagic and dolphin/wahoo fisheries selected to report by the SRD to maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, and on forms provided by the SRD. Furthermore, the owner or operator of a vessel for which a charter vessel/headboat permit

for South Atlantic snapper-grouper has been issued, who is selected to report by the SRD must participate in the NMFS-sponsored electronic logbook and/or video monitoring reporting program as directed by the SRD. **Alternative 1** does not require for-hire fisheries for coastal migratory pelagic, and dolphin/wahoo 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 are monitored by the Marine Recreational Information Program (MRIP), which has replaced the Marine Recreational Fisheries Statistical Survey (MRFSS). These surveys use 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 to the MRFSS program, 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 estimates of recreational catches and the variances around those catch estimates.

Harvest from headboats is monitored by NMFS at the Southeast Fisheries Science Center (SEFSC) 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 NMFS 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-Preferred Alternative 4 would require that all charter (**Sub-Alternative a**) and/or headboat (**Sub-Alternative b**) snapper grouper, coastal migratory pelagic, and dolphin wahoo fishermen submit logbook data to the SEFSC electronically via computer. Thus, **Preferred Alternative 4** and **Preferred Sub-Alternative 4b** would require that headboats submit fishing records to the SRD weekly, or at intervals shorter than a week if notified by the SRD, via electronic reporting (via computer or internet).

There have been two pilot data collection projects in the Gulf of Mexico to evaluate programs aimed at improving accuracy and timeliness of fisheries data from for-hire vessels. In September 2010, a one-year For-Hire Electronic Pilot Study was conducted in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system, along with methods to independently verify self-reported catch and effort data in the for-hire fishery. The expectation

with a mandatory reporting system was that a complete census of effort and catch among all participants would be obtained. However, methods to independently validate self-reported fisheries data are needed to certify whether a true and accurate census of catch and effort is actually achieved, and to account for instances when it is not. Tracking methods are also important with any mandatory reporting requirement so that late or missing reports can be identified and participants in the fishery can be contacted in a timely manner. The full report from this project has not been released at the time of this writing.

A regional pilot study implemented in September 2010 included approximately 60 charter vessels from Corpus Christi, Texas, and 360 vessels from the northwest region of Florida that possess federal permits to harvest reef fish and/or pelagic species from the Gulf of Mexico. Field validations of self-reported data were collected using three methods: Dockside validations of fishing status; dockside interviews for harvested catch; and at-sea validations for released catch. Vessels selected to participate were required to submit trip reports each week as a condition for permit renewal. A Web-based electronic reporting system was developed, and participants were provided paper logsheets if electronic reporting was not possible. Compliance was monitored weekly and participants were contacted weekly and monthly to notify them of outstanding reports. Participants that did not submit reports at the end of one month were not cleared for permit renewal until all late trip reports were received. Preliminary results indicated there were significant problems with non-compliance and reporting timeliness. A presentation by Southeast Regional Office (SERO) staff on this pilot project to the South Atlantic Council at their March 2012 meeting is available at the following link: http://www.safmc.net/LinkClick.aspx?fileticket=5YqBu6erpts%3d&tabid=722. The abstract describing the study is available at the following link: https://afs.confex.com/afs/2011/webprogram/Paper3899.html. The report is being revised and the MRIP team leads determined the report would benefit from peer review prior to being released (Source: Gordon Colvin email to Robert Mahood, 10/15/12). A final report on this project will be available later in 2013 and will provide:

- Compliance success of the pilot study,
- Results of comparisons between self-reported trip data and independent field validations for both effort and catch, and
- Recommendations on the use of self-reported electronic logbook data for monitoring catch and effort in the for-hire sector.

Results from the pilot study conducted for the for-hire recreational in the Gulf of Mexico will provide additional insight on the potential biological effects of **Alternatives 2- Preferred Alternative 4** and their sub-alternatives.

The iSnapper Electronic Logbook Project was conducted in the Gulf of Mexico using charter vessels and headboats during the 2011 and 2012 recreational red snapper fishing seasons. This pilot program distributed iPhones/iPads pre-loaded with the iSnapper app to charter and headboat captains in the for-hire sector in Texas, Louisiana, Alabama, and Florida. These for-hire fishing vessels targeted both reef fish (e.g., red snapper) and a variety of other pelagic species (e.g., king mackerel). In 2011, 16 captains participated from June 1 through July 18, 2011. Collectively,

the group reported catch data from 327 trips, harvested more 10,000 fish of five major species, and provided information on discard rates and fish size.

Voluntary Angler Surveys can provide useful data but there are concerns about such data being susceptible to bias. The Mid-Atlantic Fishery Management Council, in cooperation with the MRIP, brought together a group of people involved in such programs in February 2012. They concluded, "Opt-in angler data may be useful for certain kinds of data that are not likely to be susceptible to bias, although it is difficult to anticipate what these data may be. However, the unique characteristics of self-selected participants are likely to introduce bias into certain kinds of data, especially catch and effort data. Managers must be made aware of such biases, and the likely extent of such biases should be examined when implementation of these programs is considered." The Summary of the February 2, 2012, Workshop is included as **Appendix I**.

Under **Alternative 1 (No Action)**, completed records for charter vessels must be submitted to the SRD weekly, postmarked no later than 7 days after the end of each trip (Sunday). Monday through Sunday is the fishing week and reports are due seven days after the end of each week that ends on Sunday. The reports are due are due by midnight of the following Sunday. Completed records for headboats must be submitted to the SRD 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 3** for the charter sector and **Alternatives 2- Preferred Alternative 4** for the headboat sector would require that data be submitted to the SEFSC more frequently than the current requirements and electronically resulting in positive indirect biological effects. Sub-Alternatives under **Alternatives 2- Preferred Alternative 4** would apply to charter vessels (**Sub-Alternatives a**) or headboats (**Sub-Alternatives b**). The South Atlantic Council did not select alternatives that would require the charter sector to report landings electronically due to a recently completed pilot study in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system in the charter sector that indicated that there may be problems with using self-reported data from the charter sector to track landings.

Assuming there were no compliance issues or biases associated with self-reported data, requiring charter vessels to report weekly or daily could greatly improve the timeliness of reporting over the current 2 month wave plus 45 days under MRFSS/MRIP. Further, **Alternative 3** would require daily reporting for the charter and headboat sectors, and could result in the most positive indirect biological effects. **Alternative 2** would require weekly, which is the same required deadline as **Alternative 1** for charter vessels; however, **Alternative 2** would require data be submitted via computer. **Preferred Alternative 4** would initially require weekly, with the additional requirement for data to be submitted electronically, but allow the SRD to require more frequent data submissions in the future, via notice without the South Atlantic Council having to prepare an additional amendment.

Assuming there were no compliance issues or biases associated with self-reported charter data, the alternatives/sub-alternatives ranked in terms of highest to lowest positive indirect biological effects, would be greatest for alternatives that require daily reporting (**Alternative 3**). However, as reporting intervals shorter than a week may not always be needed, **Alternative 3** could represent an unnecessary economic, social, and administrative burden. The South Atlantic

Council **Preferred Alternative 4** is a more reasonable alternative as it would require reports to be submitted weekly but would allow an increased interval of data reported as needed. Therefore, the biological effects of **Alternative 3** and **Alternative 4 (Preferred)** could be very similar if reporting frequencies under **Alternative 4 (Preferred)** are increased when needed and ACLs are not exceeded. Among the action alternatives, the biological benefits would be least for **Alternative 2** because reporting frequency would not be increased beyond 7 days.

Currently, as a condition of the permit, fishermen are required to meet the reporting requirements associated with their permit (CFR 50 Section 622.5). With electronic reporting, it would be much easier to track those who are not meeting the reporting requirements of their permit and may result in a permit being invalid and the permit holder not being able to legally harvest or possess those species.

The South Atlantic Council specified that the measures in **Alternative 4 (Preferred)** would apply to the headboat sector (**Sub-alternative 4b**) and not the charter sector (**Sub-alternative 4a**). Alternatives in **Action 1** that would require the charter sector to report landings electronically were not selected by the South Atlantic Council due to a recently completed pilot study in the Gulf of Mexico that indicated that there may be problems with using self-reported data from charterboat fishermen to track landings. Instead, the South Atlantic Council decided to defer this measure to a future joint amendment with the Gulf of Mexico Fishery Management Council to allow the details to be worked out with MRIP and for the SEFSC to develop a data reporting system for the charter sector. The South Atlantic Council is interested in evaluating requiring the charter sector submit fishing records to the SRD weekly via electronic reporting similar to what is being proposed for headboats in this amendment.

Alternative 1 (No Action), Alternative 2, Alternative 3 and **Preferred Alternative 4** are unlikely to result in any direct adverse impacts on protected species such as endangered or threatened whales, sea turtles, corals, or HAPCs. All alternatives including **Preferred Alternative 4** would modify reporting requirements for the for-hire sector, but overall, this would not change current fishing practices. Total harvest would still be restrained by the commercial and recreational ACLs, and AMs would still be used to help prevent overfishing. It is unlikely any alternative, including **Preferred Alternative 4, Sub-Alternative 4b**, would result in increased or modified fishing effort in the dolphin wahoo, coastal migratory pelagic, or snapper grouper fishery; therefore, no adverse biological impacts on protected species or HAPCs is expected under this action.

4.1.2 Economic Effects

Improved harvest monitoring would be expected to result in increased economic benefits because it would be expected to result in better resource protection, sustainable harvests, and fewer disruptions of normal fishing behavior. The assessment of the proposed alternatives for **Action 1** evaluates the expected change in economic effects from the perspective of the extent to which these alternatives would be expected to differ in supporting improved harvest monitoring compared to the associated cost burden to for-hire entities for compliance.

The proposed alternatives to **Action 1** vary by frequency of reporting. Each of these alternatives contains the same set of sub-alternatives specifying which for-hire permit holders would be required to report electronically. The following discussion of the expected economic effects of these alternatives and options will follow a similar organization, i.e., first examining the alternative methods of reporting, then contrasting the reporting frequency options.

Alternative 1 (No Action) would not change the frequency or method of reporting by sector. Currently, selected charter vessels must report weekly. Ten percent of the charter fleet is selected to report weekly. However, because sampling is done "with replacement," a single vessel could be selected more than one time in a year or not at all. Headboat operators must report monthly. Although current for-hire reporting does not require electronic submission, an electronic logbook has been developed for the headboat sector, and was implemented in 2013.

Electronic reporting would be more efficient than other forms of reporting because the information provided could be directly integrated into an electronic system that would allow a combination of records and tabulation of harvests. With electronic reporting, data would not have to be manually input from paper forms, faxes, or scanned documents. The specification of ACLs and AMs has increased the need for more timely collection of harvest data. Recreational AMs vary from in-season closures for some species such as black sea bass, red grouper, and golden tilefish to a reduction in the length of the fishing season in the year following an ACL overage for many other species. The current frequency of data reporting could increase the likelihood of harvest overages for species that have in-season closures like black sea bass. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. Only in extreme situations would potential overages be expected to be so severe that the status of a stock or a recovery plan would be jeopardized under the current reporting schedule. However, overages have the potential, depending on the AMs, to result in significant disruption in fishing behavior and reduce revenue and profit for for-hire vessels and associated businesses, and reduce potential fishing opportunities for anglers. **Alternative 1 (No Action)** would be expected to continue to result in these indirect economic effects.

Alternatives 2-Preferred Alternative 4 would require electronic submission of reports, the difference between alternatives being the frequency of requirement. Under **Alternative 2, Sub-alternative 2a,** charter vessel operators selected for weekly reporting would be required to report on the same weekly schedule as they currently report. However, **Alternative 2, Sub-alternative 2a** would require all charter vessels to report weekly. Under **Alternative 2, Sub-alternative 2b**, weekly reporting would be an approximately fourfold increase in reporting frequency for headboat operators. **Alternative 3** is similar to **Alternative 2** except **Alternative 3** would require daily electronic reporting. **Preferred Alternative 4** is a hybrid of **Alternatives 2** and **3** requiring either weekly or a more frequent reporting schedule.

Each of the **Alternatives 2 – 4 (Preferred)** has the same set of sub-alternatives. **Sub-alternatives 2a, 3a,** and **4a** would require electronic reporting for only charter vessels. **Sub-alternatives 2b, 3b,** and **4b (Preferred)** would require electronic reporting for only headboat

vessels. **Sub-alternatives 2a, 3a,** and **4a** would impact many more vessels than **Sub-alternatives 2b, 3b,** and **4b** because there are far more charter vessels than headboat vessels. There is already a reporting requirement for headboat vessels, but only for a random subset of charter vessels. The two fleets tend to target different species. **Sub-alternatives 2a, 3a,** and **4a** would make reporting a requirement for 100% of the charter fleet, resulting in complete reporting for this sector and thereby improving the data used for management as only 10% of the fleet is currently reporting at any one time. However, improvements in data for the charter sector assume reporting compliance. Pilot studies conducted in the Gulf of Mexico indicate there are concerns with the use of self-reported data from the charter sector, which is why the South Atlantic Council did not select **Sub-alternatives 2a, 3a,** or **4a** as their preferred alternative. **Sub-alternatives 2b, 3b,** and **4b** would not increase the amount of participation by the headboat fleet (but vary in frequency of reporting) as all federally permitted headboats are already reporting but these alternatives would increase the reporting frequency currently required to report all trips. While they do not report electronically, headboat operators have experience with logbook reporting under current reporting requirements. An electronic platform for headboat data collection has been in operation since January 1, 2013. However, a similar system for charter vessels has not been developed, nor is it under development. As a result, the adoption of any alternative or sub-alternative that required electronic reporting for charter vessels would not impose any additional costs or reporting burden on charter captains because they could not be forced to respond to a system that did not exist. The economic benefits associated with enhanced data reporting would also not be realized because enhanced data reporting would not be accomplished.

Potential regulatory change from **Action 1**, would result in the highest costs to for-hire permit holders with **Alternative 3**, followed by **Preferred Alternative 4**, and **Alternative 2** when compared to **Alternative 1**. The gains that would be achieved through implementation of any of the **Alternatives 2 – 4 (Preferred)** would be expected to justify the increased cost to for-hire operators in terms of resource management. For species with in-season closures, more accurate and timely data collection would be expected to help prevent overruns of ACLs, and reduce the likelihood that AMs would need to be implemented in future fishing seasons. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. Therefore, the alternatives avoid the adverse economic consequences of the short-term disruption of normal fishing practices that the imposition of AMs induce. From a data collection perspective, all alternatives other than **Alternative 1 (No Action)** would have a positive impact on monitoring and stock management, assuming compliance from fishery participants. Having complete data from both charter vessels and headboats would be most advantageous.

Alternative 3 would provide the most frequent data reporting and would be of greatest value for species that either have a very small ACL or have a sector ACL that is routinely harvested prior to the end of the fishing year. **Alternative 3** would also result in the greatest reporting burden, as well as the highest administrative costs. **Alternative 2** would only require weekly reporting and would be expected to result in less of an administrative cost, but may not be as successful in monitoring harvests. **Preferred Alternative 4** would represent a compromise between **Alternatives 2** and **3**. Assuming the reporting frequency is adequate to effectively monitor

harvest, **Preferred Alternative 4** would be expected to result in lower reporting burden costs than **Alternative 2** except in those instances when the SRD deems it necessary to switch to more frequent reporting when it could be the same.

The use of computers, the internet, and other forms of electronic connections and communication is commonplace in the business environment, so the differences in the costs between these alternatives associated with reporting method may be minimal. This assessment does not attempt to estimate an average cost of equipment or connection fees per entity, nor total expected costs to for-hire permit holders, because of the range of options and prices available and an inability to estimate the number of entities that may not already use these tools and services in their current business. Electronic reporting would be expected to be part of the routine business practices of many for-hire operators that currently use computers and would be encompassed by these proposed alternatives, though the use of computers may be more common for recording the business aspects of their operation bookings, accounting, etc., than recording the catch results and other aspects of individual trips. Nonetheless, electronic reporting would be an additional burden to for-hire operators who do not currently use a computer because they would have to bear the additional costs associated with acquiring a computer and internet access, and possibly the cost of training to learn how to use the computer, or hiring personnel to enter the data.

In addition to the costs to permit holders, the costs of data processing should be considered. Requirements for electronic reporting eliminate the need for costly manual data input. Electronic reporting also potentially reduces the time required to acquire the data, process it, compute regional (or other subdivisions of) harvest totals, and take management action, when appropriate.

In summary, all alternatives except **Alternative 1 (No Action)** would change how the for-hire sector reports landings. The other alternatives would require weekly (**Alternative 2**) or daily (**Alternative 3**) electronic reporting. **Alternative 4 (Preferred)** would require weekly electronic reporting, but would shift to more frequent electronic reporting as necessary and determined by the SRD. The sub-alternatives for **Alternatives 2 – 4 (Preferred)** would differentiate whether the alternative would apply to just the charter boat sector (**Sub-alternative a**) or to just the headboat sector (**Sub-alternative b**). **Alternatives 2 – 4 (Preferred)** would incur costs of time and perhaps for computer equipment and staff time, but each alternative other than **Alternative 1 (No Action)** would provide managers with data faster allowing for increased precision for recreational sector ACL management.

4.1.3 Social Effects

In general, negative social effects of for-hire reporting requirements would likely be associated with any added time and financial burden for permit holders to meet the requirements. Increased frequency in reporting under **Alternatives 2-Preferred Alternative 4** may have some negative effects on vessel owners and captains because businesses would need to allocate additional time or staff to submit reports. The daily reporting requirement under **Alternative 3** and the potential

for daily reporting requirement under **Preferred Alternative 4** would be more burdensome for for-hire permit holders 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 would not be impacted under **Sub-alternative 2b, Sub-alternative 3b,** and **Preferred Sub-alternative 4b**, but requirements for only headboats may not improve quota monitoring and accuracy to the extent that inclusion of the same requirements for charter boats under **Sub-alternatives 2a, 3a,** and **4a.**

The requirement for electronic reporting under **Alternatives 2- Preferred Alternative 4** would 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.

Recreational AMs vary from in-season closures for some species such as black sea bass, red grouper, and golden tilefish to a reduction in the length of the fishing season in the year following an ACL overage for many other species. Requiring all for-hire permit holders to report electronically and more frequently (**Alternatives 2- Preferred Alternative 4**) is expected to result in broad social benefits. Assuming compliance from fishery participants, more frequent and timely reporting would be expected to contribute to improved monitoring of recreational landings, with which it will be less likely that an ACL would be exceeded during the fishing season for species such as black sea bass, red grouper, and golden tilefish, or in the year following an ACL overage for many other species. AMs can have significant direct and indirect effects on for-hire fishermen because they usually impose some restriction on harvest, during either the current season or the next. Early closures of species such as black sea bass and paybacks (which in turn increase the likelihood of an earlier closure in the following year) are directly linked to the ability of NMFS to monitor recreational landings. While the negative effects of AMs are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Although additional reporting requirements may not prevent AMs from being triggered, these requirements would be expected to provide additional information to better forecast early closures and minimize post-season AMs, such as "pay-backs." Under **Alternative 1 (No Action)**, there would be no improvements to monitoring as a result of more timely reporting, and it would be more likely that AMs would continue to negatively impact for-hire businesses, communities, and customers.

4.1.4 Administrative Effects

The administrative effects of changing permits and reporting requirements for the for-hire sector would be associated with rule-making, outreach, and implementation of the revised reporting scheme. There also could be administrative effects associated with using self-reported data to monitor recreational ACLs. In general, increased frequency in reporting under **Alternatives 2-Preferred Alternative 4** would increase the administrative burden on NMFS. As the number of vessels affected increases (under the sub-alternatives), so do the administrative impacts. As the frequency of reporting increases, so do the administrative impacts. **Alternative 3** would have the greatest increase in the administrative burden on NMFS, 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 the burden for some fishery participants and increase the burden for those who do not have access to a computer system. It is expected that after an initial period required for understanding the program, electronic reporting would be more efficient for both fishermen and NMFS in the long term. **Preferred Alternative 4** would allow the SRD to modify the frequency of reporting in the future. This alternative could have the potential to increase or decrease the administrative impacts on the fishery participants depending on what the SRD deems appropriate. **Preferred Alternative 4** would reduce the future administrative impacts on the agency as the SRD could change the frequency of reporting via notice, without going through the South Atlantic Council and rule-making process. Of the three action alternatives and associated sub-alternatives, **Alternative 3** would be the most administratively burdensome to both NMFS and fishery participants. Requiring daily reporting would increase the burden on anglers and require NMFS to process data at a more rapid speed than the status quo. However, **Preferred Alternative 4** has the potential to be just as burdensome if the SRD determines that more frequent reporting is necessary.

Electronic reporting has the potential to be more burdensome for law enforcement. Reporting is currently a condition of the permits issued for the snapper grouper, dolphin/wahoo, and coastal migratory pelagic fisheries (CFR 622.5). Vessels who do not report are not meeting the conditions of the permit, and that may invalidate the permit. Under the current reporting scenario, it is difficult to determine which permits have met the reporting frequency timeline due to the lag between the submission of reports and the processing of the data and the delay from reports not being submitted until the permit is renewed. Electronic reporting would allow NMFS to better monitor the reporting conditions on a permit. Any delinquent reports would need to be submitted and received by NMFS before a headboat may legally harvest and/or possess the affected species. In situations where there is no fishing occurring, either by choice or due to a closed fishing season, “no fishing reports” are currently required to be submitted. This would still be required and these forms would be able to be submitted electronically and should be submitted by the required timeframe specified to remain in compliance with the permit requirements.

Headboats reporting ahead of time if they are not fishing for an extended period meets the intent of the weekly reporting in the preferred alternative. This measure would require that headboats remain current on reports as a requirement to continue legally harvesting and/or possessing the affected species. This would improve timeliness and accuracy of headboat reporting, decreasing the likelihood of exceeding recreational ACLs for the affected species that have in-season closures like black sea bass. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. The requirement to submit no-fishing forms reduces the uncertainty of reported headboat landings**.** NMFS would be better able to differentiate between periods when headboats were fishing and periods with missing reports.

Chapter 5. Council's Choice for the Preferred Alternative

The action in this amendment was once part of the data collection actions of the Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3). The South Atlantic Fishery Management Council (South Atlantic Council) approved CE-BA 3 for public scoping during the December 2012 South Atlantic Council meeting. During their March 2012 meeting, the South Atlantic Council received an overview of input from the public scoping meetings for CE-BA 3; the South Atlantic Council provided guidance to further develop a range of alternatives to bring back to their June 2012 meeting. The data collection actions in CE-BA 3 were approved for public hearings during their June 2012 meeting. At their December 2012 meeting, the South Atlantic Council moved the action modifying data reporting for charter/headboat vessels from CE-BA 3 into a separate generic amendment.

Action 1. Amend the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic Resources Fishery Management Plans to modify data reporting for charter/headboat vessels

During the June 2012 Ad Hoc Data Collection Committee, the Science and Research Director (SRD) of Southeastern Fisheries Science Center (SEFSC) discussed results from a pilot study for the charter sector that was implemented in September 2010 assessing the feasibility of transitioning to electronic reporting. Because of the study, the SRD noted the SEFSC is only ready to move forward with requiring electronic reporting for the headboat sector; the charter sector will be addressed in the future. Further, the SRD stated that the SEFSC received additional funding to move forward with full implementation of electronic reporting for headboat vessels. Changing the timing of reporting from monthly to weekly for the headboat sector would enable the SRD to develop more timely projections of the headboat catch. The SRD noted that projections of harvest and bycatch for charter vessels are not conducted through the SEFSC, but through the Marine Recreational Information Program (MRIP). The MRIP charter sector estimates are obtained through a combination of acquiring effort data via telephone interviews and obtaining landings data via dockside intercepts and integrating these data to determine catch-per-unit effort in order to be able to generate an estimate of total landings. The SRD noted that further consultation with MRIP would be necessary before moving forward with electronic reporting for the charter sector; however, the intent is to move towards this goal in the future.

At their September 2012 meeting, the South Atlantic Council expressed concern about the inability to receive estimates of in-season headboat catches as late as September, noting that the SRD's presentation on recreational catches included no estimate of the headboat sector. The preferred alternative in this amendment, which would require headboats to report through electronic means on a weekly basis, would improve the SEFSC's ability to produce in-season estimates for all species. In-season headboat catches would have been very useful to monitor the harvest of red snapper to help determine if the recreational season could have been opened for another weekend in 2012. The South Atlantic Council has approved Amendment 28 to the Snapper Grouper FMP for review by the Secretary of Commerce, which considers a process for a specifying a limited red snapper fishing season in 2013 and future years. Therefore, it is critical to have current and timely landings estimates for the headboat sector.

The SEFSC has been ready to fully implement 100% electronic reporting in the headboat sector since January 1, 2013 and the South Atlantic Council is adopting **Preferred Alternative 4, Sub-Alternative 4b** for Action 1 as this would give the regulatory authority to implement the program requested by the SEFSC. The preferred alternative also gives the SRD the ability to move from weekly to more-frequent reporting, via notice, if this becomes necessary in the future, without the South Atlantic Council having to prepare an amendment to the Snapper Grouper, Dolphin Wahoo, and Coastal Migratory Pelagics Fishery Management Plans. If implemented early enough in 2013, the preferred alternative would allow the National Marine Fishery Service (NMFS) to require compliance with electronic headboat reporting prior to the start of the fishing seasons, which would help with tracking the recreational annual catch limits (ACLs) and preventing overages for species such as recreational red snapper and black sea bass.

The South Atlantic Council did not select alternatives that would require the charter sector to report landings electronically due to a recently completed pilot study in the Gulf of Mexico to test the feasibility of a mandatory electronic logbook reporting system that indicated there may be problems with using self-reported data to track charterboat landings. Further, the SRD noted that projections of harvest and bycatch for charter vessels are not conducted through the SEFSC, but rather through MRIP. The SRD noted that further consultation with MRIP would be necessary before moving forward with electronic reporting for the charter sector. The South Atlantic Council decided to defer this measure to a future joint amendment with the Gulf of Mexico Fishery Management Council to allow the details to be worked out with MRIP and for the SEFSC to develop a data reporting system for the charter sector. The South Atlantic Council is interested in evaluating a requirement for the charter sector to submit fishing records to the SRD weekly via electronic reporting similar to what was considered under **Sub-alternatives 2a, 3a,** and **4a** in this amendment. This could allow NMFS to focus the limited funding through MRIP on private recreational anglers and thereby improve those estimates. If the entire for-hire sector was providing weekly electronic reports, NMFS could use those estimates to track the for-hire component of the recreational ACLs. It is the South Atlantic Council's intent that NMFS use the headboat landings from the weekly electronic reporting specified in this amendment to track headboat landings to help ensure the recreational ACLs are not exceeded during the fishing year for species with in-season closures, and in the following fishing year for species with a

recreational AM that shortens the length of the following fishing season following an ACL overage.

The South Atlantic Council concluded **Preferred Alternative 4, Sub-Alternative 4b** that requires headboat vessels submit fishing records to the SRD weekly, or at intervals shorter than a week if notified by the SRD, via electronic reporting (via computer or internet) best meets the purpose and need, the objectives of the snapper grouper, dolphin wahoo, and coastal migratory pelagics fishery management plans, as amended, and other applicable law.

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 **(Chapter 4)**?

Direct and indirect effects (I.) of the proposed action are analyzed in **Chapter 4** of the Environmental Assessment (EA). Chapter 3 describes the resources, ecosystems, and human communities in a general way. The South Atlantic Fishery Ecosystem Plan (SAFMC 2009b) is incorporated by reference to describe the ecosystems affected by the actions in the amendment. From a cumulative effects perspective, the analyses in Chapter 4, the history of management, and the description in this section are important.

2. Establish the geographic scope of the analysis.

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Fishery Management Council's (South Atlantic Council) area of jurisdiction. Although the action would affect the coastal migratory pelagic species, which extend from New York to Texas, and dolphin wahoo that extend from Florida to Maine, the revised reporting requirements would only apply to fishing for those species in the South Atlantic. 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.

The timeframe for the analysis includes past, present, and reasonably foreseeable actions related to fisheries in the South Atlantic. It would be advantageous to go back to a time when there was a natural, or some modified (but ecologically sustainable) condition. However, data collection for many fisheries began when species were already fully exploited. Therefore, the timeframe for analyses should be initiated when data collection began for the various fisheries. In

determining how far into the future to analyze cumulative effects, the length of the effects will depend on the species and the alternatives chosen.

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

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

I. Fishery-related actions

A. Past

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

Amendment 14 to the Snapper Grouper FMP (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. The prohibition on possession does not apply to a person aboard a vessel that is in transit with fishing gear appropriately stowed. 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 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 (speckled hind, snowy grouper, warsaw grouper, yellowedge grouper, misty grouper, golden tilefish, blueline tilefish, and sand tilefish).

The final rule for Amendment 16 to the Snapper Grouper FMP (SAFMC 2009a), which was partially approved by the Secretary of Commerce, published on June 29, 2009. Amendment 16 included provisions to extend the shallow water grouper spawning season closure, created a five month seasonal closure for vermilion snapper, required the use of dehooking gear if needed, reduced the aggregate bag limit from five to three grouper, and reduced 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 included 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 included prohibition of the sale of bag limit caught snapper grouper species for fishermen not holding a Federal commercial permit for South Atlantic snapper grouper, an

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

Comprehensive Ecosystem-Based Amendment 1 (CE-BA 1; SAFMC 2009c), implemented in July, 2010 consisted of regulatory actions that focus on deepwater coral ecosystem conservation and non-regulatory actions that updated existing essential fish habitat (EFH) information. Management actions in CE-BA 1 included 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 prohibited the use of bottom damaging fishing gear and allowed 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 provided spatial information on designated EFH in the SAFMC Habitat Plan (SAFMC 1998c).

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

The final rule for Amendment 17A to the Snapper Grouper FMP (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 addressed management measures to end overfishing of red snapper and rebuild the stock, including ACLs and AMs. Amendment 17A also included a regulation requiring the use of non-stainless circle hooks north of 28 degrees N. latitude.

The South Atlantic Council voted to approve Regulatory Amendment 10 to the Snapper Grouper FMP (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 2010) 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 Snapper Grouper FMP (Regulatory Amendment 9; SAFMC 2011d) was approved by the Council in March 2011 and the Final Rule published June 15, 2011. The amendment, as approved by the Secretary of Commerce, reduced the bag limit for black sea bass from 15 fish per person to 5 fish per person (effective June 22, 2011), established trip limits on vermilion snapper and gag (effective July 15, 2011), and increased the trip limit for greater amberjack (effective July 15, 2011).

Regulatory Amendment 11 to the Snapper Grouper FMP (Regulatory Amendment 11; SAFMC 2011b) was approved by the South Atlantic Council at their August 9, 2011, meeting. The amendment implemented regulations to remove the deepwater closure beyond 240 ft for six deepwater snapper grouper species that was approved in Amendment 17B. The final rule published in the *Federal Register* on May 12, 2012, and became effective on the same day.

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

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

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

Regulatory Amendment 12 to the Snapper Grouper FMP (Regulatory Amendment 12; SAFMC 2012a) included alternatives to adjust the golden tilefish ACL based on the results of a new assessment, which indicated golden tilefish are no longer experiencing overfishing and are not overfished. Regulatory Amendment 12 also included an action to adjust the recreational AM. Regulatory Amendment 12 was approved for submission to the Secretary of Commerce by the South Atlantic Council at their March 2012 meeting. The Final Rule published in the *Federal Register* on October 9, 2012 and was effective upon publication.

The Comprehensive ACL Amendment (SAFMC 2011c) included 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 included: (1) Removal of species from the snapper grouper fishery management unit; (2) designation of ecosystem component species; (3) allocations; (4) management measures to limit recreational and commercial sectors to their ACLs; (5) AMs; and (6) any necessary modifications to the range of regulations. The South Atlantic Council approved the Comprehensive ACL Amendment in September 2011. The final rule published in the *Federal Register* on March 16, 2012, and became effective on April 16, 2012.

Approved in 2004, the FMP for the Dolphin and Wahoo Fishery of the Atlantic (SAFMC 2003) established historical allocations for dolphin and wahoo between the commercial and recreational sectors. The FMP also specified reporting requirement for the dolphin wahoo for-hire sector. 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.

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

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

B. Present

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

Amendment 18B to the Snapper Grouper FMP (SAFMC 2012c) was approved by the South Atlantic Council at their June 2012 meeting and considered alternatives addressing golden tilefish. The Secretary of Commerce approved the amendment in January 2013. Specifically, actions established initial eligibility requirements and addressed trip limits for a golden tilefish longline endorsement program, allocated golden tilefish quota among gear groups, adjusted the golden tilefish fishing year, and established an appeals process.

At their March 2012 meeting, the South Atlantic Council requested development of Regulatory Amendment 13 to the Snapper Grouper FMP (SAFMC 2012b) to allow for adjustment of

allocations and ACLs based on the new landings information from the Marine Recreational Information Program. Regulatory Amendment 13 was approved by the South Atlantic Council at their December 2012 meeting and sent to the Secretary for formal review on December 17, 2012.

At their September 2012 meeting, the South Atlantic Council requested development of Regulatory Amendment 15 to the Snapper Grouper FMP (SAFMC 2013b) to: Adjust the yellowtail snapper ABC and ACL based on results from a recent assessment and remove the provision that commercial harvest of all shallow water grouper species is prohibited when the gag quota is met. The South Atlantic Council approved Regulatory Amendment 15 at their December 2012 and sent the amendment to the Secretary for formal review on March 1, 2013.

At their December 2013 meeting, the South Atlantic Council requested development of Regulatory Amendment 18 to the Snapper Grouper FMP (SAFMC 2013c) to:

- change the ACLs (including sector ACLs)/optimum yield for vermilion snapper and red porgy, and changes to the ACT for red porgy based on the ABC recommendation of the SSC, which is supported by the recent stock assessment updates for both species;
- change the commercial trip limit for vermilion snapper; and
- change the recreational and commercial fishing seasons for vermilion snapper.

The South Atlantic Council approved Regulatory Amendment 18 at their March 2013 meeting and sent the amendment to the Secretary for formal review on April 15, 2013.

Amendment 28 to the Snapper Grouper FMP includes a process for specifying the ACL for red snapper each fishing year. Amendment 28 was approved for review by the Secretary of Commerce at the December 2012 South Atlantic Council meeting and the amendment was sent to the Secretary on January 24, 2013.

At their September 2012 meeting, the South Atlantic Council directed staff to develop Amendment 27 to the Snapper Grouper FMP to address issues related to blue runner, and extension of management into the Gulf of Mexico for Nassau grouper. Amendment 27 was approved for review by the Secretary of Commerce at the March 2013 South Atlantic Council meeting and the amendment was sent to the Secretary in April 2013.

C. Reasonably Foreseeable Future

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

At their June 2012 meeting the South Atlantic Council requested development of Regulatory Amendment 14 to the Snapper Grouper FMP to adjust management measures for greater amberjack, vermilion snapper, black sea bass, gray triggerfish, vermilion snapper, hogfish, and red porgy. This amendment will be further developed in 2013.

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

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

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

The Gulf of Mexico Fishery Management Council (Gulf Council) and South Atlantic Council requested development of Amendment 19 to the Fishery Management Plan for the Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP) to address a prohibition of bag limit caught fish, as well as other permitting issues. The Councils have continued developing this amendment, and are scheduled to approve the document for public hearings at the June 2013 meetings.

The Gulf and South Atlantic Councils requested development of Amendment 20 to the CMP FMP to consider adjusting zones, quotas, and trip limits for mackerel and cobia. The Councils have continued developing this amendment, and are scheduled to approve the document for public hearings at the June 2013 meetings.

The South Atlantic Council is also considering a framework amendment to the CMP FMP that considers a modification to the Atlantic group king mackerel minimum size limit (recreational and commercial), an exemption from the minimum size limit for Atlantic group Spanish mackerel for pound nets, modifications to the restriction on transfer of fish at sea for Atlantic group Spanish mackerel, restriction on the number of gillnets allowed for each Spanish mackerel vessel, and changes in the commercial trip limit for king mackerel in the Florida East Coast subzone. The Council has continued developing this amendment, and is scheduled to approve the document for public hearings at the June 2013 meeting.

At their September 2012 meeting, the South Atlantic Council directed staff to develop an Amendment to the Dolphin and Wahoo FMP to adjust ACLs for dolphin and wahoo based on new MRIP data, and to adjust the framework process. The South Atlantic Council reviewed a scoping document at their December 2012 meeting. The South Atlantic Council provided guidance at the March 2013 meeting and is schedule to approve the document for public hearings at their June 2013 meeting.

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

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

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

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

This step is important in outlining the current and probable stress factors on target 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

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

Climate change

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

It is unclear how climate change would affect species in the South Atlantic. 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 South Atlantic fisheries 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 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. The cause and effect relationship of fishing and regulatory actions for snapper grouper 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 1988).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
January 1989	Trawl prohibition to harvest fish (SAFMC 1988a & b).	Increase yield per recruit of vermilion snapper; eliminate trawl damage to live bottom habitat.
Pre-January 1, 1992	Overfishing of many snapper grouper species.	Spawning stock ratio of these species is estimated to be less than 30% indicating that they are overfished.
January 1992	Prohibited gear: fish traps south of Cape Canaveral, FL; entanglement nets; longline gear inside of 50 fathoms; powerheads and bangsticks in designated SMZs off SC. Size/Bag limits: 10” TL vermilion snapper (recreational only); 12” TL vermilion snapper (commercial only); 10 vermilion snapper/person/day; snappers (excluding vermilion snapper) 10/person/da with no more than 2 red snapper; aggregate grouper bag limit of 5/person/day; and 20” TL red snapper	Reduce mortality of snapper grouper species.

Time period/dates	Cause	Observed and/or Expected Effects
	and gag, red, black, scamp, yellowfin, and yellowmouth grouper size limit (SAFMC 1991).	
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 prohibiting the sale of bag-limit caught snapper grouper, and minimize impacts on sea turtles and smalltooth sawfish.

Time period/dates	Cause	Observed and/or Expected Effects
Effective Date July 29, 2009	Snapper grouper FMP Amendment 16 (SAFMC 2009a)	Protect spawning aggregations and snapper grouper in spawning condition by increasing the length of the spawning season closure, decrease discard mortality by requiring the use of dehooking tools, reduce overall harvest of gag and vermilion snapper to end overfishing.
Effective Date January 4, 2010	Red Snapper Interim Rule	Prohibit commercial and recreational harvest of red snapper from January 4, 2010, to June 2, 2010 with a possible 186-day extension. Reduce overfishing of red snapper while long-term measures to end overfishing are addressed in Amendment 17A.
Effective Date December 4, 2010	Snapper Grouper FMP Amendment 17A (SAFMC 2010a).	SFA parameters for red snapper; ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; accountability measures. Establish rebuilding plan for red snapper.
Effective Date January 31, 2011	Snapper Grouper Amendment 17B (SAFMC 2010b)	ACLs and ACTs; management measures to limit recreational and commercial sectors to their ACTs; AMs, for species undergoing overfishing.
Effective Date July 1, 2012	Snapper Grouper FMP Amendment 18A (SAFMC 2011f)	Prevent overexploitation in the black sea bass fishery.
Effective Date April 16, 2012	Comprehensive ACL Amendment (SAFMC 2011c)	ACLs ACTs, and AMs for species not experiencing overfishing; accountability measures; an action to remove species from the fishery management unit as appropriate; and management measures to limit recreational and commercial sectors to their ACTs.
Effective Date May 10, 2012	Regulatory Amendment 11 (SAFMC 2011b)	Re-addresses the deepwater area closure implemented in Amendment 17B.
Effective Date July 15, 2011	Regulatory Amendment 9 (SAFMC 2011d)	Harvest management measures for black sea bass; commercial trip limits for gag, vermilion and greater amberjack.
Effective Date October 26, 2012	Amendment 20A (Wreckfish) (SAFMC 2011e)	Redistribute inactive wreckfish shares.
Effective Date July 11, 2012	Amendment 24 (Red Grouper) (SAFMC 2011g)	Establishes a rebuilding plan for red grouper, specifies ABC, and establishes ACL, ACT and revises AMs for the

Time period/dates	Cause	Observed and/or Expected Effects
		commercial and recreational sectors.
Effective Date October 9, 2012	Regulatory Amendment 12 (SAFMC 2012a)	Adjusts the golden tilefish ACL based on the results of a new stock assessment and modifies the recreational golden tilefish AM.
Target 2013	Regulatory Amendment 13 (SAFMC 2012b)	Adjust ACLs and allocations for unassessed snapper grouper species with MRIP recreational estimates.
Target 2013	Snapper Grouper Amendment 28 (SAFMC 2013a)	Modify red snapper management measures, including the establishment of a process to determine future annual catch limits and fishing seasons.
Target 2013	Regulatory Amendment 15 (SAFMC 2013b)	ACLs for yellowtail snapper; modify management measures/AM for gag.
Target 2013	Regulatory Amendment 18 (SAFMC 2013c)	ACLs and AMs for vermilion snapper and red porgy. Management measures for vermilion snapper.
Target 2013	Snapper Grouper Amendment 27 (SAFMC 2013d)	Establish the SAFMC as the managing entity for Nassau grouper in the Southeast U.S., modify the SG framework; modify management measures for blue runner.
Target 2013	Comprehensive Ecosystem-Based Management Amendment 3 (under development)	Implement on-board observers in South Atlantic fisheries.
Target 2013	Joint Headboat Reporting SA-only Amendment (under development)	Require all South Atlantic federally-permitted headboats to report landings information electronically weekly and establish compliance/catastrophic provisions.
Target 2013	Regulatory Amendment 14 (under development)	Management measures for snapper grouper species.
Target 2013	Regulatory Amendment 16 (under development)	Management measures for golden tilefish.
Target 2013	Amendment 30 (under development)	VMS for commercial sector of snapper grouper fishery.
Target 2014	Snapper Grouper Amendment 22 (under development)	Develop a long-term management program for red snapper in the South Atlantic. Recreational tag program for golden tilefish, snowy grouper, and wreckfish.

Time period/dates	Cause	Observed and/or Expected Effects
Target 2013/14	Snapper Grouper Amendment 29 (under development)	Update ABCs, ACLs, and ACTs for snapper grouper species based on recommendations from SSC.
Target 2014	Joint Commercial Logbook Reporting Amendment	Require all federally-permitted commercial fin fish fishermen in the southeast to report electronically.
Target 2014/2015	Joint Charterboat Reporting Amendment	Require all federally-permitted charterboats to report landings information electronically.
Target	Regulatory Amendment 17 (under development)	MPAs to enhance protection of speckled hind and warsaw grouper.

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

Time period/dates	Cause	Observed and/or Expected Effects
September 1996	Fishery Management Plan (SAMFC 2003)	The Dolphin Wahoo 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 Dolphin Wahoo 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.
Effective Date April 16, 2012	Comprehensive ACL Amendment (SAFMC 2011c)	ACLs ACTs, and AMs for species not experiencing overfishing; accountability measures; an action to remove species from the fishery management unit as appropriate; and management measures to limit recreational and commercial sectors to their ACTs.

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

Amendment 1, with environmental impact statement (EIS), implemented in September of 1985, provided a framework procedure for pre-season adjustment of total allowable catch (TAC), revised the estimate of king mackerel maximum sustainable yield (MSY) downward, recognized separate Atlantic and Gulf migratory groups of king mackerel, and established fishing permits and bag limits for king mackerel. Commercial allocations among gear users, except purse seines, which were allowed 6% of the commercial allocation of TAC, were eliminated. The Gulf

commercial allocation for king mackerel was divided into Eastern and Western Zones for the purpose of regional allocation, with 69% of the remaining allocation provided to the Eastern Zone and 31% to the Western Zone. Amendment 1 also established minimum size limits for Spanish mackerel at 12 in fork length (FL) or 14 in total length (TL), and for cobia at 33 in FL or 37 in TL.

Amendment 2, with environmental assessment (EA), implemented in July of 1987, revised MSY for Spanish mackerel downward, recognized two migratory groups, established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and bag limits. Charterboat permits were established, and it was clarified that TAC must be set below the upper range of ABC. The use of purse seines on overfished stocks was prohibited, and their allocation of TAC was redistributed under the 69%/31% split.

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

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

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

Amendment 6, with EA, implemented in November of 1992, made the following changes: Identified additional problems and an objective in the fishery; provided for rebuilding overfished stocks of mackerels within specific periods; provided for biennial assessments and adjustments; provided for more seasonal adjustment actions; allowed for Gulf migratory group king mackerel stock identification and allocation when appropriate; provided for commercial Atlantic migratory group Spanish mackerel possession limits; changed commercial permit requirements to allow qualification in one of three preceding years; discontinued the reversion of the bag limit to zero

when the recreational quota is filled; modified the recreational fishing year to the calendar year; and changed the minimum size limit for king mackerel to 20 in FL, and changed all size limit measures to fork length only.

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

Amendment 8, with EA, implemented March 1998, made the following changes to the management regime: Clarified ambiguity about allowable gear specifications for the Gulf migratory group king mackerel fishery by allowing only hook-and-line and run-around gillnets; however, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained; established allowable gear in the South Atlantic and Mid-Atlantic areas as well as providing for the Regional Administrator to authorize the use of experimental gear; established the Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the Gulf and South Atlantic Councils and development of separate FMPs for coastal pelagic species in these areas; established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation of October 16, 1995; increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or $10,000 from commercial sale of catch or charter or head boat fishing in one of the three previous calendar years, but allowed for a one-year grace period to qualify under permits that are transferred; legalized retention of up to five cut-off (damaged) king mackerel on vessels with commercial trip limits; set an optimum yield (OY) target at 30% static spawning potential ratio (SPR) for the Gulf and 40% static SPR for the Atlantic; provided the South Atlantic Council with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf migratory group king mackerel in the North Area of the Eastern Zone (Dade/Monroe to Volusia/Flagler County lines); established various data consideration and reporting requirements under the framework procedure; modified the seasonal framework adjustment measures and specifications (see Appendix A of Amendment 8); expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

Amendment 9, with EA, implemented in April 2000, made the following changes to the management regime: Reallocated the percentage of the commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retained the recreational and commercial allocations of TAC at 68% recreational and 32% commercial; subdivided the commercial hook-and-line king mackerel allocation for the Gulf migratory group, Eastern Zone, South/West Area (Florida west coast) by establishing two subzones with a dividing line between the two subzones at the Collier/Lee County line; established regional allocations for the west coast of Florida based on the two subzones with 7.5% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.5% being allocated as follows: 50% - Florida east coast, 50% - Florida west coast that is further subdivided: 50% - Net Fishery, 50% - Hook-and-Line Fishery; established a trip limit of 3,000 lb per vessel per trip for the Western Zone; established a moratorium on the issuance of commercial king mackerel gillnet endorsements and allow re-

issuance of gillnet endorsements to only those vessels that: 1) had a commercial mackerel permit with a gillnet endorsement on or before the moratorium control date of October 16, 1995 (Amendment 8), and 2) had landings of king mackerel using a gillnet in one of the two fishing years, 1995-1996 or 1996-1997, as verified by the NMFS or trip tickets from Florida; allowed transfer of gillnet endorsements to immediate family members (son, daughter, father, mother, or spouse) only; and prohibited the use of gillnets or any other net gear for the harvest of Gulf migratory group king mackerel north of an east/west line at the Collier/Lee County line; increased the minimum size limit for Gulf migratory group king mackerel from 20 in to 24 in FL; allowed the retention and sale of cut-off (damaged), legal-sized king and Spanish mackerel within established trip limits.

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

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

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

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

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

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

Amendment 16, was not developed.

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

on the effectiveness of the limited access system.

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

9. Determine the magnitude and significance of cumulative effects.

The proposed management action, as summarized in **Chapter 2** of this document, would improve headboat reporting for snapper grouper, coastal migratory pelagics, and dolphin/wahoo by requiring electronic reporting weekly. Detailed discussions of the magnitude and significance of the preferred alternative appear in **Chapter 4** of this document.

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

The cumulative effects on the biophysical environment are expected to be negligible. This action would improve data collection techniques and is not expected to have adverse impacts on the South Atlantic fisheries. Improved data collection techniques may result in the ability to lessen the restrictive regulatory regime in the South Atlantic, resulting in positive cumulative impacts. Avoidance, minimization, and mitigation are not applicable.

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

It is anticipated that the effects of the proposed action will improve headboat data collection. The effects of the proposed action are, and will continue to be, monitored through collection of data by NMFS, states, stock assessments and stock assessment updates, life history studies, and other scientific observations.

6.2 Socioeconomic

Participation in and the economic performance of the fisheries addressed in this document have been affected by a combination of regulatory, biological, social, and external economic factors. Regulatory measures have obviously affected the quantity and composition of harvests of species addressed in this document, through the various size limits, seasonal restrictions, trip or bag limits, and quotas. For snapper grouper, gear restrictions, notably fish trap and longline restrictions, have also affected harvests and economic performance. The limited access program implemented in 1998/1999 substantially affected the number of participants in the snapper grouper fishery.

In addition to a complex boundary and quota system, the coastal migratory pelagic fishery also exists under bag limits, size limits, trip limits, and gear restrictions. Additionally the commercial king mackerel permit, king mackerel gill net endorsement, and the Gulf Charter/Headboat CMP permit are all under limited entry permit systems. New participation in the king mackerel

commercial fishery and the for-hire CMP sector in the Gulf require access to additional capital and an available permit to purchase, which may limit opportunities for new entrants.

Approved in 2004, the Dolphin and Wahoo FMP (SAFMC 2003) established historical allocations for dolphin and wahoo between the commercial and recreational sectors with the goal of maintaining harvest at levels observed in the 1990s and ensuring that no new fisheries develop.

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 are typically only minimally, if at all, 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 reversal of this trend is possible and expected through management to eliminate or minimize the risk of overfishing in addition to improved reporting and quota monitoring 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 snapper grouper fishery, coastal migratory pelagic fishery and the dolphin and wahoo fishery, as well as associated key fishing communities is contained in **Sections 3.3 & 3.4** and incorporated herein by reference. A description of the history of management of the fisheries addressed in this document is contained in the beginning of the cumulative effects analysis and in **Appendix H** and is incorporated herein by reference.

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

Additional actions have been implemented or are in the process of being implemented for snapper grouper species. ACLs, AMs, and management measures have been developed in Snapper Grouper Amendments 17A and 17B to the Snapper Grouper FMP (SAFMC 2010a; SAFMC 2010b), the Comprehensive ACL Amendment (SAFMC 2011c), and Amendment 18 to the Coastal Migratory Pelagics FMP (GMFMC/SAFMC 2011).

Amendment 24 to the Snapper Grouper FMP (SAFMC 2011g) (red grouper rebuilding plan) and Regulatory Amendment 9 to the Snapper Grouper FMP (lower bag limit from 5 to 10 black sea bass per day) (SAFMC 2011d) could contribute to the cumulative impact on the for-hire captain and crew, customers, and associated businesses and communities. Additionally, several potential new snapper grouper amendments are being considered that will have some effects on the for-hire sector, including Regulatory Amendment 14 to the Snapper Grouper FMP (gray triggerfish, hogfish, black sea bass, greater amberjack and vermilion snapper) and Regulatory Amendment 17 to the Snapper Grouper FMP (marine protected areas to protect warsaw grouper and speckled hind), and Regulatory Amendment 18 to the Snapper Grouper FMP (ACLs for vermilion snapper and red porgy)(SAFMC 2013c). For the dolphin wahoo fishery, Amendment 5 (under development) includes an action to consider changing the recreational and commercial allocation, which could contribute to cumulative impacts. Other amendments are under development but those listed above are expected to have some impact on the for-hire fleet.

The proposed and potential management measures and regulatory changes in theory allow status quo total harvests for the respective species to continue, but 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.

Specifically, frequent and consistent reporting on catch from the for-hire headboat sector is expected to improve monitoring of recreational landings, which should reduce ACL overages and the negative impacts of sudden closures for species with inseason recreational closures, and reduced ACLs in years after an overage. While negative impacts of in-season closures and paybacks may still occur, management actions in combination with the proposed actions in this amendment are expected to result in long-term benefits for all resource users by contributing to sustainable, consistent recreational harvest.

Chapter 7. Other Things to Consider

7.1 Unavoidable Adverse Effects

There may be some unavoidable adverse effects on the socioeconomic environment that may result from the implementation of the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment. These effects would be related to the development of a new reporting scheme and the issues associated with ensuring that all involved understand the new requirements and are able to comply with them.

7.2 Effects of the Fishery on Essential Fish Habitat

The biological impacts of the proposed action is 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://www.safmc.net/ecosystem/EcosystemManagement/HabitatProtection/HabitatPolicies/tabid/245/Default.aspx

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 South Atlantic Council staff and a 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 action proposed in this amendment would not result in any adverse impacts to ocean and coastal habitats. The action pertains to the collection of data and would not have any direct impact on habitat.

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

The relationship between short-term uses and long-term productivity will not be affected by this amendment. The proposed action relates to the frequencies and methods of data reporting. The actions in this amendment would not have an impact on the short-term uses and long-term productivity.

7.5 Irreversible and Irretrievable Commitments of Resources

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

7.6 Unavailable or Incomplete Information

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

The actions in this amendment pertain to modifications to data collection and methodology. There is no unavailable or incomplete information regarding the actions and alternatives.

Chapter 8. Other Applicable Law

8.1 Administrative Procedure Act

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

8.2 Information Quality Act

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

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

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

8.3 Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act (CZMA) of 1972 requires that all federal activities that directly affect the coastal zone be consistent with approved state coastal

zone management programs to the maximum extent practicable. While it is the goal of the South Atlantic Council to have management measures that complement those of the states, federal and state administrative procedures vary and regulatory changes are unlikely to be fully instituted at the same time. Based on the analysis of the environmental consequences of the proposed action in **Chapter 4**, the South Atlantic Council has concluded this amendment would improve federal management of South Atlantic fisheries and is consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina.

8.4 Endangered Species Act

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

The Interdisciplinary Plan Team, South Atlantic Council Staff, and South Atlantic Council reviewed the actions proposed in this amendment and concluded that there were no impacts on threatened or endangered species of their habitat designated as critical to their survival and recovery.

8.5 Executive Order 12612: Federalism

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

8.6 Executive Order 12866: Regulatory Planning and Review

E.O. 12866, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that implement a new FMP or that significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society associated with proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the RFA. A regulation is economically significant if it is likely to result in an annual effect on the economy of at least $100,000,000 or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or state, local, or tribal governments or communities.

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

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 recreational fisheries, and documenting those effects. Additionally, the order establishes a seven member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with Federal agencies, States, and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

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

8.8 Executive Order 13089: Coral Reef Protection

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

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

8.9 Executive Order 13158: Marine Protected Areas

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

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

8.10 Marine Mammal Protection Act

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

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

In 1994, Congress amended the MMPA to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries;

and studies of pinniped-fishery interactions. The MMPA requires a commercial fishery to be placed in one of three categories, based on the relative frequency of incidental, serious injuries and mortalities of marine mammals. Category I designates fisheries with frequent, serious injuries and mortalities incidental to commercial fishing; Category II designates fisheries with occasional, serious injuries and mortalities; and Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities.

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

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

8.11 Migratory Bird Treaty Act and Executive Order 13186

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

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

An MOU is currently being developed, which will address the incidental take of migratory birds in commercial fisheries under the jurisdiction of NMFS. NMFS must monitor, report, and take steps to reduce the incidental take of seabirds that occurs in fishing operations. The United States has already developed the U.S. National Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries. Under that plan many potential MOU components are already being implemented.

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

8.12 National Environmental Policy Act

This document, which amends the Snapper Grouper FMP, Dolphin Wahoo FMP, and Coastal Migratory Pelagics 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 NMFS to obtain approval from the OMB before requesting most types of fishery information from the public.

This amendment would require PRA approval related to the development of an electronic logbook for the headboat sector.

8.15 Regulatory Flexibility Act

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

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

8.17 Public Law 99-659: Vessel Safety

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

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

Chapter 9. List of Preparers

Table 9-1. List of preparers for the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment.

Name	Agency/Division	Area of Amendment Responsibility
Karla Gore	NMFS/SF	IPT Lead/Fishery Biologist
Gregg Waugh	SAFMC	IPT Lead/Deputy Executive Director
Anna Martin	SAFMC	Fishery Biologist
Jack McGovern	NMFS/SF	Fishery Scientist
David Dale	NMFS/HC	EFH Specialist
Andy Herndon	NMFS/PR	Biologist
Nick Farmer	NMFS/SF	Biologist
Stephen Holiman	NMFS/SF	Economist
Kenneth Brennan	SEFSC	Fishery Scientist
Monica Smit-Brunello	NOAA/GC	Attorney Advisor
Brian Cheuvront	SAFMC	Fishery Economist
Kari MacLauchlin	SAFMC	Social Scientist
Myra Brouwer	SAFMC	Fishery Biologist
Roger Pugliese	SAFMC	Senior Fishery Biologist

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

Joint SA/GM Generic Charter/Headboat Reporting in the SA Amendment:
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 Assessment:
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

Chapter 11. References

ASMFC (Atlantic States Marine Fisheries Commission). 2007. Estimation of Atlantic Sturgeon Bycatch in Coastal Atlantic Commercial Fisheries of New England and the Mid-Atlantic. Special Report to the ASMFC Atlantic Sturgeon Management Board, August 2007.

ASMFC (Atlantic States Marine Fisheries Commission). 2009. Atlantic Sturgeon. In: Atlantic Coast Diadromous Fish Habitat: A review of utilization, threats, recommendations for conservation and research needs. Habitat Management Series No. 9. Pp. 195-253.

Armstrong, J.L. and J.E. Hightower. 2002. Potential for restoration of the Roanoke River population of Atlantic sturgeon. Journal of Applied Ichthyology 18: 475-480.

ASSRT (Atlantic Sturgeon Status Review Team). 2007. Status review of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). National Marine Fisheries Service. February 23, 2007. 188 pp.

Bain, M. B. 1997. Atlantic and shortnose sturgeons of the Hudson River: Common and Divergent Life History Attributes. Environmental Biology of Fishes 48: 347-358. Bigelow, H. B. and W. C. Schroeder. 1953. Fishes of the Gulf of Maine. Fisheries Bulletin, U.S. Fish and Wildlife Service 53: 577 pp.

Bigelow, H.B. and W.C. Schroeder. 1953. Sea Sturgeon. *In*: Fishes of the Gulf of Maine. Fishery Bulletin 74. Fishery Bulletin of the Fish and Wildlife Service, vol. 53. 188 pp.

Caron, F., D. Hatin, and R. Fortin. 2002. Biological characteristics of adult Atlantic sturgeon (*Acipenser oxyrinchus*) in the Saint Lawrence River estuary and the effectiveness of management rules. Journal of Applied Ichthyology 18: 580-585.

CEQ (Council on Environmental Quality). 1997. Considering Cumulative Effects Under the National Environmental Policy Act. U.S. Council on Environmental Quality, Washington, DC. 64 pp.

Colburn, L.L. and M. Jepson. 2012 Social Indicators of Gentrification Pressure in Fishing Communities: A Context for Social Impact Assessment. *Coastal Management* 40(3): 289-300.

Collette, B.B. and J.L. Russo. 1979. An introduction to the Spanish mackerels, genus *Scomberomorus*. p. 3-16. In E.L. Nakumua and H.R. Bullis (eds.) Proceedings of the Mackerel Colloqium. Gulf States Marine Fisheries Commission no. 4.

Collins, M. R., T.I.J. Smith, W.C. Post, and O. Pashuk. 2000. Habitat utilization and biological characteristics of adult Atlantic sturgeon in two South Carolina rivers. Transactions of the American Fisheries Society 129: 982-988.

Dadswell, M. 2006. A review of the status of Atlantic sturgeon in Canada, with comparisons to populations in the United States and Europe. Fisheries 31: 218-229.

DFO (Fisheries and Oceans Canada). 2011. Atlantic sturgeon and shortnose sturgeon. Fisheries and Oceans Canada, Maritimes Region. Summary Report. U.S. Sturgeon Workshop, Alexandria, VA, 8-10 February, 2011. 11pp.

FAO (Food and Agriculture Organization). 1978. Species identification sheets for fisheries of western central Atlantic. Fisheries Marine Resources and Environmental Division, Rome.

GMFMC/SAFMC. 1983. Fishery Management Plan, Final Environmental Impact Statement, Regulatory Impact Review, and Final Regulations for the Coastal Migratory Pelagic Resources (Mackerels) in the Gulf of Mexico and South Atlantic Regions. Gulf of Mexico Fishery Management Council, Tampa, Florida and South Atlantic Fishery Management Council, North Charleston, South Carolina. http://www.safmc.net/Portals/6/Library/FMP/Mackerel/MackerelFMP.pdf

GMFMC/SAFMC. 1990. Amendment 1 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. http://www.safmc.net/Portals/6/Library/FMP/Mackerel/MackAmend1.pdf

GMFMC/SAFMC. 2011. Amendment 18 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions. Gulf of Mexico Fishery Management Council, 2203 N Lois Avenue, Suite 1100 Tampa, FL 33607; and South Atlantic Fishery Management Council, 4055 Faber Place Dr, Suite 201, North Charleston, SC 29405.

Guilbard, F., J. Munro, P. Dumont, D. Hatin, and R. Fortin. 2007. Feeding ecology of Atlantic sturgeon and Lake sturgeon co-occurring in the St. Lawrence Estuarine Transition Zone. American Fisheries Society Symposium. 56: 85-104.

Hogarth, W. T. 1976. Life history aspects of the wahoo *Acanthocybium solanderi* (Curvier and Valenciennis) from the coast of North Carolina. Ph.D. Dissertation. North Carolina State. Raleigh, N.C. 100 p.

Kahnle, A.W., K.A. Hattala, and K. McKown. 2007. Status of Atlantic sturgeon of the Hudson River estuary, New York, USA. In: J. Munro, D. Hatin, K. McKown, J. Hightower, K. Sulak, A. Kahnle, and F. Caron (eds). Proceedings of the symposium on anadromous sturgeon: Status and trend, anthropogenic impact, and essential habitat. American Fisheries Society, Bethesda, Maryland.

Kennedy, V. S., R. R. Twilley, J. A. Kleypas, J. H. Cowan, Jr., and S. R. Hare. 2002. Coastal and Marine Ecosystems & Global Climate Change: Potential Effects on U.S. Resources. Pew Center on Global Climate Change. 52 p.

MacIntyre, I. G. and J. D. Milliman. 1970. Physiographic features on the outer shelf and upper slope, Atlantic Continental Margin, southeastern United States. Geological Society of America Bulletin 81:2577-2598.

Mangin, E. 1964. Croissance en Longueur de Trois Esturgeons d'Amerique du Nord: *Acipenser oxyrhynchus*, Mitchill, *Acipenser fulvescens*, Rafinesque, et *Acipenser brevirostris* LeSueur. Verh. Int. Ver. Limnology 15: 968-974.

Mayo C.A. 1973. Rearing, growth, and development of the eggs and larvae of seven scombrid fishes from the Straits of Florida. Ph.D. Thesis, Univ. Miami, 127 pp.

McEachran, J.D. and J.H. Finucane. 1979. Distribution, seasonality and abundance of larval king and Spanish mackerel in the northwestern Gulf of Mexico. (Abstract). Gulf States Mar. Fish. Comm., pub. no. 4, 59 pp.

Miller, G. C. and W. J. Richards. 1979. Reef fish habitat, faunal assemblages and factors determining distributions in the South Atlantic Bight. Proceedings of the Gulf and Caribbean Fisheries Institute 32:114-130.

Murawski, S. A. and A. L. Pacheco. 1977. Biological and fisheries data on Atlantic Sturgeon, *Acipenser oxyrhynchus* (Mitchill). National Marine Fisheries Service Technical Series Report 10: 1-69.

Newton J.G., O.H. Pilkey, J.O. and Blanton. 1971. An Oceanographic Atlas of the Carolina and continental margin. North Carolina Dept. of Conservation and Development. 57 p.

National Marine Fisheries Service (NMFS). 2009. Fisheries Economics of the U.S. NMFS Office of Science and Technology, Silver Spring, MD. Available at: http://www.st.nmfs.noaa.gov/st5/publication/fisheries_economics_2009.html

NMFS (National Marine Fisheries Service). 2011. "Species groupings for SAFMC Snapper-Grouper FMU" NOAA SERO. SERO-LAPP-2010-06.

Oxenford, H.A. 1997. Biological Characteristics of dolphinfish (*Coryphena hippurus*) in the western central Atlantic: a review. Marine Resource and Environmental Management Program (MAREMP) University of the West Indies. 55 pp.

Parker, R. O., D. R. Copoundy, and T. D. Willis. 1983. Estimated amount of reef habitat on a portion of the US South Atlantic and Gulf of Mexico continental shelf. Bulletin of Marine Science 33:935-940.

Pikitch, E.K., P. Doukakis, L. Lauck, P. Chakrabarty, and D.L. Erickson. 2005. Status, trends and management of sturgeon and paddlefish fisheries. Fish and Fisheries 6: 233–265.

SAFMC (South Atlantic Fishery Management Council). 1988. Amendment Number 1 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1991. Amendment Number 4 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1993. Amendment Number 6 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1998a. Amendment Number 9 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1998b. Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and Other Required Provisions in Fishery Management Plans of the South Atlantic Region (Amendment 11 to the Snapper Grouper FMP). South Atlantic Fishery Management Council, 1 Southpark Cir., Suite 306, Charleston, S.C. 29407-4699. 151 pp.

SAFMC (South Atlantic Fishery Management Council). 1998c. Habitat Plan for the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 1998d. Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region (Amendment 10 to the Snapper Grouper Fishery Management Plan). South Atlantic Fishery Management Council, 1 Southpark Cir., Suite 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 2002. Fishery Management Plan for Pelagic Sargassum Habitat of the South Atlantic Region (including a Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis, Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement). South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 153 pp. plus appendices.

SAFMC (South Atlantic Fishery Management Council). 2003. Dolphin and Wahoo Fishery Management Plan, Final Environmental Impact Statement (FEIS), Initial Regulatory Flexibility Analysis (IRFA), Regulatory Impact Review (RIR), and Social Impact Assessment (SIA)/Fishery Impact Statement (FIS). South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699.

SAFMC (South Atlantic Fishery Management Council). 2006. Amendment Number 13C, Final Environmental Assessment, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 631 pp.

SAFMC (South Atlantic Fishery Management Council). 2007. Final Amendment Number 14, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2008a. Amendment Number 15A, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405. 325 pp.

SAFMC (South Atlantic Fishery Management Council). 2008b. Amendment Number 15B, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405. 325 pp.

SAFMC (South Atlantic Fishery Management Council). 2009a. Amendment Number 16, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2009b. Fishery Ecosystem Plan for the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2009c. Comprehensive Ecosystem-Based Amendment 1. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Suite 201, North Charleston, South Carolina.

SAFMC (South Atlantic Fishery Management Council). 2010a. Amendment 17A, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Ste 201, Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2010b. Amendment 17B, Final Environmental Impact Statement, Initial Regulatory Flexibility Analysis/Regulatory Impact Review, and Social Impact Assessment/Fishery Impact Statement for the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011a. Regulatory Amendment 10 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011b. Regulatory Amendment 11 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011c. Comprehensive Annual Catch Limit Amendment for the Fisheries of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011d. Regulatory Amendment 9 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011e. Amendment 20A to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011f. Amendment 18A to the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011g. Amendment 24 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2011h. Comprehensive Ecosystem-Based Amendment 2. South Atlantic Fishery Management Council, 4055 Faber Place Drive, Suite 201, North Charleston, South Carolina.

SAFMC (South Atlantic Fishery Management Council). 2012a. Regulatory Amendment 12 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2012b. Regulatory Amendment 13 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2012c. Amendment 18B to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2013a. Amendment 28 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2013b. Regulatory Amendment 15 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2013c. Regulatory Amendment 18 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2013d. Amendment 27 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

SAFMC (South Atlantic Fishery Management Council). 2013e. Regulatory Amendment 19 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region. South Atlantic Fishery Management Council, 4055 Faber Place, Ste 201, North Charleston, S.C. 29405.

Savoy, T. 2007. Prey eaten by Atlantic sturgeon in Connecticut waters. Am. Fisheries Society Symposium 56: 157-165.

Schekter, R.C. 1971. Food habits of some larval and juvenile fishes from the Florida current near Miami, Florida. MS Thesis, University of Miami, Coral Gables. 85 pp.

Scott, W. B. and M. C. Scott. 1988. Atlantic fishes of Canada. Canadian Bulletin of Fisheries and Aquatic Science No. 219. pp. 68-71.

Secor, D.H. 2002. Atlantic sturgeon fisheries and stock abundances during the late nineteenth century. American Fisheries Society Symposium 28: 89-98.

SEDAR (Southeast Data, Assessment and Review) 24. 2010. Stock assessment report. South Atlantic red snapper. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

Smith, T.I.J. 1985. The fishery, biology, and management of Atlantic sturgeon, *Acipenser oxyrhynchus*, in North America. Environmental Biology of Fishes 14(1): 61-72.

Smith, T.I.J. and J. P. Clungston. 1997. Status and management of Atlantic sturgeon, *Acipenser oxyrinchus*, in North America. Environmental Biology of Fishes 48: 335-346.

Smith, T. I. J., D. E. Marchette and R. A. Smiley. 1982. Life history, ecology, culture and management of Atlantic sturgeon, *Acipenser oxyrhynchus oxyrhynchus*, Mitchill, in South Carolina. South Carolina Wildlife Marine Resources. Resources Department, Final Report to U.S. Fish and Wildlife Service Project AFS-9. 75 pp.

Smith, T. I.J. and E. K. Dingley. 1984. Review of biology and culture of Atlantic (*Acipenser oxyrhynchus*) and shortnose sturgeon (*A. brevirostrum*). Journal of World Mariculture Society 15: 210-218.

Stein, A. B., K. D. Friedland, and M. Sutherland. 2004. Atlantic sturgeon marine distribution and habitat use along the northeastern coast of the United States. Transactions of the American Fisheries Society 133: 527-537.

Stevenson, J. T. and D. H. Secor. 1999. Age determination and growth of Hudson River Atlantic sturgeon, *Acipenser oxyrinchus*. Fishery Bulletin 97: 153-166.

Van Eenennaam, J. P., S.I. Doroshov, G.P. Moberg, J.G. Watson, D.S. Moore and J. Linares. 1996. Reproductive conditions of the Atlantic sturgeon (*Acipenser oxyrhynchus*) in the Hudson River. Estuaries 19: 769-777.

Van Eenennaam, J.P. and S.I. Doroshov. 1998. Effects of age and body size on gonadal development of Atlantic sturgeon. Journal of Fish Biology 53: 624-637.

Van Voorhees, D., J.W. Schlechte, D.M. Donaldson, T.R. Sminkey, K.J. Anson, J.R. O'Hop, M.D.B. Norris, J.A. Shepard, T. Van Devender, and R.F. Zales, II. 2000. The new Marine Fisheries Statistics Survey method for estimating charter boat fishing effort. Abstracts of the 53rd Annual Meeting of the Gulf and Caribbean Fisheries Institute.

Vladykov, V.D. and J.R. Greely. 1963. Order Acipenseroidei. In: Fishes of Western North Atlantic. Sears Foundation. Marine Research, Yale Univ. 1 630 pp.

Wollam, M.B. 1970. Description and distribution of larvae and early juveniles of king mackerel, *Scomberomorus cavalla* (Cuvier), and Spanish mackerel, *S. maculatus* (Mitchill); (Pisces: Scombridae); in the Western North Atlantic. Fla. Dept. Nat. Res. Lab. Tech. Serv. 61. 35 pp.

Young, J. R., T.B. Hoff, W.P. Dey, and J.G. Hoff. 1998. Management recommendations for a Hudson River Atlantic sturgeon fishery based on an age-structured population model. Fisheries Research in the Hudson River. State of University of New York Press, Albany, New York. pp. 353.

Appendix A. Considered But Eliminated Alternatives

This section describes actions and alternatives that the South Atlantic Fishery Management Council (South Atlantic Council) considered in developing the Comprehensive Ecosystem-Based Amendment 3 (CE-BA 3), but decided not to pursue; the headboat action was originally in CE-BA 3, however, the South Atlantic Council split it out into a separate amendment (Joint South Atlantic/ Gulf of Mexico Reporting the South Atlantic Amendment) at the December 2012 meeting. The description of each alternative is followed by a summary statement of why it was eliminated from more detailed summary in CE-BA 3.

Coral Habitat Area of Particular Concern (HAPC) actions

Action 1. Expand Boundaries of Oculina Bank HAPC

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Action 3. Expand Cape Lookout Coral HAPC

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

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

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

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

Discussion

The measures to expand Coral Habitat Areas of Particular Concern (Coral HAPC) stem from recommendations made by the South Atlantic Council’s Coral Advisory Panel (AP) during their October 2011 meeting. The recommendations are based on recent research that has identified new areas of deepwater coral resources that lie outside of the current Coral HAPC boundaries. These measures were scoped as a part of CE-BA 3 during January and February 2012. During the scoping meetings, considerable feedback was received from the shrimp industry primarily concerned over impacts they may face as a result of these expansions. The Shrimp and Deepwater Shrimp APs met jointly in April 2012 and recommended modifications to the Coral HAPC expansions proposed by the Coral AP. The Coral AP convened again in May 2012 and refined the recommended expansions they presented during the fall of 2011. At the June 2012 South Atlantic Council meeting in Orlando, FL, both representatives from the Deepwater Shrimp and Coral APs presented their respective group’s reports from the recent AP meetings. The South Atlantic Council discussed the benefit of convening a joint meeting of the Deepwater Shrimp and Coral APs to develop a compromise, agreed upon by both groups, for expansion of the Coral HAPCs. The South Atlantic Council removed expansion of Coral HAPC actions from consideration in CE-BA 3, and deferred development of these measures to CE-BA 4 (2013) after the Deepwater Shrimp and Coral APs have had an opportunity to jointly meet. Additionally, the South Atlantic Council approved a motion to solicit participation for the joint meeting also from the Chair of the Law Enforcement AP and the Chair and Vice-Chair of the Habitat AP.

Additional protection for speckled hind and warsaw grouper actions

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

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

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

EFH-HAPCs for golden tilefish include irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300 meters are HAPC. Golden tilefish are generally found in 80-540 meters, but most commonly found in 200-meter depths.

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

EFH-HAPCs for the snapper grouper complex include the following deepwater Marine Protected Areas (MPAs) as designated in Snapper Grouper Amendment 14; Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Charleston Deep Artificial Reef MPA, Georgia MPA, North Florida MPA, St. Lucie Hump MPA and East Hump MPA.

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

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

Discussion

During the June 2012 meeting, the South Atlantic Council continued discussions of pursuing additional protections for speckled hind and warsaw grouper. They deliberated at length the consideration of expanding existing Marine Protected Areas (MPAs), developing new targeted MPAs along the mid-shelf region to offer increased biological protections for speckled hind and warsaw grouper, and potential spawning season closures.

South Atlantic Council staff presented a summary of the MPA workshops in South Carolina and GA (April, 18th in Charleston, South Carolina and May 16th in Pooler, Georgia) and a report of the MPA Expert Workgroup (May 16-17th in Pooler, Georgia). These meetings were held as a result of South Atlantic Council guidance during the March 2012 meeting to gather data on areas of occurrence and habitat for these two species. The South Atlantic Council recognizes there are limited fishery-independent and dependent data on speckled hind and warsaw grouper. At the June 2012 meeting, they provided guidance to convene additional public workshops (three will be held in Florida and one in North Carolina) to collect more data and input from the public and researchers in the Florida and North Carolina areas that have not had a chance to participate in the previously held workshops in South Carolina and GA.

At the June meeting, Dr. Nick Farmer (NMFS SERO) gave a presentation on a possible approach to select candidate sites for MPA designation, including an overview of the data used and recommendations of criteria to consider in the siting of MPAs. The South Atlantic Council directed staff to develop alternatives to look at reconfiguring existing MPAs (first tier), new MPAs (second tier), and a combination of the two (third tier).

Further, the South Atlantic Council directed staff to request the Scientific and Statistical Committee (SSC) to review the current fishing levels for speckled hind and warsaw grouper and apply the other reliable catch series (ORCS) methodology to develop an overfishing limit for both species. The SSC discussed this issue at their October 23-25, 2012, meeting in Charleston, SC.

With a need to further develop a suite of refined alternatives for these measures, the scheduling of additional public workshops, and the request for further review by the SSC in the fall of 2012, management measures for speckled hind and warsaw grouper were moved from CE-BA 3 to CE-BA 4 to allow the South Atlantic Council continued discussions on this issue at the September and December 2012 South Atlantic Council meetings. The South Atlantic Council moved this action to Regulatory Amendment 17 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region at their December 2012 meeting.

Data Collection Actions

Action 7, Alternative 2. Modify permits and data-reporting for commercial vessels as follows:
Sub-Alternative 2a. Require all vessels with a Federal commercial permit to have an electronic logbook tied to the vessel's GPS onboard the vessel.

Discussion
Sub-alternative 2a under Action 7, Alternative 2 was removed from consideration in CE-BA 3 during the June 2012 South Atlantic Council meeting. The South Atlantic Council discussed that fishermen may not be ready for a requirement to have an electronic logbook tied to their vessel's GPS at this time given the large number of small vessels in the fisheries for snapper grouper, coastal migratory pelagics, and dolphin wahoo.

Action 7, Alternative 2. Modify permits and data-reporting for commercial vessels as follows:
Sub-Alternative 2c. Require that commercial landings and catch/effort data be submitted in accordance with ACCSP standards, using the SAFIS system.

Discussion
This alternative was removed from consideration in CE-BA 3 during the June 2012 South Atlantic Council meeting. The South Atlantic Council discussed this alternative being similar to data reporting requirements already in place for commercial vessels. NMFS stated that the commercial landings and catch and effort data currently meet the Atlantic Coastal Cooperative Statistics Program (ACCSP) standards and the data are being provided to the Standard Atlantic Fisheries Information System (SAFIS).

The partners (States, Councils, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Commissions) of the ACCSP created SAFIS to meet the increasing need for real-time commercial landings data. Through a cooperative, consensus driven process, ACCSP developed a set of data collection standards. All program partners have agreed to these standards and have been adopted for almost all aspects of fisheries dependent data collection. A process has been put into place to fund research and implementation of these standards in the partner agencies. Since its creation in 2003, SAFIS has been used to report data for the majority of states in the Northeast (North Carolina north participate in the program).

Appendix B. Glossary

Allowable Biological Catch (ABC): Maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

ALS: Accumulative Landings System. NMFS database which contains commercial landings reported by dealers.

Biomass: Amount or mass of some organism, such as fish.

B_{MSY}: Biomass of population achieved in long-term by fishing at F_{MSY}.

Bycatch: Fish harvested in a fishery, but not sold or kept for personal use. Bycatch includes economic discards and regulatory discards, but not fish released alive under a recreational catch and release fishery management program.

Caribbean Fishery Management Council (CFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The CFMC develops fishery management plans for fisheries off the coast of the U.S. Virgin Islands and the Commonwealth of Puerto Rico.

Catch Per Unit Effort (CPUE): The amount of fish captured with an amount of effort. CPUE can be expressed as weight of fish captured per fishing trip, per hour spent at sea, or through other standardized measures.

Charter Boat: A fishing boat available for hire by recreational anglers, normally by a group of anglers for a short time period.

Cohort: Fish born in a given year. (See year class.)

Control Date: Date established for defining the pool of potential participants in a given management program. Control dates can establish a range of years during which a potential participant must have been active in a fishery to qualify for a quota share.

Constant Catch Rebuilding Strategy: A rebuilding strategy where the allowable biological catch of an overfished species is held constant until stock biomass reaches B_{MSY} at the end of the rebuilding period.

Constant F Rebuilding Strategy: A rebuilding strategy where the fishing mortality of an overfished species is held constant until stock biomass reached BMSY at the end of the rebuilding period.

Directed Fishery: Fishing directed at a certain species or species group.

Discards: Fish captured, but released at sea.

Discard Mortality Rate: The percent of total fish discarded that do not survive being captured and released at sea.

Derby: Fishery in which the TAC is fixed and participants in the fishery do not have individual quotas. The fishery is closed once the TAC is reached, and participants attempt to maximize their harvests as quickly as possible. Derby fisheries can result in capital stuffing and a race for fish.

Effort: The amount of time and fishing power (i.e., gear size, boat size, horsepower) used to harvest fish.

Exclusive Economic Zone (EEZ): Zone extending from the shoreline out to 200 nautical miles in which the country owning the shoreline has the exclusive right to conduct certain activities such as fishing. In the United States, the EEZ is split into state waters (typically from the shoreline out to 3 nautical miles) and federal waters (typically from 3 to 200 nautical miles).

Exploitation Rate: Amount of fish harvested from a stock relative to the size of the stock, often expressed as a percentage.

F: Fishing mortality.

Fecundity: A measurement of the egg-producing ability of fish at certain sizes and ages.

Fishery Dependent Data: Fishery data collected and reported by fishermen and dealers.

Fishery Independent Data: Fishery data collected and reported by scientists who catch the fish themselves.

Fishery Management Plan: Management plan for fisheries operating in federal waters produced by regional fishery management councils and submitted to the Secretary of Commerce for approval.

Fishing Effort: Usually refers to the amount of fishing. May refer to the number of fishing vessels, amount of fishing gear (nets, traps, hooks), or total amount of time vessels and gear are actively engaged in fishing.

Fishing Mortality: A measurement of the rate at which fish are removed from a population by fishing. Fishing mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Fishing Power: Measure of the relative ability of a fishing vessel, its gear, and its crew to catch fishes, in reference to some standard vessel, given both vessels are under identical conditions.

$F_{30\%SPR}$: Fishing mortality that will produce a static SPR = 30%.

$F_{45\%SPR}$: Fishing mortality that will produce a static SPR = 45%.

F_{MSY}: Fishing mortality that if applied constantly, would achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}

F_{OY}: Fishing mortality that will produce OY under equilibrium conditions and a corresponding biomass of B_{OY}. Usually expressed as the yield at 85% of F_{MSY}, yield at 75% of F_{MSY}, or yield at 65% of F_{MSY}.

Fork Length (FL): The length of a fish as measured from the tip of its snout to the fork in its tail.

Gear restrictions: Limits placed on the type, amount, number, or techniques allowed for a given type of fishing gear.

Growth Overfishing: When fishing pressure on small fish prevents the fishery from producing the maximum poundage. Condition in which the total weight of the harvest from a fishery is improved when fishing effort is reduced, due to an increase in the average weight of fishes.

Gulf of Mexico Fishery Management Council (GFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The GFMC develops fishery management plans for fisheries off the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.

Head Boat: A fishing boat that charges individual fees per recreational angler onboard.

Highgrading: Form of selective sorting of fishes in which higher value, more marketable fishes are retained, and less marketable fishes, which could legally be retained are discarded.

Individual Fishing Quota (IFQ): Fishery management tool that allocates a certain portion of the TAC to individual vessels, fishermen, or other eligible recipients.

Longline: Fishing method using a horizontal mainline to which weights and baited hooks are attached at regular intervals. Gear is either fished on the bottom or in the water column.

Magnuson-Stevens Fishery Conservation and Management Act: Federal legislation responsible for establishing the fishery management councils and the mandatory and discretionary guidelines for federal fishery management plans.

Marine Recreational Fisheries Statistics Survey (MRFSS): Survey operated by NMFS in cooperation with states that collects marine recreational data.

Marine Recreational Information Program (MRIP): Survey operated by NMFS in cooperation with states that collects marine recreational data.

Maximum Fishing Mortality Threshold (MFMT): The rate of fishing mortality above which a stock's capacity to produce MSY would be jeopardized.

Maximum Sustainable Yield (MSY): The largest long-term average catch that can be taken continuously (sustained) from a stock or stock complex under average environmental conditions.

Minimum Stock Size Threshold (MSST): The biomass level below which a stock would be considered overfished.

Modified F Rebuilding Strategy: A rebuilding strategy where fishing mortality is changed as stock biomass increases during the rebuilding period.

Multispecies fishery: Fishery in which more than one species is caught at the same time and location with a particular gear type.

National Marine Fisheries Service (NMFS): Federal agency within NOAA responsible for overseeing fisheries science and regulation.

National Oceanic and Atmospheric Administration (NOAA): Agency within the Department of Commerce responsible for ocean and coastal management.

Natural Mortality (M): A measurement of the rate at which fish are removed from a population by natural causes. Natural mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Optimum Yield (OY): The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Overfished: A stock or stock complex is considered overfished when stock biomass falls below the minimum stock size threshold (MSST) (e.g., current biomass < MSST = overfished).

Overfishing: Overfishing occurs when a stock or stock complex is subjected to a rate of fishing mortality that exceeds the maximum fishing mortality threshold (e.g., current fishing mortality rate > MFMT = overfishing).

Quota: Percent or annual amount of fish that can be harvested.

Recruitment (R): Number or percentage of fish that survives from hatching to a specific size or age.

Recruitment Overfishing: The rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. This is characterized by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch, and generally very low recruitment year after year.

Scientific and Statistical Committee (SSC): Fishery management advisory body composed of federal, state, and academic scientists, which provides scientific advise to a fishery management council.

Selectivity: The ability of a type of gear to catch a certain size or species of fish.

South Atlantic Fisheries Management Council (SAFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

Spawning Potential Ratio (Transitional SPR): Formerly used in overfished definition. The number of eggs that could be produced by an average recruit in a fished stock divided by the number of eggs that could be produced by an average recruit in an unfished stock. SPR can also be expressed as the spawning stock biomass per recruit (SSBR) of a fished stock divided by the SSBR of the stock before it was fished.

% Spawning Per Recruit (Static SPR): Formerly used in overfishing determination. The maximum spawning per recruit produced in a fished stock divided by the maximum spawning per recruit, which occurs under the conditions of no fishing. Commonly abbreviated as %SPR.

Spawning Stock Biomass (SSB): The total weight of those fish in a stock which are old enough to spawn.

Spawning Stock Biomass Per Recruit (SSBR): The spawning stock biomass divided by the number of recruits to the stock or how much spawning biomass an average recruit would be expected to produce.

Total Allowable Catch (TAC): The total amount of fish to be taken annually from a stock or stock complex. This may be a portion of the Allowable Biological Catch (ABC) that takes into consideration factors such as bycatch.

Total Length (TL): The length of a fish as measured from the tip of the snout to the tip of the tail.

Appendix C. Essential Fish Habitat and Move to Ecosystem Based Management

South Atlantic Fishery Management Council Habitat Conservation, Ecosystem Coordination and Collaboration

The Council, using the Essential Fish Habitat Plan as the cornerstone, adopted a strategy to facilitate the move to an ecosystem-based approach to fisheries management in the region. This approach required a greater understanding of the South Atlantic ecosystem and the complex relationships among humans, marine life and the environment including essential fish habitat. To accomplish this, a process was undertaken to facilitate the evolution of the Habitat Plan into a Fishery Ecosystem Plan (FEP), thereby providing more comprehensive understanding of the biological, social and economic impacts of management necessary to initiate the transition from single species management to ecosystem-based management in the region.

Moving to Ecosystem-Based Management

The Council adopted broad goals for Ecosystem-Based Management to include maintaining or improving ecosystem structure and function; maintain or improving economic, social and cultural benefits from resources; and maintaining or improving biological, economic and cultural diversity. Development of a regional FEP (SAFMC 2009b) provided an opportunity to expand the scope of the original Council Habitat Plan and compile and review available habitat, biological, social, and economic fishery and resource information for fisheries in the South Atlantic ecosystem. The South Atlantic Council views habitat conservation at the core of the move to EBM in the region. Therefore, development of the FEP was a natural next step in the evolution and expands and significantly updates the SAFMC Habitat Plan (SAFMC 1998c) incorporating comprehensive details of all managed species (SAFMC, South Atlantic States, ASMFC, and NOAA Fisheries Highly Migratory Species and Protected Species) including their biology, food web dynamics, and economic and social characteristics of the fisheries and habitats essential to their survival. The FEP therefore serves as a source document that presents more complete and detailed information describing the South Atlantic ecosystem and the impact of the fisheries on the environment. This FEP updates information on designated Essential Fish Habitat (EFH) and EFH-Habitat Areas of Particular Concern; expands descriptions of biology and status of managed species; presents information that will support ecosystem considerations for managed species; and describes the social and economic characteristics of the fisheries in the region. In addition, it expands the discussion and description of existing research programs and needs to identify biological, social, and economic research needed to fully address ecosystem-based management in the region. In is anticipated that the FEP will provide a greater degree of guidance by fishery, habitat, or major ecosystem consideration of bycatch reduction, prey-predator interactions, maintaining biodiversity, and spatial management needs. This FEP serves as a living source document of biological, economic, and social information for all Fishery Management Plans (FMP). Future Environmental Assessments and Environmental Impact Statements associated with subsequent amendments to Council FMPs will draw from or cite by reference the FEP.

The Fishery Ecosystem Plan for the South Atlantic Region encompasses the following volume structure:
FEP Volume I - Introduction and Overview of FEP for the South Atlantic Region
FEP Volume II - South Atlantic Habitats and Species
FEP Volume III - South Atlantic Human and Institutional Environment
FEP Volume IV - Threats to South Atlantic Ecosystem and Recommendations

FEP Volume V - South Atlantic Research Programs and Data Needs
FEP Volume VI - References and Appendices

The Comprehensive Amendment addressing EFH in Fishery Management Plans of the South Atlantic Region (SAFMC 1998d) specified EFH and EFH-HAPCs for all FMPs.

The Comprehensive Ecosystem-Based Amendment (CE-BA) 1 (SAFMC 2009c) is supported by the FEP and updates EFH and EFH-HAPC information and addresses the Final EFH Rule (e.g., GIS presented for all EFH and EFH-HAPCs). Management actions implemented in the CE-BA 1 establish deepwater Coral HAPCs to protect what is thought to be the largest continuous distribution (>23,000 square miles) of pristine, deepwater coral ecosystems in the world.

Ecosystem Approach to Deepwater Ecosystem Management

The South Atlantic Council manages coral, coral reefs and live/hard bottom habitat, including deepwater corals, through the Fishery Management Plan for Coral, Coral Reefs and Live/Hard Bottom Habitat of the South Atlantic Region (Coral FMP). Mechanisms exist in the FMP, as amended, to further protect deepwater coral and live/hard bottom habitats. The SAFMC's Habitat and Environmental Protection Advisory Panel and Coral Advisory Panel have supported proactive efforts to identify and protect deepwater coral ecosystems in the South Atlantic region. Management actions in Comprehensive Ecosystem-Based Amendment (CE-BA 1) (SAFMC 2009c) established deepwater coral HAPCs (C-HAPCs) to protect what is thought to be the largest continuous distribution (>23,000 square miles) of pristine deepwater coral ecosystems in the world. In addition, CE-BA 1 established areas within the CHAPC, which provide for traditional fishing in limited areas, which do not impact deepwater coral habitat. CE-BA 1, supported by the FEP, also addresses non-regulatory updates for existing EFH and EFH- HAPC information and addresses the spatial requirements of the Final EFH Rule (i.e., GIS presented for all EFH and EFH-HAPCs).

Building from a Habitat to an Ecosystem Network to Support the Evolution

Starting with our Habitat and Environmental Protection Advisory Panel, the Council expanded and fostered a comprehensive Habitat network in our region to develop the Habitat Plan of the South Atlantic Region completed in 1998 to support the EFH rule. Building on the core regional collaborations, the Council facilitated an expansion to a Habitat and Ecosystem network to support the development of the FEP and CE-BA as well as coordinate with partners on other regional efforts.

These efforts include participation as a member and on the Board of the Southeast Coastal Regional Ocean Observing Association (SECOORA) to guide and direct priority needs for observation and modeling to support fisheries oceanography and integration into stock assessment process through SEDAR. Cooperation through SECOORA is envisioned to facilitate the following:

- Refining current or water column designations of EFH and EFH-HAPCs (e.g., Gulf Stream and Florida Current)
- Providing oceanographic models linking benthic, pelagic habitats, and food webs
- Providing oceanographic input parameters for ecosystem models
- Integration of Ocean Observing Systems (OOS) information into Fish Stock Assessment process in the SA region
- Facilitating OOS collection of fish and fishery data and other research necessary to support the Council's use of area-based management tools in the SA Region including but not limited

to EFH, EFH-HAPCs, Marine Protected Areas, Deepwater Coral Habitat Areas of Particular Concern, Special Management Zones, and Allowable Gear Areas.

- Integration of OOS program capabilities and research Needs into the South Atlantic Fishery Ecosystem Plan
- Collaboration with SECOORA to integrate OOS products on the Council's Habitat and Ecosystem Internet Mapping System to facilitate model and tool development
- Expanding IMS and Arc Services will provide permissioned researchers access to data or products including those collected/developed by SA OOS partners

In addition, the Council serves on the National Habitat Board and, as a member of the Southeast Aquatic Resource Partnership (SARP), has highlighted the collaboration by including the Southeast Aquatic Habitat Plan and associated watershed conservation restoration targets into the FEP. Many of the habitat, water quality, and water quantity conservation needs identified in the threats and recommendations Volume of the FEP are directly addressed by on-the-ground projects supported by SARP. This cooperation results in funding fish habitat restoration and conservation intended to increase the viability of fish populations and fishing opportunity, which also meets the needs to conserve and manage Essential Fish Habitat for Council managed species or habitat important to their prey.

Initially discussed as a South Atlantic Eco-regional Compact, the Council has also cooperated with South Atlantic States in the formation of a Governor's South Atlantic Alliance (SAA). This will also provide regional guidance and resources that will address State and Council broader habitat and ecosystem conservation goals. The SAA was initiated in 2006. An Executive Planning Team (EPT), by the end of 2007, had created a framework for the Governors South Atlantic Alliance. The formal agreement between the four states (NC, SC, GA, and FL) was executed in May 2009. The Agreement specifies that the Alliance will prepare a "Governors South Atlantic Alliance Action Plan" which will be reviewed annually for progress and updated every five years for relevance of content. Alliance mission and purpose is to promote collaboration among the four states, and with the support and interaction of federal agencies, academe, regional organizations, non-governmental organizations, and the private sector, to sustain and enhance the region's coastal and marine resources. The Alliance proposes to regionally implement science-based actions and policies that balance coastal and marine ecosystems capacities to support both human and natural systems. An Action Plan was approved by the Governors and an Implementation Plan is under development.

One of the more recent collaborations is the Council's participation as Steering Committee member for the newly establish South Atlantic Landscape Conservation Cooperative (SALCC). Landscape Conservation Cooperatives (LCCs) are applied conservation science partnerships focused on a defined geographic area that informs on-the-ground strategic conservation efforts at landscape scales. LCC partners include DOI agencies, other federal agencies, states, tribes, non-governmental organizations, universities and others. The newly formed Department of Interior Southeast Climate Services Center (CSC) has the LCCs in the region as their primary clients. One of the initial charges of the CSCs is to downscale climate models for use at finer scales.

Building Tools to support EBM in the South Atlantic Region

The Council has developed a Habitat and Ecosystem Section of the website http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx and, in cooperation with the Florida Wildlife Research Institute (FWRI), developed a Habitat and Ecosystem Internet Map Server (IMS) http://www.safmc.net/EcosystemManagement/EcosystemBoundaries/MappingandGISData/tabid/632/Default.aspx. The IMS was developed to support Council and regional partners' efforts in the transition to EBM. Other regional partners include NMFS Habitat Conservation, South Atlantic states, local management authorities, other Federal partners, universities, conservation organizations, and recreational and commercial fishermen. As technology and spatial information needs evolve, the distribution and use of GIS demands greater capabilities. The Council has continued its collaboration with FWRI in the new evolution to Web Services initially for Essential Fish Habitat (http://ocean.floridamarine.org/SAFMC_EFH/) and Fishery Regulations (http://ocean.floridamarine.org/SAFMC_Regulations/) and is refining permissioned services for Fishery Independent and Habitat Research and developing one for Ocean Energy activities in the region (e.g., wind, wave and current).

Ecosystem Based Action, Future Challenges and Needs

The Council has implemented ecosystem-based principles through several existing fishery management actions including establishment of deepwater Marine Protected Areas for the Snapper Grouper fishery, proactive harvest control rules on species (e.g., dolphin and wahoo) which are not overfished, implementing extensive gear area closures which in most cases eliminate the impact of fishing gear on Essential Fish Habitat and use of other spatial management including Special Management Zones. Pursuant to the development of the Comprehensive Ecosystem-Based Amendment 1, the Council is taking an ecosystem approach to protect deepwater ecosystems while providing for traditional fisheries for the Golden Crab and Royal Red shrimp in areas where they do not impact deepwater coral habitat. The stakeholder based process taps in on an extensive regional Habitat and Ecosystem network. Support tools facilitate Council deliberations and with the help of regional partners, are being refined to address long-term ecosystem management needs.

One of the greatest challenges to the long-term move to EBM in the region is funding high priority research, including but not limited to, comprehensive benthic mapping and ecosystem model and management tool development. In addition, collecting detailed information on fishing fleet dynamics including defining fishing operation areas by species, species complex and season, as well as catch relative to habitat is critical for assessment of fishery, community, and habitat impacts and for Council use of place based management measures. Additional resources need to be dedicated to expand regional coordination of modeling, mapping, characterization of species use of habitats, and full funding of regional fishery independent surveys (e.g., MARMAP, SEAMAP, and SEFIS) which are linking directly to addressing high priority management needs. Development of ecosystem information systems to support Council management should build on existing tools (e.g., Regional Habitat and Ecosystem GIS and Arc Services) and provide resources to regional cooperating partners for expansion to address long-term Council needs.

The FEP and CE-BA 1 complement, but do not replace, existing FMPs. In addition, the FEP serves as source document to the CE-BAs. NOAA should support and build on regional coordination efforts of the Council as it transitions to a broader management approach. Resources need to be provided to collect

information necessary to update and refine our FEP and support future fishery actions including but not limited to completing one of the highest priority needs to support EBM, the completion of mapping of near-shore, mid-shelf, shelf edge and deepwater habitats in the South Atlantic region. In developing future FEPs, the Council will draw on SAFEs (Stock Assessment and Fishery Evaluation reports) which NMFS is required by the guidelines to provide the Council for all FMPs implemented under the Magnuson-Stevens Act. The FEP, serving as the source document for CE-BAs, could also meet NMFS SAFE requirements if information is provided to the Council to update necessary sections.

EFH and EFH-HAPC Designations Translated to Cooperative Habitat Policy Development and Protection

The Council actively comments on non-fishing projects or policies that may impact fish habitat. Appendix A of the Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region (SAFMC 1998c) outlines the Council's comment and policy development process and the establishment of a four-state Habitat Advisory Panel. Members of the Habitat Advisory Panel serve as the Council's habitat contacts and professionals in the field. AP members bring projects to the Council's attention, draft comment letters, and attend public meetings. With guidance from the Advisory Panel, the Council has developed and approved policies on:

1. Energy exploration, development, transportation, and hydropower re-licensing;
2. Beach dredging and filling and large-scale coastal engineering;
3. Protection and enhancement of submerged aquatic vegetation;
4. Alterations to riverine, estuarine, and nearshore flows;
5. Marine aquaculture;
6. Marine Ecosystems and Non-Native and Invasive Species; and
7. Estuarine Ecosystems and Non-Native and Invasive Species.

NOAA Fisheries, State, and other Federal agencies apply EFH and EFH-HAPC designations and protection policies in the day-to-day permit review process. In addition to the workshop process described above, the revision and updating of existing habitat policies and the development of new policies is being coordinated with core agency representatives on the Habitat and Coral Advisory Panels. Existing policies are included at the end of this Appendix.

South Atlantic Bight Ecopath Model

The Council worked cooperatively the University of British Columbia and the Sea Around Us project to develop a straw-man and preliminary food web models (Ecopath with Ecosim) to characterize the ecological relationships of South Atlantic species, including those managed by the Council. This effort was envisioned to help the Council and cooperators in identifying available information and data gaps while providing insight into ecosystem function. More importantly, the model development process provides a vehicle to identify research necessary to better define populations, fisheries, and their interrelationships. While individual efforts are still underway in the South Atlantic (e.g., Biscayne Bay) only with significant investment of new resources through other programs will a comprehensive regional model be further developed.

Essential Fish Habitat and Essential Fish Habitat Areas of Particular Concern

Following is a summary of the current South Atlantic Council's EFH and EFH-HAPCs. Information supporting their designation is being updated (pursuant to the EFH Final Rule) in the Council's Fishery

Ecosystem Plan:

Snapper Grouper FMP

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

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

Areas which meet the criteria for EFH-HAPCs for species in the snapper-grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; nearshore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper grouper (e.g., Primary and Secondary Nursery Areas designated in North Carolina); pelagic and benthic *Sargassum*; Hoyt Hills for wreckfish; the *Oculina* Bank Habitat Area of Particular Concern; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; and Council-designated Artificial Reef Special Management Zones (SMZs). In addition, the Council through the Comprehensive Ecosystem-based Amendment 2 (CE-BA 2; SAFMC 2011h) established the deepwater snapper grouper MPAs and golden tilefish and blueline tilefish habitat as EFH-HAPCs under the Snapper Grouper FMP as follows:

EFH-HAPCs for golden tilefish to include irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300 meters are HAPC. Golden tilefish are generally found in 80-540 meters, but most commonly found in 200-meter depths.

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

EFH-HAPCs for the snapper grouper complex to include the following deepwater Marine Protected Areas (MPAs) as designated in Snapper Grouper Amendment 14 (SAFMC 2007); Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Charleston Deep Artificial Reef MPA, Georgia MPA, North Florida MPA, St. Lucie Hump MPA and East Hump MPA.

Shrimp FMP

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

For rock shrimp, essential fish habitat consists of offshore terrigenous and biogenic sand bottom habitats from 18 to 182 meters in depth with highest concentrations occurring between 34 and 55 meters. This applies for all areas from North Carolina through the Florida Keys. Essential fish habitat includes the shelf current systems near Cape Canaveral, Florida, which provide major transport mechanisms affecting planktonic larval rock shrimp. These currents keep larvae on the Florida Shelf and may transport them inshore in spring. In addition the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse rock shrimp larvae.

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

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

Coastal Migratory Pelagics FMP

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

For Cobia essential fish habitat also includes high salinity bays, estuaries, and seagrass habitat. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse coastal migratory pelagic larvae.

For king and Spanish mackerel and cobia essential fish habitat occurs in the South Atlantic and Mid-Atlantic Bights.

Areas which meet the criteria for EFH-HAPCs include sandy shoals of Capes Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks

(South Carolina); The Point off Jupiter Inlet (Florida); *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel and cobia based on abundance data from the ELMR Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River, North Carolina; Bogue Sound, North Carolina (Adults May-September salinity >30 ppt); and New River, North Carolina (Adults May-October salinity >30 ppt). For Cobia they include Broad River, South Carolina (Adults & juveniles May-July salinity >25ppt).

Golden Crab FMP

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 in Wenner et al. (1987). 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 through the framework.

Spiny Lobster FMP

Essential fish habitat for spiny lobster includes nearshore shelf/oceanic waters; shallow subtidal bottom; seagrass habitat; unconsolidated bottom (soft sediments); coral and live/hard bottom habitat; sponges; algal communities (*Laurencia*); and mangrove habitat (prop roots). In addition the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse spiny lobster larvae.

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

Coral, Coral Reefs, and Live/Hard Bottom Habitats FMP

Essential fish habitat for corals (stony corals, octocorals, and black corals) must incorporate habitat for over 200 species. EFH for corals include the following:

A. Essential fish habitat for hermatypic stony corals includes rough, hard, exposed, stable substrate from Palm Beach County south through the Florida reef tract in subtidal to 30 m depth, subtropical (15°-35° C), oligotrophic waters with high (30-35$^{o}/_{oo}$) salinity and turbidity levels sufficiently low enough to provide algal symbionts adequate sunlight penetration for photosynthesis. Ahermatypic stony corals are not light restricted and their essential fish habitat includes defined hard substrate in subtidal to outer shelf depths throughout the management area.

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

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

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

Areas which meet the criteria for EFH-HAPCs for coral, coral reefs, and live/hard bottom include: The 10-Fathom Ledge, Big Rock, and The Point (North Carolina); Hurl Rocks and The Charleston Bump (South Carolina); Gray's Reef National Marine Sanctuary (Georgia); The *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; Oculina Banks off the east coast of Florida from Ft. Pierce to Cape Canaveral; nearshore (0-4 meters; 0-12 feet) hard bottom off the east coast of Florida from Cape Canaveral to Broward County); offshore (5-30 meter; 15-90 feet) hard bottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary. In addition, the Council through CE-BA 2 (SAFMC 2011h) is proposing the Deepwater Coral HAPCs as EFH-HAPCs under the Coral FMP as follows:

Deepwater Coral HAPCs designated in the Comprehensive Ecosystem-Based Amendment 1 as Snapper Grouper EFH-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, Pourtalés Terrace Coral HAPC.

Dolphin and Wahoo FMP

EFH for dolphin and wahoo is the Gulf Stream, Charleston Gyre, Florida Current, and pelagic *Sargassum*. This EFH definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Council's Comprehensive Habitat Amendment (SAFMC, 1998d) (dolphin was included within the Coastal Migratory Pelagics FMP).

Areas which meet the criteria for 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*. 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).

Pelagic *Sargassum* Habitat FMP

The Council through CE-BA 2 (SAFMC 2011h) designated the top 10 meters of the water column in the South Atlantic EEZ bounded by the Gulfstream, as EFH for pelagic Sargassum.

Actions Implemented That Protect EFH and EFH-HAPCs

Snapper Grouper FMP

- Prohibited the use of the following gears to protect habitat: bottom longlines in the EEZ inside of 50 fathoms or anywhere south of St. Lucie Inlet Florida, fish traps, bottom tending (roller- rig) trawls on live bottom habitat, and entanglement gear.
- Established the *Oculina* Experimental Closed Area where the harvest or possession of all species in the snapper grouper complex is prohibited.

Shrimp FMP

- Prohibition of rock shrimp trawling in a designated area around the *Oculina* Bank,
- Mandatory use of bycatch reduction devices in the penaeid shrimp fishery,
- Mandatory Vessel Monitoring System (VMS) in the Rock Shrimp Fishery.
- A mechanism that provides for the concurrent closure of the EEZ to penaeid shrimping if environmental conditions in state waters are such that the overwintering spawning stock is severely depleted.

Pelagic *Sargassum* Habitat FMP (SAFMC 2002)

- Prohibited all harvest and possession of *Sargassum* from the South Atlantic EEZ south of the latitude line representing the North Carolina/South Carolina border (34° North Latitude).
- Prohibited all harvest of *Sargassum* from the South Atlantic EEZ within 100 miles of shore between the 34° North Latitude line and the Latitude line representing the North Carolina/Virginia border.
- Harvest of *Sargassum* from the South Atlantic EEZ is limited to the months of November through June.
- Established an annual Total Allowable Catch (TAC) of 5,000 pounds landed wet weight.
- Required that an official observer be present on each *Sargassum* harvesting trip. Require that nets used to harvest *Sargassum* be constructed of four-inch stretch mesh or larger fitted to a frame no larger than 4 feet by 6 feet.

Coastal Migratory Pelagics FMP

- Prohibited of the use of drift gillnets in the coastal migratory pelagic fishery;

Golden Crab FMP

- In the northern zone golden crab traps can only be deployed in waters deeper than 900 feet; in the middle and southern zones traps can only be deployed in waters deeper than 700 feet.
  Northern zone - north of the 28°N. latitude to the North Carolina/Virginia border;
  Middle zone - 28°N. latitude to 25°N. latitude; and
  Southern zone - south of 25°N. latitude to the border between the South Atlantic and Gulf of Mexico Fishery Management Councils.

Coral, Coral Reefs and Live/Hard Bottom FMP

- Established an optimum yield of zero and prohibiting all harvest or possession of these resources which serve as essential fish habitat to many managed species.
- Designated of the *Oculina* Bank Habitat Area of Particular Concern

- Expanded the *Oculina* Bank Habitat Area of Particular Concern (HAPC) to an area bounded to the west by 80°W. longitude, to the north by 28°30' N. latitude, to the south by 27°30' N. latitude, and to the east by the 100 fathom (600 feet) depth contour.
- Established the following two Satellite *Oculina* HAPCs: (1) Satellite *Oculina* HAPC #1 is bounded on the north by 28°30'N. latitude, on the south by 28°29'N. latitude, on the east by 80°W. longitude, and on the west by 80°3'W. longitude, and (2) Satellite *Oculina* HAPC #2 is bounded on the north by 28°17'N. latitude, on the south by 28°16'N. latitude, on the east by 80°W. longitude, and on the west by 80°3'W. longitude.
- Prohibited the use of all bottom tending fishing gear and fishing vessels from anchoring or using grapples in the *Oculina* Bank HAPC.
- Established a framework procedure to modify or establish Coral HAPCs.
- Established the following six deepwater CHAPCs: Cape Lookout Lophelia Banks, Cape Fear Lophelia Banks, Stetson Reefs, Savannah and East Florida Lithoherms, and Miami Terrace (Stetson-Miami Terrace), Pourtales Terrace, and Blake Ridge Diapir Methane Seep.
- Within the deepwater CHAPCs, the possession of coral species and the use of all bottom damaging gear is prohibited including bottom longline, trawl (bottom and mid-water), dredge, pot or trap, or the use of an anchor, anchor and chain, or grapple and chain by all fishing vessels.

South Atlantic Council Policies for Protection and Restoration of Essential Fish Habitat.

SAFMC Habitat and Environmental Protection Policy

In recognizing that species are dependent on the quantity and quality of their essential habitats, it is the policy of the SAFMC to protect, restore, and develop habitats upon which fisheries species depend; to increase the extent of their distribution and abundance; and to improve their productive capacity for the benefit of present and future generations. For purposes of this policy, "habitat" is defined as the physical, chemical, and biological parameters that are necessary for continued productivity of the species that is being managed. The objectives of the SAFMC policy will be accomplished through the recommendation of no net loss or significant environmental degradation of existing habitat. A long-term objective is to support and promote a net-gain of fisheries habitat through the restoration and rehabilitation of the productive capacity of habitats that have been degraded, and the creation and development of productive habitats where increased fishery production is probable. The SAFMC will pursue these goals at state, Federal, and local levels. The Council shall assume an aggressive role in the protection and enhancement of habitats important to fishery species, and shall actively enter Federal, decision- making processes where proposed actions may otherwise compromise the productivity of fishery resources of concern to the Council.

SAFMC EFH Policy Statements

In addition to implementing regulations to protect habitat from fishing related degradation, the Council in cooperation with NOAA Fisheries, actively comments on non-fishing projects or policies that may impact fish habitat. The Council adopted a habitat policy and procedure document that established a four-state Habitat Advisory Panel and adopted a comment and policy development process. Members of the Habitat Advisory Panel serve as the Council's habitat contacts and professionals in the field. With guidance from the Advisory Panel, the Council has developed and approved a number of habitat policy statements that are available on the Habitat and Ecosystem section of the Council website.

APPENDIX D. REGULATORY FLEXIBILITY ACT ANALYSIS

1.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of various alternatives contained in the fishery management plan or amendment (including framework management measures and other regulatory actions) and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

The RFA requires agencies to conduct a Regulatory Flexibility Act Analysis (RFAA) for each proposed rule. The RFAA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An RFAA is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." The RFAA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; 6) a description and estimate of the expected economic impacts on small entities; and 7) an explanation of the criteria used to evaluate whether the rule would impose "significant economic impacts."

2.2 Statement of the need for, objective of, and legal basis for the rule

The problems and objective of this proposed action are provided in Chapter 1. In summary, the objective of this proposed action is to change the current reporting requirements for headboats that operate in the South Atlantic to improve data collection methods to help ensure landings of managed fish stocks are recorded accurately and in a timely manner so that annual catch limits are not exceeded. The Magnuson-Stevens Fishery Conservation and Management Act provides the statutory basis for this proposed action.

2.3 Description and estimate of the number of small entities to which the proposed action would apply

This proposed action, if implemented, would be expected to directly affect an estimated 75 headboat for-hire operations that operate in the exclusive economic zone (EEZ) in the South Atlantic. The average headboat is estimated to earn approximately $201,000 (2012 dollars) in annual revenue.

No other small entities that would be expected to be directly affected by this proposed action have been identified.

The Small Business Administration (SBA) has established size criteria for all major industry sectors in the U.S. including seafood dealers and harvesters. A business involved in the for-hire fishing industry is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $7.0 million (NAICS code 713990, recreational industries). Because the average annual revenue for the headboats for-hire operations expected to be directly affected by this proposed action is significantly less than the SBA revenue threshold, all these businesses are determined, for the purpose of this analysis, to be small business entities.

2.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records

This proposed action would require headboat for-hire fishing operations to submit weekly records, or at shorter intervals if notified by the Science Research Director (SRD), of their fishing activity via computer or internet (electronic reporting). This requirement would not be expected to require special professional skills. The use of computers, the internet, or other forms of electronic connections and communication is commonplace in the business environment. As a result, all affected small entities would be expected to already have staff with the appropriate skills and training to meet these requirements.

2.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed rule

No duplicative, overlapping, or conflicting federal rules have been identified.

2.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

This proposed action, if implemented, would be expected to directly affect an estimated 75 businesses that operate headboats in the EEZ in the South Atlantic. These headboats are part of the for-hire sector that is comprised of more than 1,500 charter and headboat vessels. As a result, this proposed action would directly affect less than five percent of the for-hire fleet and would not be expected affect a substantial number of small entities.

Significant economic impacts

The outcome of "significant economic impact" can be ascertained by examining two factors: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities expected to be directly affected by the measures in this proposed action are determined for the purpose of this analysis to be small business entities, so the issue of disproportionality does not arise.

Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

This proposed action would be expected to have little to no impact on the profits of any of the small entities expected to be directly affected. Although not currently explicitly required by regulation, electronic reporting is currently required by the SRD for federally-permitted South Atlantic headboats. As a result, most, if not all, South Atlantic headboat businesses are expected to be reporting electronically. For any headboat business that may not be currently use the electronic reporting system, any increase in operating expenses should be minor. The use of computers and the internet is commonplace and a vital tool in business management. The Small Business Administration estimated that in 2010 approximately 94% of businesses had a computer and 95% of these had internet service (SBA 2010). As a result, the majority of the affected entities would not be expected to need to incur new operational expenses to report electronically. For those few entities that might not already be reporting electronically, any new expenses that might need to be incurred would not be expected to constitute a significant increase in business expenses. Computers under $750 are readily available and internet services under $100 per month would be expected to be available in most locations. The estimated average annual revenue for a South Atlantic headboat business is approximately $201,000 (2012 dollars). As a result, the proposed requirement for electronic submission of headboat reports would be expected to result in minor to no direct economic effect on most, if not all, South Atlantic headboat businesses.

This proposed action would also increase the frequency of logbook reporting by South Atlantic headboat businesses from the current requirement of monthly reports that must be submitted within seven days of the end of each month to weekly reporting (seven days after the end of each week ending on Sunday) or at shorter intervals if notified by the SRD. Keeping accurate records is essential to successful business operation. As a result, recording trips as they are completed, or as soon as is practical, is expected to be the common business practice. Electronic recording and reporting would be expected to support additional labor and business management efficiencies. Therefore, the proposed increase in the frequency of reporting would be expected to require little, if any, change in business practices or associated operational costs.

Based on the discussion above, it is determined that, this proposed action, if implemented, would not be expected to have a significant economic effect on a substantial number of small entities.

2.7 Description of the significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

This proposed rule, if implemented, would not be expected to have a significant economic effect on a substantial number of small entities. As a result, the issue of significant alternatives is not relevant.

Appendix E. Regulatory Impact Review

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) It provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 (E.O. 12866) and whether the approved regulations will have a "significant economic impact on a substantial number of small business entities" in compliance with the Regulatory Flexibility Act of 1980 (RFA).

1.1 Problems and Objectives

The purpose and need, issues, problems, and objectives of this action are presented in **Chapter 1** of the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment, and are incorporated herein by reference.

1.2 Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects of the proposed measures for an existing fishery should be stated in terms of producer and consumer surplus, changes in profits, and employment in the direct and support industries. Where figures are available, they are incorporated into the analysis of the economic impacts of the different actions and alternatives.

1.3 Description of the Fishery

A description of the South Atlantic snapper grouper, Atlantic dolphin and wahoo, and the South Atlantic and Gulf of Mexico coastal migratory pelagic fisheries is contained in **Chapter 3** of the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment and is incorporated herein by reference.

1.4 Effects of the Management Measure

Action 1, Alternative 4 (Preferred), Sub-Alternative 4b (Preferred) requires headboats participating in the South Atlantic snapper grouper, Atlantic dolphin and wahoo, and in the South Atlantic portion of the South Atlantic/Gulf of Mexico coastal migratory pelagic fisheries to submit logbooks electronically and weekly, or more frequently than that if the SRD requires it. Under the no action alternative headboat operators reported monthly via paper logbooks.

Requiring electronic reporting may incur some costs for headboat operators who do not currently have access to a computer and the Internet. While computer access is commonplace in businesses today, access is not universal. However, it is not known how many headboat operators do not have access. Therefore, the direct costs to the headboat portion of the recreational sector of the fisheries cannot be determined. The positive indirect benefit of requiring electronic logbook reporting on a greater frequency will help NMFS to monitor recreational ACLs/ACTs more accurately, lessening the probability of exceeding an ACL that could result in subsequent paybacks of overages, resulting in future lost opportunity for the headboat industry.

The positive and negative effects of implementing the preferred action cannot be accurately determined; however, the expected positive economic effects of managing ACLs/ACTs more accurately is expected to outweigh the costs.

1.5 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any Federal action involves the expenditure of public and private resources, which can be expressed as costs associated with the regulations. Costs associated with this emergency action include, but are not limited to Council costs of document preparation, meeting, and other costs; NMFS administration costs of document preparation, meetings and review, and annual law enforcement costs. A preliminary estimate is up to $150,000 before annual law enforcement costs.

1.6 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a “significant regulatory action” if it is expected to result in: (1) An annual effect of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues

arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this regulatory action would not meet the first criterion. Therefore, this regulatory action is determined to not be economically significant for the purposes of E.O. 12866.

Appendix F. Fishery Impact Statement

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires a Fishery Impact Statement (FIS) be prepared for all amendments to Fishery Management Plans (FMPs). The FIS contains an assessment of the expected and potential biological, economic and social effects of the conservation and management measures on: 1) fishery participants and their communities; 2) participants in the fisheries conducted in adjacent areas under the authority of another Council; and 3) the safety of human life at sea.

Action in the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment

Implementation of annual catch limits (ACLs) is a crucial component to fostering sustainable fisheries in the South Atlantic and Gulf of Mexico regions. Based on scientific recommendations for acceptable levels of catch that would allow each stock to continue to replenish itself in conditions attributed to both fishing and external environmental factors, the established ACLs contribute to long-term management goals for sustainable harvest. Overall, limiting harvest through ACLs is expected to preserve the biological, economic and social health of each fishery by maintaining the fish stocks over time to provide continued use of the resource for jobs, food supply, and enjoyment.

The benefits to the fishery from establishing ACLs are limited by occurrence of overages. An overage could impact the stock in addition to resulting in negative social and economic impacts of triggering accountability measures (AMs) that may include early in-season closures, shortened subsequent seasons, or reduced ACL in the year following an overage. The South Atlantic Fishery Management Council (South Atlantic Council) determined that improving data reporting in the dolphin wahoo, snapper grouper, and coastal migratory pelagic fisheries could help reduce the likelihood that the recreational ACLs are exceeded and accountability measures (AMs) are triggered. The for-hire sector contributes to recreational landings that count towards the recreational ACL, although catches from charter vessels are captured in the Marine Recreational Information Program (MRIP) while headboat catches are monitored separately. Delays in receiving and processing headboat data could contribute to the recreational ACL being exceeded. Electronic reporting via computer/internet could reduce delays and result in fewer overages of the recreational annual catch limit.

In this amendment, the South Atlantic Council has specified the following preferred alternative: require that **headboat** vessels in the dolphin wahoo, snapper grouper, and coastal migratory pelagic fisheries 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).

Assessment of Biological Effects

Assuming there were no compliance issues or biases associated with self-reported data that do not already exist with the current reporting system, the **Alternatives 2**, **3** and **4 (Preferred)** are expected to help prevent recreational catch levels from exceeding the recreational ACLs, which would contribute to keeping the stocks healthy for long-term sustainable harvest of dolphin, wahoo, coastal migratory pelagic species, and snapper and grouper species. Several species with significant recreational sectors, such as dolphin, wahoo, cobia, mackerel, and many snapper grouper species, have the ACL set equal or very close to the recommended acceptable biological catch (ABC), so that an overage and particularly multi-year overages could result in significant impact on the stock status. The alternatives and sub-alternatives that will enhance reporting through increased frequency and electronic reporting are expected to improve ACL monitoring and decrease the likelihood of exceeding the ACL (or in many cases, the ABC).

Assessment of Economic Effects

Alternatives 2, **3** and **4 (Preferred)** would require the use of computers, the internet, and other forms of electronic connections and communication. However this is commonplace in the business environment, so the differences in the costs between these alternatives associated with reporting method may be minimal. Electronic reporting would be expected to be part of the routine business practices of many for-hire operators that currently use computers and would be encompassed by these proposed alternatives, though the use of computers may be more common for recording the business aspects of their operation – bookings, accounting, etc., - than recording the catch results and other aspects of individual trips. Nonetheless, electronic reporting would be an additional burden to for-hire operators who do not currently use a computer because they would have to bear the additional costs associated with acquiring a computer and internet access, and possibly the cost of training to learn how to use the computer, or hiring personnel to enter the data.

In addition to the costs to permit holders, the costs of data processing should be considered. Requirements for electronic reporting eliminate the need for costly manual data input. Electronic reporting also potentially reduces the time required to acquire the data, process it, compute regional (or other subdivisions of) harvest totals, and take management action, when appropriate.

In summary, all alternatives except **Alternative 1 (No Action)** would change how the for-hire sector reports landings. **Alternatives 2**, **3** and **4 (Preferred)** would incur costs of time and perhaps for computer equipment and staff time, but each alternative other than **Alternative 1 (No Action)** would provide managers with data in a more timely basis potentially allowing for increased precision for recreational sector ACL management and help prevent sector overruns that would trigger AMs.

Assessment of the Social Effects

In general, negative social effects of for-hire reporting requirements would likely be associated with any added time and financial burden for permit holders to meet the requirements. Increased frequency in reporting under **Alternatives 2**, **3** and **4 (Preferred)** may have some negative effects on vessel owners and captains because businesses would need to allocate additional time or staff to submit reports. The daily reporting requirement under **Alternative 3** and the potential for daily reporting requirement under **Preferred Alternative 4** would be more burdensome for for-hire permit holders 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.

The requirement for electronic reporting under **Alternatives 2**, **3** and **4 (Preferred)** would 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.

However, requiring all for-hire permit holders to report electronically and more frequently (**Alternatives 2**, **3** and **4 (Preferred)**) is expected to result in broad social benefits. Assuming compliance from fishery participants, more frequent and timely reporting would be expected to contribute to improved monitoring of recreational landings, with which it will be less likely that an ACL would be exceeded for species with in-season closures and the associated AMs would negatively impact for-hire fishermen and associated communities and businesses. For species with a recreational AM that shortens the length of the following fishing season, better and more timely data could help ensure landings do not exceed the ACL in the year following an overage. AMs can have significant direct and indirect effects on fishermen because they usually impose some restriction on harvest, during either the current season or the next. Early closures and paybacks (which in turn increase the likelihood of an earlier closure in the following year) are directly linked to the ability of NMFS to monitor recreational landings. While the negative effects of AMs are usually short-term, they may at times induce other indirect effects through changes in fishing behavior or business operations that could have long-term social effects. Some of those effects are similar to other thresholds being met and may involve switching to other species or discontinuing fishing altogether. Although additional reporting requirements may not prevent AMs from being triggered, these requirements would be expected to provide additional information to better forecast early closures and minimize post-season AMs, such as "pay-backs." Under **Alternative 1 (No Action)**, there would be no improvements to monitoring as a result of more timely reporting, and it would be more likely that AMs would continue to impact for-hire businesses, communities, and customers.

Assessment of the Administrative Effects

The administrative effects of changing permits and reporting requirements for the for-hire sector would be associated with rule-making, outreach, and implementation of the revised reporting scheme. There also could be administrative effects associated with using self-reported data to monitor recreational ACLs. In general, increased frequency in reporting under **Alternatives 2**, **3** and **4 (Preferred)** would increase the administrative burden on the agency. As the number of vessels affected increases (under the sub-alternatives), so do the administrative impacts. As the frequency of reporting increases, so do the administrative impacts. **Alternative 3** would have the greatest increase in the administrative burden on the agency, 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. It is expected that after an initial period required for understanding the program, electronic reporting would be more efficient for both fishermen and the agency in the long term. **Preferred Alternative 4** could have the potential to increase or decrease the administrative impacts on the fishery participants depending on what the SRD deems appropriate. **Preferred Alternative 4** would reduce the administrative impacts on the agency as the SRD could change the frequency of reporting via notice, without going through the South Atlantic 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 would increase the burden on anglers and require the agency to process data at a more rapid speed than the status quo. However, **Preferred Alternative 4** has the potential to be just as burdensome if the SRD determines that more frequent reporting is necessary.

Electronic reporting has the potential to be more burdensome for law enforcement. Reporting is currently a condition of the permits issued for the snapper grouper, dolphin/wahoo, and coastal migratory pelagic fisheries (CFR 622.5). Vessels who do not report are not meeting the conditions of the permit that may invalidate the permit. Under the current reporting scenario, it is difficult to determine which permits have met the reporting frequency timeline due to the lag between the submission of reports and the processing of the data. Electronic reporting would allow enforcement to better monitor the reporting conditions on a permit. Any delinquent reports would need to be submitted and received by NMFS before a headboat could harvest and/or possess the affected species. In situations where there is no fishing occurring, either by choice or due to a closed fishing season, “no fishing reports” are currently required to be submitted. These forms would still be required, would be able to be submitted electronically, and should be submitted by the timeframe specified to remain in compliance with the permit requirements.

Headboats reporting ahead of time if they are closed/not fishing for an extended period meets the intent of the weekly reporting in the preferred alternative. This measure would require that headboats remain current on reports as a requirement to continue harvesting and/or possessing the affected species. This would improve timeliness and accuracy of headboat reporting, decreasing the likelihood of exceeding recreational ACLs for the affected species. The requirement to submit no-fishing forms reduces the uncertainty of reported headboat landings**.**

NMFS would be better able to differentiate between periods when headboats were fishing and periods with missing reports.

Assessment of Effects on Safety at Sea

The implementation of the proposed action would not be expected to affect the current level of safety at sea.

Appendix G.

1 Bycatch Practicability Analysis

1.1 Population Effects for the Bycatch Species

Background

The Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment (Charter/Headboat Amendment) includes an action that would modify data reporting for "for-hire" vessels. The actions in Charter/Headboat Amendment apply to amendments to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP), FMP for the Dolphin and Wahoo Fishery of the Atlantic (Dolphin Wahoo FMP), and FMP for the Coastal Migratory Pelagics (CMP) Resources in the Gulf of Mexico and South Atlantic Region (CMP FMP).

The majority of species in the snapper grouper fishery management unit (FMU) are taken with hook and line gear (see **Chapter 3**). Black sea bass are predominantly taken with pots; whereas, longline gear has been the predominant gear type used to capture golden tilefish. In the CMP FMP, most king mackerel and cobia are taken with hook and line gear; however, gillnets and castnets are the predominant gear type used to harvest Spanish mackerel (see **Chapter 3**). Hook and line, and pelagic longline gear are the predominant gear types for harvesting dolphin; whereas, wahoo are mostly take with hook and line gear.

Total landings (including all sectors) during 2007-2011 for species in the FMPs included in Charter/Headboat Amendment were dominated by those in the FMPs for Snapper Grouper, followed by CMP, and Dolphin Wahoo (**Table 1**). Total discards followed this trend, except that discards in the CMP FMP were higher than the Dolphin Wahoo FMP (**Table 1**). This is probably because there are more regulations in place for the CMP FMP when compared with the Dolphin Wahoo FMP (see **Appendix H** for the history of management).

Commercial Sector

During 2007-2011, regulations (50 C.F.R. § 622.5) required participants in the South Atlantic snapper grouper fishery who were selected by the Science and Research Director (SRD) to maintain and submit a fishing record on forms provided by the SRD. Fishermen in the coastal migratory pelagic, and dolphin/wahoo fisheries were also required to submit logbooks. Trip and effort information were included in the same logbook for snapper grouper, coastal migratory pelagic, and dolphin/wahoo. Commercial landings were highest for species in the CMP FMP (8,078,826 pounds whole weight, lbs ww), followed by Snapper Grouper FMP (7,141,657 lbs ww), and Dolphin Wahoo FMP (914,426 lbs ww) (**Table 1**). In the Snapper Grouper FMP, landings during 2007-2011 were dominated by vermilion snapper (1,086,090 lbs ww), yellowtail snapper (949,257 lbs ww), greater amberjack (796,063 lbs ww), gag (592,108 lbs ww), black sea bass (489,471 lbs ww), red grouper (480,195 lbs ww), gray triggerfish (427,642 lbs ww), and golden tilefish (372,466 lbs ww) (**Table 1**). Commercial discards during 2007-2011 were highest for yellowtail snapper (128,323 lbs ww), followed by golden tilefish (74,887 lbs ww),

vermilion snapper (36,825 lbs ww), red porgy (27,671 lbs ww), and black sea bass (20,132 lbs ww) (**Table 1**). During 2007-2011, commercial landings were predominant for dolphin (866,625 lbs ww) and the two mackerel species (king mackerel, 4,172,817 lbs ww; Spanish mackerel, 3,773,688 lbs ww), in the FMPs for Dolphin Wahoo and CMP, respectively (**Table 1**). Discard information was not reported during 2007-2011 for the commercial sector for Dolphin Wahoo (**Table 1**). Currently, discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders in fisheries for snapper grouper, CMP, and dolphin and wahoo.

Recreational Sector

For the recreational sector during 2007-2011, estimates of the number of recreational discards were available from Marine Recreational Fisheries Statistical Survey (MRFSS) and the National Marine Fisheries Service (NMFS) headboat survey. The MRFSS system classifies recreational catch into three categories:

- Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers.
- Type B - Fishes that were caught but were either not kept or not available for identification:
    - Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2.
    - Type B2 - Fishes that were caught and released alive.

The recreational sector can be further categorized into “private” and “for-hire” (headboat/charterboat) categories. During 2007-2011, recreational landings were highest for species in the Snapper Grouper FMP, followed by CMP FMP, and Dolphin Wahoo FMP (**Table 1**). In the Snapper Grouper FMP, private recreational landings were dominated by blue runner (690,337 lbs ww), followed by gray snapper (397,987 lbs ww), black sea bass (335,481 lbs ww), yellowtail snapper (190,098 lbs ww), white grunt (178,805 lbs ww), and Atlantic spadefish (163,363 lbs ww) (**Table 1**). During 2007-2011, discards (numbers of fish) for snapper grouper species in the private recreational sector were highest for black sea bass (2,751,597), followed by gray snapper (1,549,311), blue runner (810,073), tomtate (350,684), and white grunt (214,034). For the same time period, the “for-hire” category (headboat/charterboat) targeted slightly different species in the snapper grouper FMU. Landings (headboat/charterboat) were highest for vermilion snapper/black sea bass (253,588/74,955), followed by white grunt/tomtate (163,281/11,666), and yellowtail snapper (95,947/26,675) (**Table 1**). Discards were highest for black sea bass (333,521/159,193), followed by vermilion snapper (114,683/38,111), tomtate/blue runner (73,439/14,949), and yellowtail snapper/white grunt (32,646/12,722) (**Table 1**).

In the Dolphin Wahoo FMP during 2007-2011, dolphin landings and resulting discards were higher than those for wahoo, with the private recreational landings and discards for dolphin (614,558 and 163,237) higher than the headboat/charter boat category (3,920 and 366/311,653 and 7,926) (**Table 1**).

For the CMP FMP during 2007-2011, the private recreational landings and discards for CMP species were also higher than those in the headboat/charterboat category (**Table 1**). Landings and subsequent discards for the private recreational category were higher for Spanish mackerel (1,032,869 and 617,309), followed by king mackerel (358,361 and 134,260), and cobia (38,460 and 36,074) (**Table 1**). A similar trend was seen for the charterboat category, with landings and discards for Spanish mackerel (122,242 and 28,555) higher than king mackerel (68,013 and 10,174), and cobia (5,975 and 4,333) (**Table 1**). However, in the headboat category , landings and discards were higher for king mackerel (19,805 and 2,019), followed by Spanish mackerel (8,843 and 1,433), and cobia (1,542 and 772) (**Table 1**).

During 2007-2011, "for-hire" vessels for snapper grouper, coastal migratory pelagic and dolphin/wahoo fisheries were selected to report by the SRD to maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, and on forms provided by the SRD. Furthermore, the owner or operator of a vessel for which a charter vessel/headboat permit for South Atlantic snapper-grouper has been issued, who was selected to report by the SRD must participate in the NMFS-sponsored electronic logbook and/or video monitoring reporting program as directed by the SRD. Harvest and bycatch information was monitored by MRFSS. Since 2000, a 10% sample of charter vessel captains were called weekly to obtain trip level information. In addition, the standard dockside intercept data were collected from charter vessels and charter vessel clients were 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).

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

Recent improvements have been made to the MRFSS program, and the program is now called Marine Recreational Information Program (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. The preferred alternative for the action in the Charter/Headboat Amendment could help get more timely landings, discard, and bycatch information from the headboat component of the recreational sector.

Table 1. Mean headboat, MRFSS charter and private, and commercial estimates of landings and discards in the U.S. southern Atlantic Ocean (2007-2011). Headboat, MRFSS charter and private landings are in numbers of fish (N); commercial landings are in pounds whole weight (lbs ww). Discards represent numbers of fish that were caught and released alive (B2).

Snapper Grouper FMP	HEADBOAT				MRFSS CHARTER				MRFSS PRIVATE				COMMERCIAL	
	Catch (N)	Landings (N)	Discards (N)	Discards (%)	Catch (N)	Landings (N)	Discards (N)	Discards (%)	Catch (N)	Landings (N)	Discards (N)	Discards (%)	Landings (lbs ww)	Discards (N)
Almaco jack	4,162	3,806	356	9%	3,499	2,986	513	15%	8,722	4,817	3,905	45%	204,945	106
Atlantic spadefish	162	133	29	18%	678	273	406	60%	328,703	163,363	165,339	50%	27,280	0
Banded rudderfish	18,992	16,771	2,221	12%	5,551	3,565	1,986	36%	16,725	5,536	11,189	67%	53,262	739
Bank sea bass	9,502	6,009	3,492	37%	2,287	717	1,570	69%	14,333	3,760	10,574	74%	431	0
Bar jack	235	188	47	20%	271	177	94	35%	12,766	1,943	10,823	85%	4,661	9
Black grouper	1,551	464	1,086	70%	437	265	171	39%	19,373	3,506	15,867	82%	59,427	3,031
Black sea bass	511,148	177,627	333,521	65%	234,148	74,955	159,193	68%	3,087,078	335,481	2,751,597	89%	489,471	20,132
Black snapper	0				0				0				147	32
Blackfin snapper	124	60	63	51%	179	179	0	0%	2,155	2,155	0	0%	1,567	1
Blue runner	15,984	13,091	2,893	18%	27,402	12,454	14,949	55%	1,500,410	690,337	810,073	54%	208,772	1,155
Blueline tilefish	1,732	1,709	23	1%	31,470	29,863	1,607	5%	13,288	11,065	2,224	17%	309,825	2
Coney	172	102	70	41%	120	39	82	68%	2,322	1,447	875	38%	48	4
Cottonwick	28	17	11	38%	0				133	133	0	0%	0	0
Cubera snapper	452	425	28	6%	11	11	0	0%	2,812	2,569	243	9%	5,774	0
Dog snapper	89	60	29	32%	71	71	0	0%	4,338	3,958	380	9%	431	0
Gag	8,633	3,736	4,897	57%	7,583	3,659	3,924	52%	152,690	24,732	127,958	84%	592,108	9,185
Golden tilefish	0				884	884	0	0%	5,252	5,252	0	0%	372,466	16
Gray snapper	43,494	38,141	5,353	12%	19,449	9,960	9,488	49%	1,947,298	397,987	1,549,311	80%	109,225	74,887
Gray triggerfish*	68,648	58,654	9,995	15%	44,964	36,040	8,924	20%	261,349	120,534	140,815	54%	427,642	2,091
Graysby	4,414	3,642	772	17%	562	493	68	12%	9,560	3,788	5,771	60%	239	13

Greater amberjack	6,232	4,239	1,994	32%	25,109	18,298	6,811	27%	62,809	24,011	38,798	62%	796,063	3,692
Hogfish	354	264	91	26%	72	66	6	8%	39,954	35,049	4,904	12%	50,396	265
Jolthead porgy	7,739	7,577	161	2%	1,657	1,657	0	0%	12,912	12,327	585	5%	2,586	4
Knobbed porgy	6,280	6,193	87	1%	1,036	1,036	0	0%	10,871	2,251	8,620	79%	26,042	0
Lane snapper	22,610	19,297	3,313	15%	4,591	3,724	867	19%	259,324	78,984	180,340	70%	4,105	697
Lesser amberjack	216	211	5	2%	20	20	0	0%	370	370	0	0%	15,268	110
Longspine porgy	24	18	6	25%	950	950	0	0%	358	358	0	0%	13	0
Mahogany snapper	26	24	2	7%	0				308	308	0	0%	38	819
Margate	1,240	822	419	34%	96	25	71	74%	24,086	13,289	10,797	45%	3,494	29
Misty grouper	1	1	0	0%	0				0				1,765	0
Mutton snapper	17,572	13,984	3,588	20%	21,030	11,240	9,791	47%	311,784	121,604	190,181	61%	77,400	4,089
Ocean triggerfish	214	202	12	6%	319	289	29	9%	5,643	2,462	3,181	56%	0	0
Queen snapper	0				8	8	0	0%	0				5,080	2
Red grouper	11,109	2,374	8,735	79%	11,246	5,308	5,938	53%	87,491	34,356	53,136	61%	480,195	6,793
Red hind	667	600	67	10%	76	45	31	40%	3,478	1,525	1,953	56%	11,883	147
Red porgy	56,191	34,003	22,189	39%	19,240	13,138	6,102	32%	26,949	16,922	10,027	37%	179,256	27,671
Rock hind	2,820	2,312	508	18%	104	88	16	16%	4,726	1,592	3,134	66%	20,289	7
Rock sea bass	6	0	6	100%	546	213	333	61%	11,434	4,502	6,932	61%	648	0
Sailors choice	72	67	5	7%	1,106	106	1,000	90%	44,277	20,098	24,180	55%	0	0
Sand tilefish	1,348	903	444	33%	6,496	803	5,693	88%	30,030	6,524	23,506	78%	813	227
Saucereye porgy	324	323	1	0%	42	42	0	0%	197	197	0	0%	0	0
Scamp	9,333	6,084	3,249	35%	3,770	2,363	1,407	37%	14,391	7,714	6,676	46%	281,807	2,723
Schoolmaster	404	326	78	19%	5	5	0	0%	11,192	4,764	6,428	57%	231	0
Scup	12,284	10,176	2,109	17%	110	48	62	57%	1,023	690	333	33%	0	0

Silk Snapper	1,187	1,080	107	9%	1,619	1,404	215	13%	445	133	312	70%	12,559	1
Snowy grouper	139	95	44	32%	1,615	1,344	271	17%	1,188	945	243	20%	93,418	270
Tomtate	122,805	49,366	73,439	60%	23,747	11,666	12,081	51%	472,666	121,982	350,684	74%	511	2,622
Vermilion snapper	368,271	253,588	114,683	31%	101,627	63,516	38,111	38%	220,406	93,319	127,087	58%	1,086,090	36,825
White grunt*	193,622	163,281	30,341	16%	44,894	32,172	12,722	28%	392,839	178,805	214,034	54%	149,521	564
Whitebone porgy	5,064	4,809	256	5%	1,699	1,638	61	4%	12,377	10,923	1,454	12%	18	17
Yellowedge grouper	7	5	3	38%	30	30	0	0%	116	116	0	0%	19,438	0
Yellowfin grouper	72	59	13	18%	0				0				5,701	6
Yellowmouth grouper	69	62	7	10%	57	57	0	0%	246	246	0	0%	54	0
Yellowtail snapper	128,593	95,947	32,646	25%	33,793	26,675	7,119	21%	418,591	190,098	228,494	55%	949,257	128,323
Total	**1,666,419**	**1,002,925**	**663,494**		**686,277**	**374,565**	**311,712**		**9,871,788**	**2,768,826**	**7,102,961**		**7,141,657**	**327,308**
Dolphin Wahoo FMP	**HEADBOAT**				**MRFSS CHARTER**				**MRFSS PRIVATE**				**COMMERCIAL**	
	Catch (N)	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Catch (N)**	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Catch (N)**	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Landings (lbs ww)**	**Discards (N)**
Dolphin	4,285	3,920	366	9%	319,579	311,653	7,926	2%	777,795	614,558	163,237	21%	866,625	0
Wahoo	135	124	12	9%	9,962	9,922	39	0%	30,213	27,828	2,385	8%	47,801	0
Total	**4,421**	**4,043**	**377**		**329,541**	**321,575**	**7,965**		**808,007**	**642,386**	**165,622**		**914,426**	
Coastal Migratory Pelagics FMP	**HEADBOAT**				**MRFSS CHARTER**				**MRFSS PRIVATE**				**COMMERCIAL**	
	Catch (N)	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Catch (N)**	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Catch (N)**	**Landings (N)**	**Discards (N)**	**Discards (%)**	**Landings (lbs ww)**	**Discards (N)**
Cobia	2,314	1,542	772	33%	10,309	5,975	4,333	42%	74,534	38,460	36,074	48%	132,321	0
King mackerel*	21,823	19,805	2,019	9%	78,187	68,013	10,174	13%	492,521	358,261	134,260	27%	4,172,817	0
Spanish mackerel	10,276	8,843	1,433	14%	150,797	122,242	28,555	19%	1,650,178	1,032,869	617,309	37%	3,773,688	0
Total	**34,414**	**30,189**	**4,224**		**239,292**	**196,230**	**43,062**		**2,217,233**	**1,429,590**	**787,643**		**8,078,826**	**0**

Sources: MRFSS data from SEFSC Recreational annual catch limit (ACL) Dataset (July 2012), Headboat data from SEFSC Headboat Logbook CRNF files (expanded; July 2012), Commercial landings data from SEFSC Commercial ACL Dataset (July 2012), with discard estimates from expanded SEFSC Commercial Discard Logbook (July 2012).
Note: Commercial discard estimates are for vertical line gear only. The use of MRFSS data has been recommended until ACLs are recomputed using recalibrated MRFSS->MRIP data.
Goliath grouper, Nassau grouper, Warsaw grouper, Speckled hind, and Red snapper are excluded from **Table 1** since they are prohibited species, and landings records are not available for all the years 2007-2011). Wreckfish landings are confidential.
*Commercial king mackerel includes "king and cero mackerel" category; commercial gray triggerfish includes "triggerfishes, unclassified" category; commercial white grunt includes "grunts, unclassified" category.

Finfish Bycatch Mortality

Release mortality rates are unknown for most managed species. Recent Southeast Data, Assessment, and Review (SEDAR) assessments include estimates of release mortality rates based on published studies. Stock assessment reports can be found at http://www.sefsc.noaa.gov/sedar/.

SEDAR 17 (2008) recommended a release mortality rate for vermilion snapper of 41% for the commercial sector and 38% for the recreational. The recent stock assessment for yellowtail snapper chose a rate of 10% release mortality as an approximation for the lower bound on release mortality for yellowtail snapper (FWRI 2012). SEDAR 10 (2006) estimated release mortality rates of 40% and 25% for gag taken by commercial and recreational fishermen, respectively. SEDAR 24 (2010) used release mortality rates of 48% commercial; 41% for-hire, and 39% private recreational for red snapper. Release mortality rates were estimated as 20% for black grouper and red grouper in SEDAR 19 (2010). SEDAR 15 (2008) estimated a 20% release mortality rate for greater amberjack. In the Gulf of Mexico, SEDAR 9 (2006) assumes a 0% release mortality rate for gray triggerfish. Snowy grouper are primarily caught in water deeper than 300 feet and golden tilefish are taken at depths greater than 540 feet; therefore, release mortality of the species are probably near 100% (SEDAR 4 2004, SEDAR 25 2011). Release mortality of black sea bass is considered to be low (7% for the recreational sector and 1% for the commercial sector) (SEDAR 25; 2011) indicating minimum size limits are probably an effective management tool for black sea bass. Collins et al. (1999) reported venting of the swim bladder yielded reductions in release mortality of black sea bass, and the benefits of venting increased with capture depth. The same study was analyzed by Wilde (2009) to suggest that venting increased the survival of black sea bass, although this was an exception to the general findings of Wilde's (2009) study.

SEDAR 16 (2009) provided a 20% release mortality to the MRFSS fishery where king mackerel are released alive and a 33% mortality to the headboat fishery where fish were released both dead and alive. For Spanish mackerel, SEDAR 17 (2008) used the following discard mortality rates: gillnets 100%, shrimp trawls 100%, trolling 98%, hook and line 80%, and trolling/hook and line combined 88%. SEDAR 28 (2012), which assessed Spanish mackerel and cobia stocks in the South Atlantic and the Gulf of Mexico, has been completed and final reports have been issued (http://www.sefsc.noaa.gov/sedar/). These assessments was reviewed by the South Atlantic Fishery Management Council's (South Atlantic Council) Scientific and Statistical Committee in April 2013.

Estimates of bycatch mortality for dolphin and wahoo are unknown. It is likely that most mortality is a function of hooking and handling of the fish when the hook is being removed.

Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality

The preferred alternative for the action in the Charter/Headboat Amendment would change the reporting frequency by headboats from monthly to weekly, and require that reports be submitted electronically. The action is expected to provide more timely information on landings and discards. Improved information on landings would help ensure annual catch limits (ACLs) are not exceeded. Furthermore, more timely and accurate information would be expected to 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, 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.

Regulations implemented by CE-BA 1 (SAFMC 2009c) could reduce bycatch as well as protect deepwater coral habitat. CE-BA 1 (SAFMC 2009c) created allowable gear areas for the golden crab fishery and shrimp fishery access areas for the deepwater shrimp fishery. The establishment of these areas allows for the continuation of these fisheries in their historical fishing grounds with little or no negative impacts to protected deepwater coral habitat.

The Comprehensive Ecosystem-Based Amendment 2 (CE-BA 2; SAFMC 2011h) included actions that modified management of octocorals through the establishment of an ACL; modified management of special management zones (SMZs) off South Carolina; revised sea turtle release gear requirements for the snapper grouper fishery; and designated new essential fish habitat (EFH) and EFH-Habitat Areas of Particular Concern (HAPCs) in the South Atlantic. Since the octocorals are almost exclusively harvested one at a time by divers, there is very little bycatch. CE-BA 2 also included an action that limited harvest and possession of snapper grouper and CMP species to the bag limit in SMZs off South Carolina. This action could reduce bycatch of regulatory discards around SMZs by restricting commercial harvest in the area, but it would probably have very little effect on the magnitude of overall bycatch of snapper grouper and coastal migratory species in the South Atlantic.

Other actions have been taken in recently implemented amendments that could reduce bycatch of species addressed in Charter/Headboat Amendment. Amendment 13C to the Snapper Grouper FMP (SAFMC 2006) required the use of 2” mesh in the back panel of black sea bass pots, which has likely reduced the magnitude of regulatory discards. Amendment 15B to the Snapper Grouper FMP (SAFMC 2008b) implemented an action that could reduce impacts from incidental bycatch of sea turtles and smalltooth sawfish. Amendment 16 to the Snapper Grouper FMP (SAFMC 2009a) required the use of dehooking devices, which could help reduce bycatch mortality of vermilion snapper, black sea bass, gag, red grouper, black grouper, and red snapper. Dehooking devices can allow fishermen to remove hooks with greater ease and more quickly from snapper grouper species without removing the fish from the water. If a fish does need to be removed from the water, dehookers could still reduce handling time in removing hooks, thus increasing survival (Cooke et al. 2001). Furthermore, Amendment 17A to the Snapper Grouper FMP (SAFMC 2010a) required circle hooks for snapper-grouper species north of 28 degrees

latitude, which is expected to reduce bycatch mortality of snapper grouper species. Amendment 17B to the Snapper Grouper FMP (Amendment 17B; SAFMC 2010b) established ACLs and accountability measures (AMs) and address overfishing for eight species in the snapper grouper management complex currently listed as undergoing overfishing: golden tilefish, snowy grouper, speckled hind, warsaw grouper, black sea bass, gag, red grouper, and vermilion snapper, in addition to black grouper.

The Comprehensive ACL Amendment (SAFMC 2011c) implemented ACLs and AMs for species not undergoing overfishing in the FMPs for snapper grouper, dolphin and wahoo, golden crab and *Sargassum*, in addition to other actions such as allocations and establishing annual catch targets for the recreational sector. The Comprehensive ACL Amendment (SAFMC 2011 c) also established additional measures to reduce bycatch in the snapper grouper fishery with the establishment of species complexes based on biological, geographic, economic, taxonomic, technical, social, and ecological factors. ACLs were assigned to these species complexes, and when the ACL for the complex is met or projected to be met, fishing for species included in the entire species complex is prohibited for the fishing year. ACLs and AMs will likely reduce bycatch of target species and species complexes as well as incidentally caught species.

Amendment 18A to the Snapper Grouper FMP (SAFMC 2011f), included actions that could reduce bycatch of black sea bass and the potential for interactions with protected species. Actions in Amendment 18A will limit the number of participants in the black sea bass pot sector, require fishermen bring pots back to port at the completion of a trip, and limit the number of pots a fishermen can deploy. Amendment 24 to the Snapper Grouper FMP (SAFMC 2011g) established a rebuilding plan for red grouper, which is overfished and undergoing overfishing. Amendment 24 (SAFMC 2011g) also established ACLs and AMs for red grouper, which could help to reduce bycatch of red grouper and co-occurring species.

Amendment 13 to the CMP FMP SAFMC (2002) established two marine reserves in the EEZ of the Gulf of Mexico in the vicinity of the Dry Tortugas, Florida known as Tortugas North and Tortugas South, in which fishing for coastal migratory pelagic species is prohibited.

Other amendments are currently under development, which could reduce bycatch of snapper grouper species. Amendment 18B to the Snapper Grouper FMP, which has been approved by the South Atlantic Council, includes an action to establish an endorsement program for the commercial golden tilefish longline sector, which could have positive effects for habitat and protected species. Regulatory Amendment 14 to the Snapper Grouper FMP includes actions that could adjust management measures for a number of snapper grouper species, some of which could reduce the magnitude of discards. Regulatory Amendment 15 to the Snapper Grouper FMP, which has been approved by the South Atlantic Council, includes actions for yellowtail snapper and gag that are expected to reduce bycatch of snapper grouper species. Regulatory Amendment 17 to the Snapper Grouper FMP includes actions that affect MPAs, and could reduce bycatch of many snapper grouper species, especially speckled hind and warsaw grouper. Amendment 5 to the Dolphin Wahoo FMP includes an action to specify a trip limit for dolphin. Lower trip limits for dolphin have the potential to reduce bycatch of species taken with pelagic longline gear.

According to the bycatch information for mackerel gill nets, menhaden, smooth dogfish sharks, and spiny dogfish sharks were the three most frequently discarded species (SAFMC 2004). There were no interactions of sea turtles or marine mammals reported (Poffenberger 2004). The Southeast Region Current Bycatch Priorities and Implementation Plan FY04 and FY05 reported that 26 species of fish are caught as bycatch in the Gulf king mackerel gillnet fishery. Of these, 34% are reported to be released dead, 59% released alive, and 6% undetermined. Bycatch was not reported for the Gulf Spanish mackerel fishery. The South Atlantic Spanish mackerel fishery has 51 species reported as bycatch with approximately 81% reported as released alive. For the South Atlantic king mackerel fishery 92.7% are reported as released alive with 6% undetermined. Bycatch was not reported separately for gill nets and hook-and-line gear. Additionally, the supplementary discard program to the logbook reporting requirement shows no interactions of gill-net gear with marine mammals or birds.

Additional information on fishery related actions from the past, present, and future considerations can be found in **Chapter 5** (Cumulative effects) of this document.

1.2 Ecological Effects Due to Changes in the Bycatch

The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts. If not properly managed and accounted for, either form of mortality could potentially reduce stock biomass to an unsustainable level. As mentioned in the above section, the preferred alternative for the Charter/Headboat Amendment includes an action to enhance data reporting in the headboat sector. 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, 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.

Ecosystem interactions among CMP species in the marine environment is poorly known. Most species are migratory, interacting in various combinations of species groups at different levels on a seasonal basis. With the current state of knowledge, it is not possible to evaluate the potential ecosystem wide impacts of these species interactions, or the ecosystem impacts from the limited mortality estimated to occur from mackerel fishing effort.

1.3 Changes in the Bycatch of Other Fish Species and Resulting Population and Ecosystem Effects

The Charter/Headboat Amendment is not expected to affect major changes in bycatch of other fish species. The preferred alternative for the Charter/Headboat Amendment includes an action to enhance data reporting in the headboat sector. 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, 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.

1.4 Effects on Marine Mammals and Birds

Under Section 118 of the Marine Mammal Protection Act (MMPA), NMFS must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. Of the gear utilized within the snapper-grouper fishery, only the black sea bass pot is considered to pose an entanglement risk to marine mammals. The southeast U.S. Atlantic black sea bass pot fishery is included in the grouping of the Atlantic mixed species trap/pot fisheries, which the 2012 LOF classifies as a Category II (76 FR 73912; November 26, 2011). Gear types used in these fisheries are determined to have occasional incidental mortality and serious injury of marine mammals. For the South Atlantic snapper grouper fishery, the best available data on protected species interactions are from the SEFSC Supplementary Discard Data Program (SDDP) initiated in July of 2001. The SDDP sub-samples 20% of the vessels with an active permit. Since August 2001, only three interactions with marine mammals have been documented; each was taken by handline gear and each released alive (McCarthy SEFSC database). The longline and hook-and-line gear components of the snapper-grouper in the South Atlantic are classified in the 2012 LOF (76 FR 73912; November 26, 2011) as Category III fisheries.

Although the black sea bass pot sector can pose an entanglement risk to large whales due to their distribution and occurrence, sperm, fin, sei, and blue whales are unlikely to overlap with the black sea bass pot fishery operated within the snapper grouper fishery since it is executed primarily off North Carolina and South Carolina in waters ranging from 70-120 feet deep (21.3-36.6 meters). There are no known interactions between the black sea bass pot fishery and large whales. NMFS' biological opinion on the continued operation of the South Atlantic snapper grouper fishery determined the possible adverse effects resulting from the fishery are extremely unlikely. Thus, the continued operation of the snapper grouper fishery in the southeast U.S. Atlantic exclusive economic zone is not likely to adversely affect sperm, fin, sei, and blue whales (NMFS 2006).

North Atlantic right and humpback whales may overlap both spatially and temporally with the black sea bass pot fishery. Revisions to the Atlantic Large Whale Take Reduction Plan have folded the Atlantic mixed species trap/pot fisheries into the plan (72 FR 57104; October 5, 2007). The new requirements will help further reduce the likelihood of North Atlantic right and humpback whale entanglement in black sea bass pot gear.

Observer data and vessel logbooks indicate that pelagic longline fishing for Atlantic swordfish and tunas results in catch of non-target finfish species such as bluefin tuna, billfish, and undersized swordfish, and of protected species, including threatened and endangered sea turtles. Also, this fishing gear incidentally hooks marine mammals and sea birds during tuna and swordfish operations. **Appendix C** of the Dolphin Wahoo FMP (Final Supplemental

Environmental Impact Statement for Highly Migratory Species (HMS) Regulatory Amendment 1) contains data on dolphin wahoo pelagic longline fishery analysis. The data presented on page C-66 and in **Table C-4** indicate that pelagic longlines targeting dolphin do result in a bycatch of HMS species. Implementation of regulations by the Dolphin Wahoo FMP addressed the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requirements to reduce bycatch and the mortality of bycatch.

Of the gear used in the CMP fishery only the gillnet gear components pose entanglement risks to Northern right, fin, and humpback whales. However, there are no documented interactions between CMP gillnets and large whales. Large whale entanglements have been documented in other gillnet fisheries. Both the Southeast Atlantic gillnet fishery and the Gulf of Mexico gillnet fishery are listed as category II fisheries (76 FR 73912; November 26, 2011). Neither fishery has any documented interactions with large whales or any other marine mammal species, but NMFS classifies these fisheries as Category I1 based on analogy (is., similar risk to marine mammals) with other gillnet fisheries. Spanish mackerel are among the species targeted with gillnet in North Carolina state waters. Observer coverage for gillnet is up to 10% and provided by the North Carolina Division of Marine Fisheries, primarily during the fall flounder fishery in Pamlico Sound. Gillnets are also used from the North Carolina/South Carolina border and south and east of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico to target finfish including, but not limited to king mackerel, Spanish mackerel, whiting, bluefish, pompano, spot, croaker, little tunny, bonita, jack crevalle, cobia, and striped mullet. The majority of fishing effort occurs in federal waters because South Carolina, Georgia, and Florida prohibit the use of gillnets, with limited exceptions, in state waters.

The Shark Gillnet Observer Program Observer Program is mandated under the Atlantic Highly Migratory Species FMP, the Atlantic Large Whale Take Reduction Plan (ALWTRP) (50 CFR Part 229.32), and the Biological Opinion under Section 7 of the Endangered Species Act. Observers are deployed on any active fishing vessel reporting shark drift gillnet effort. In 2005, this program also began to observe sink gillnet fishing for sharks along the southeastern U.S. coast. The shark gillnet observer program now covers all anchored (sink, stab, set), strike, or drift gillnet fishing by vessels that fish from Florida to North Carolina year-round. The observed fleet includes vessels with an active directed shark permit and fish with sink gillnet gear. There is some observer coverage of CMP targeted trips by vessels with an active directed shark permit.

The Bermuda petrel and roseate tern occur within the action area. Bermuda petrels are occasionally seen in the waters of the Gulf Stream off the coasts of North Carolina and South Carolina during the summer. Sightings are considered rare and only occurring in low numbers (Alsop 2001). Roseate terns occur widely along the Atlantic coast during the summer but in the southeast region, they are found mainly off the Florida Keys (unpublished US Fish and Wildlife Service data). Interaction with fisheries has not been reported as a concern for either of these species.

Fishing effort reductions have the potential to reduce the amount of interactions between the fishery and marine mammals and birds. Although, the Bermuda petrel and roseate tern occur within the action area, these species are not commonly found and neither has been described as associating with vessels or having had interactions with the snapper grouper fishery. Thus, it is

believed that the snapper grouper or coastal migratory pelagic fisheries are not likely to negatively affect the Bermuda petrel and the roseate tern.

Additionally, the establishment of commercial and recreational ACLs for species in the FMPs for snapper grouper, dolphin and wahoo, CMP, and golden crab in April 2012, through the Comprehensive ACL Amendment (SAFMC 2011c) could reduce or cap bycatch mortality on protected species, including marine mammals and birds.

1.5 Changes in Fishing, Processing, Disposal, and Marketing Costs

The preferred alternative for the actions in the Charter/Headboat Amendment would change headboat vessel reporting requirements to enhance data collection. Therefore, there could be costs related to fishing, processing, disposal, and marketing of the species affected by the Charter/Headboat Amendment (see economic effects in **Chapter 4** and **Appendix E** for the Regulatory Impact Review). Economic effects of actions proposed in CE-BA 3 are addressed in **Chapter 4**, as well as the Initial Regulatory Flexibility Act Analysis (**Appendix D**).

1.6 Changes in Fishing Practices and Behavior of Fishermen

Actions proposed in the Charter/Headboat Amendment could result in a modification of fishing practices by the headboat sector, but is likely to have little effect on the magnitude of discards. The preferred alternative for the action in the Charter/Headboat Amendment would improve data collection methods, limit overages in ACLs, and improve bycatch reporting, thereby making the process more efficient. There could be an increase in the potential economic return for businesses due to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of ACLs and could reduce the potential for overrunning an ACL and triggering an AM that might include future paybacks (such as reducing future fishing opportunities). Social effects of actions proposed in Charter/Headboat Amendment are addressed in **Chapter 4** of this document.

1.7 Changes in Research, Administration, and Enforcement Costs and Management Effectiveness

Research and monitoring is ongoing to understand the effectiveness of proposed management measure and their effect on bycatch. 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 1999, logbook reporting was initiated for vessels catching king and Spanish mackerel (Gulf of Mexico and South Atlantic Fishery Management Councils). The Dolphin and Wahoo FMP required logbook reporting by fishermen with Commercial Atlantic Dolphin/Wahoo Permits. Approximately 20% of commercial fishermen from snapper grouper, dolphin wahoo, and CMP fisheries are asked to fill out discard information in logbooks; however, a greater percentage of fishermen could be selected with emphasis on individuals that dominate landings. Recreational discards are obtained from the MRIP and logbooks from the NMFS headboat program. The

preferred alternative in the Charter/Headboat Amendment would improve data reporting in the NMFS headboat program and enhance the quality of discard data.

The preferred alternative in Charter/Headboat Amendment would require electronic reporting for headboats and increase the frequency of reporting to 7 days for the snapper grouper, dolphin wahoo, and CMP fisheries. The South Atlantic Council is also developing an amendment to improve commercial logbook reporting for these fisheries. Some observer information for the snapper grouper fishery has been provided by the SEFSC, Marine Fisheries Initiative, and Cooperative Research Programs (CRP), but more is desired for the snapper grouper, dolphin wahoo, and CMP fisheries. An observer program is in place for the headboat sector in the southeast for the snapper grouper, reef fish, dolphin wahoo, and CPM fisheries. Observers in the NMFS Headboat survey collect information about numbers and total weight of individual species caught, total number of passengers, total number of anglers, location fished (identified to a 10 mile by 10 mile grid), trip duration (half, ¾, full or multiday trip), species caught, and numbers of released fish with their disposition (dead or alive). The headboat survey does not collect information on encounters with protected species. Recreational snapper grouper fishermen do not participate in Category I or II fisheries; therefore, reporting interactions with marine mammals is not required, and these interactions are not expected to occur. At the September 2012 South Atlantic Council meeting, the SEFSC indicates that observers are place on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina (http://www.safmc.net/LinkClick.aspx?fileticket=XGaVZzxLePY%3d&tabid=745). Further, the South Atlantic Council is developing an amendment that could require vessel monitoring systems (VMS) for snapper grouper fishing vessels, which would be expected to improve data quality.

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. conducted 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.

In the spring 2010, Archipelago Marine Research Ltd. worked with North Carolina Sea Grant and several South Atlantic Unlimited Snapper Grouper Permit holders to test the effectiveness of electronic video monitoring to measure catch and bycatch. A total of 93 trips were monitored with video monitoring, 34 by self-reported fishing logbooks, and 5 by observers. Comparisons between electronic video monitoring data and observer data showed that video monitoring was a reliable source of catch and bycatch data.

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, Saltonstall-Kennedy program, and the 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 NMFS upon completion of a study.

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

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

Additional administrative and enforcement efforts would help to implement and enforce fishery regulations. The South Atlantic Council is considering requiring VMS on all commercial snapper grouper vessels that would greatly improve enforcement. NMFS established the South East Fishery-Independent Survey in 2010 to strengthen fishery-independent sampling efforts in southeast U.S. waters, addressing both immediate and long-term fishery-independent data needs, with an overarching goal of improving fishery-independent data utility for stock assessments. Meeting these data needs is critical to improving scientific advice to the management process, ensuring overfishing does not occur, and successfully rebuilding overfished stocks on schedule.

1.8 Changes in the Economic, Social, or Cultural Value of Fishing Activities and Non-Consumptive Uses of Fishery Resources

Preferred management measures, and any changes in economic, social, or cultural values are discussed in **Chapter 4**.

1.9 Changes in the Distribution of Benefits and Costs

The distribution of benefits and costs expected from actions in the Charter/Headboat Amendment are discussed in **Chapter 3**. The preferred alternative for the action in the Charter/Headboat Amendment would improve data collection methods, limit overages in ACLs, and improve bycatch reporting, thereby making the process more efficient for the headboat sector. There could be an increase in the potential economic return for businesses due to more timely reporting of their catch. Electronic data collection, in theory, leads to more timely monitoring of ACLs and could reduce the potential for overrunning an ACL and triggering an AM that might include future paybacks (such as reducing future fishing opportunities). Economic and social effects of actions proposed in the Charter/Headboat Amendment are addressed in **Chapter 4** of this document.

1.10. Social Effects

The social effects of all the measures are described in **Chapter 4** of this document.

1.11 Conclusion

This section evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality using the ten factors provided at 50 C.F.R. section 600.350(d)(3)(i). In summary, the preferred alternative for the Charter/Headboat Amendment includes an action to enhance data reporting in the headboat sector. 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, 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.

REFERENCES (those not included in the amendment)

Alsop, III, F. J. 2001. Smithsonian Handbooks: Birds of North America eastern region. DK Publishing, Inc. New York, NY.

Collins, M.R., J.C. McGovern, G. R. Sedberry, H.S. Meister, and R. Pardieck. 1999. Swim bladder deflation in black sea bass and vermilion snapper: potential for increasing post-release survival. North American Journal of Fisheries Management. 19:828-832.

Cooke, S.J., D.P. Philipp, K.M. Dunmall, and J.F. Schreer. 2001. The influence of terminal tackle on injury, handling time, and cardiac disturbance of rock bass. North American Journal of Fisheries Management. Vol. 21, no. 2, pp. 333-342.

FWRI (Fish and Wildlife Research Institute). 2012. The 2012 Stock Assessment Report for Yellowtail Snapper in the South Atlantic and Gulf of Mexico. Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, 100 Eighth Ave Southeast, St. Petersburg, Florida 33701.

Harris, P.J. and J. Stephen. 2005. Final Report Characterization of commercial reef fish catch and bycatch off the southeast coast of the United States. CRP Grant No. NA03NMF4540416.

Poffenberger, J. 2004. A report on the discard data from the Southeast Fisheries Science Center's coastal fisheries logbook program. NMFS, SEFSC, SFD, 75 Virginia Beach Drive, Miami, Florida 33149. SFD-2004-003. 16 pp.

SAFMC 2004. Amendment 15 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Atlantic and Gulf of Mexico (including a, Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Act Analysis). South Atlantic Fishery Management Council, 1 Southpark Cir., Ste 306, Charleston, S.C. 29407-4699. 111 pp. plus appendices.

SEDAR (Southeast Data, Assessment and Review) 4. 2004. South Atlantic Deepwater Snapper-Grouper Assessment Report. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 9. 2006. SEDAR 9 Stock Assessment Report 1. Gulf of Mexico Gray Triggerfish. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 10. 2006. Atlantic and Gulf of Mexico Gag Grouper Assessment Report. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 15. 2008. Complete Stock Assessment Report 2: South Atlantic Greater Amberjack. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 17. 2008. Complete Stock Assessment Report 2: South Atlantic Vermilion Snapper. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 16. 2009. Complete Stock Assessment Report: South Atlantic and Gulf of Mexico King Mackerel. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 19. 2010. Complete Stock Assessment Report 1: South Atlantic and Gulf of Mexico Black Grouper. Completed Stock Assessment Report 2: South Atlantic Red Grouper. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 24. 2010. Stock assessment report. South Atlantic red snapper. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 25. 2011. South Atlantic Black Sea Bass Final Stock Assessment Report. South Atlantic Tilefish Final Stock Assessment Report. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

SEDAR (Southeast Data, Assessment and Review) 28. 2012. Stock assessment report. South Atlantic Spanish mackerel and South Atlantic Cobia. Available from the SEDAR Website: http://www.sefsc.noaa.gov/sedar/

Wilde, G.R. 2009. Does venting promote survival of released fish? Fisheries Management. 34(1): 20-28.

Appendix H. History of Management.

The following is a summary of management actions for fishery management plans (FMPs) amended through the Joint South Atlantic/Gulf of Mexico Generic Headboat Reporting in the South Atlantic Amendment for the Snapper Grouper, Dolphin and Wahoo, and Coastal Migratory Pelagic (CMP) Resources fisheries. Summaries of South Atlantic Fishery Management Council (South Atlantic Council) actions and history of management for other FMPs are available online at www.safmc.net.

History of Management of the South Atlantic Snapper Grouper Fishery

The snapper grouper fishery is highly regulated; some of the species included in this amendment have been regulated since 1983. **Table 1** summarizes actions in each of the amendments to the original FMP, as well as some events not covered in amendment actions.

Table 1. History of management for the Snapper Grouper Fishery of the South Atlantic region.

Document	All Actions Effective By:	Proposed Rule (PR) Final Rule (FR)	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
FMP (1983)	08/31/83	PR: 48 FR 26843 FR: 48 FR 39463	- 12" total length (TL) size limit – red snapper, yellowtail snapper, red grouper, Nassau grouper. - 8" TL size limit – black sea bass. - 4" trawl mesh size. - Gear limitations – poisons, explosives, fish traps, and trawls. - Designated modified habitats or artificial reefs as special management zones (SMZs).
Regulatory Amendment #1 (1987)	03/27/87	PR: 51 FR 43937 FR: 52 FR 9864	- Prohibited fishing in SMZs except with hand-held hook-and-line and spearfishing gear. - Prohibited harvest of goliath grouper in SMZs.
Amendment #1 (1988a)	01/12/89	PR: 53 FR 42985 FR: 54 FR 1720	- Prohibited trawl gear to harvest fish south of Cape Hatteras, NC and north of Cape Canaveral, Florida. - Directed fishery defined as vessel with trawl gear and ≥200 pounds (lbs) snapper grouper on board. - Established rebuttable assumption that vessel with snapper grouper on board had harvested such fish in the exclusive economic zone (EEZ).
Regulatory Amendment #2 (1988b)	03/30/89	PR: 53 FR 32412 FR: 54 FR 8342	- Established 2 artificial reefs off Ft. Pierce, Florida as SMZs.
Notice of Control Date	09/24/90	55 FR 39039	- Anyone entering federal wreckfish fishery in the EEZ off South Atlantic states after 09/24/90 was not assured of future access if limited entry program developed.
Regulatory Amendment #3 (1989)	11/02/90	PR: 55 FR 28066 FR: 55 FR 40394	- Established artificial reef at Key Biscayne, Florida as SMZ. Fish trapping, bottom longlining, spear fishing, and harvesting of goliath grouper prohibited in SMZ.
Amendment #2 (1990)	10/30/90	PR: 55 FR 31406 FR: 55 FR 46213	- Prohibited harvest/possession of goliath grouper in or from the EEZ. - Defined overfishing for goliath grouper and other species.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Emergency Rule	8/3/90	55 FR 32257	- Added wreckfish to the fishery management unit (FMU). - Fishing year beginning 4/16/90. - Commercial quota of 2 million lbs. - Commercial trip limit of 10,000 lbs per trip.
Fishery Closure Notice	8/8/90	55 FR 32635	- Fishery closed because the commercial quota of 2 million lbs was reached.
Emergency Rule Extension	11/1/90	55 FR 40181	- Extended the measures implemented via emergency rule on 8/3/90.
Amendment #3 (1990b)	01/31/91	PR: 55 FR 39023 FR: 56 FR 2443	- Added wreckfish to the FMU. - Defined optimum yield (OY) and overfishing. - Required permit to fish for, land or sell wreckfish. - Required catch and effort reports from selected, permitted vessels. - Established control date of 03/28/90. - Established a fishing year for wreckfish starting April 16. - Established a process to set annual quota, with initial quota of 2 million lbs; provisions for closure. - Established 10,000 lb trip limit. - Established a spawning season closure for wreckfish from January 15 to April 15. - Provided for annual adjustments of wreckfish management measures.
Notice of Control Date	07/30/91	56 FR 36052	- Anyone entering federal snapper grouper fishery (other than for wreckfish) in the EEZ off S. Atlantic states after 07/30/91 was not assured of future access if limited entry program developed.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #4 (1991)	01/01/92	PR: 56 FR 29922 FR: 56 FR 56016	- Prohibited gear: fish traps except black sea bass traps north of Cape Canaveral, Florida; entanglement nets; longline gear inside 50 fathoms; bottom longlines to harvest wreckfish**; powerheads and bangsticks in designated SMZs off South Carolina. - Defined overfishing/overfished and established rebuilding timeframe: Red snapper and groupers ≤ 15 years (year 1 = 1991); other snappers, greater amberjack, black sea bass, red porgy ≤ 10 years (year 1 = 1991). - Required permits (commercial & for-hire) and specified data collection regulations. - Established an assessment group and annual adjustment procedure (framework). - Permit, gear, and vessel id requirements specified for black sea bass traps. - No retention of snapper grouper spp. caught in other fisheries with gear prohibited in snapper grouper fishery if captured snapper grouper had no bag limit or harvest was prohibited. If had a bag limit, could retain only the bag limit. - 8" TL size limit – lane snapper. - 10" TL size limit – vermilion snapper (recreational only). - 12" TL size limit – red porgy, vermilion snapper (commercial only), gray, yellowtail, mutton, schoolmaster, queen, blackfin, cubera, dog, mahogany, and silk snappers. - 20" TL size limit – red snapper, gag, and red, black, scamp, yellowfin, and yellowmouth groupers. - 28" fork length (FL) size limit – greater amberjack (recreational only). - 36" FL or 28" core length – greater amberjack (commercial only) - Bag limits – 10 vermilion snapper, 3 greater amberjack. - Aggregate snapper bag limit – 10/person/day, excluding vermilion snapper and allowing no more than 2 red snappers. - Aggregate grouper bag limit – 5/person/day, excluding Nassau and goliath grouper, for which no retention (recreational & commercial) is allowed. - Spawning season closure – commercial harvest greater amberjack > 3 fish bag prohibited in April south of Cape Canaveral, Florida. - Spawning season closure – commercial harvest mutton snapper >snapper aggregate prohibited during May and June. - Charter/headboats and excursion boat possession limits extended.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #5 (1992a)	04/06/92	PR: 56 FR 57302 FR: 57 FR 7886	- Wreckfish: Established limited entry system with individual transferable quotas (ITQs); required dealer to have permit; rescinded 10,000 lb trip limit; required off-loading between 8 am and 5 pm; reduced occasions when 24-hour advance notice of offloading required for off-loading; established procedure for initial distribution of percentage shares of total allowable catch (TAC).
Emergency Rule	8/31/92	57 FR 39365	- Black Sea Bass: modified definition of black sea bass pot; allowed multi-gear trips; allowed retention of incidentally-caught fish on black sea bass trips.
Emergency Rule Extension	11/30/92	57 FR 56522	- Black Sea Bass: modified definition of black sea bass pot; allowed multi-gear trips; allowed retention of incidentally-caught fish on black sea bass trips.
Regulatory Amendment #4 (1992b)	07/06/93	FR: 58 FR 36155	- Black Sea Bass: modified definition of black sea bass pot; allowed multi-gear trips; allowed retention of incidentally-caught fish on black sea bass trips.
Regulatory Amendment #5 (1992c)	07/31/93	PR: 58 FR 13732 FR: 58 FR 35895	- Established 8 SMZs off South Carolina, where only hand-held, hook-and-line gear and spearfishing (excluding powerheads) was allowed.
Amendment #6 (1993)	07/27/94	PR: 59 FR 9721 FR: 59 FR 27242	- Commercial quotas for snowy grouper and golden tilefish. - Commercial trip limits for snowy grouper, golden tilefish, speckled hind, and Warsaw grouper. - Include golden tilefish in grouper recreational aggregate bag limits. - Prohibited sale of Warsaw grouper and speckled hind. - 100% logbook coverage upon renewal of permit. - Creation of the *Oculina* experimental closed area. - Data collection needs specified for evaluation of possible future individual fishing quota (IFQ) system.
Amendment #7 (1994a)	01/23/95	PR: 59 FR 47833 FR: 59 FR 66270	- 12” FL – hogfish. - 16” total length (TL) – mutton snapper. - Required dealer, charter and headboat federal permits. - Allowed sale under specified conditions. - Specified allowable gear and made allowance for experimental gear. - Allowed multi-gear trips in North Carolina. - Added localized overfishing to list of problems and objectives. - Adjusted bag limit and crew specs. for charter and head boats. - Modified management unit for scup to apply south of Cape Hatteras, North Carolina. - Modified framework procedure.
Regulatory Amendment #6 (1994)	05/22/95	PR: 60 FR 8620 FR: 60 FR 19683	- Established actions which applied only to EEZ off Atlantic coast of Florida: Bag limits – 5 hogfish/person/day (recreational only), 2 cubera snapper/person/day > 30” TL; 12” TL – gray triggerfish.
Notice of	04/23/97	62 FR 22995	- Anyone entering federal black sea bass pot fishery off

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Control Date			South Atlantic states after 04/23/97 was not assured of future access if limited entry program developed.
Amendment #8 (1997a)	12/14/98	PR: 63 FR 1813 FR: 63 FR 38298	- Established program to limit initial eligibility for snapper grouper fishery: Must demonstrate landings of any species in snapper grouper FMU in 1993, 1994, 1995 or 1996; and have held valid snapper grouper permit between 02/11/96 and 02/11/97. - Granted transferable permit with unlimited landings if vessel landed ≥ 1,000 lbs. of snapper grouper spp. in any of the years. - Granted non-transferable permit with 225 lb trip limit to all other vessels. - Modified problems, objectives, OY, and overfishing definitions. - Expanded South Atlantic Council's habitat responsibility. - Allowed retention of snapper grouper spp. in excess of bag limit on permitted vessel with a single bait net or cast nets on board. - Allowed permitted vessels to possess filleted fish harvested in the Bahamas under certain conditions.
Regulatory Amendment #7 (1998)	01/29/99	PR: 63 FR 43656 FR: 63 FR 71793	- Established 10 SMZs at artificial reefs off South Carolina.
Interim Rule Request	1/16/98		- South Atlantic Council requested all Amendment 9 measures except black sea bass pot construction changes be implemented as an interim request under the Magnuson-Stevens Fisheries Conservation and Management Act (Magnuson-Stevens Act).
Action Suspended	5/14/98		- NOAA Fisheries informed the South Atlantic Council that action on the interim rule request was suspended.
Emergency Rule Request	9/24/98		- South Atlantic Council requested Amendment 9 be implemented via emergency rule.
Request not Implemented	1/22/99		- NOAA Fisheries informed the South Atlantic Council that the final rule for Amendment 9 would be effective 2/24/99; therefore they did not implement the emergency rule.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #9 (1998b)	2/24/99	PR: 63 FR 63276 FR: 64 FR 3624	- Red porgy: 14" TL (recreational and commercial); 5 fish recreational bag limit; no harvest or possession > bag limit, and no purchase or sale, in March and April. - Black sea bass: 10" TL (recreational and commercial); 20 fish recreational bag limit; required escape vents and escape panels with degradable fasteners in black sea bass pots. - Greater amberjack: 1 fish rec. bag limit; no harvest or possession > bag limit, and no purchase or sale, during April; quota = 1,169,931 lbs; began fishing year May 1; prohibited coring. - Vermilion snapper: 11" TL (recreational) Gag: 24" TL (recreational); no commercial harvest or possession > bag limit, and no purchase or sale, during March and April - Black grouper: 24" TL (recreational and commercial); no harvest or possession > bag limit, and no purchase or sale, during March and April. - Gag and Black grouper: Within 5 fish aggregate grouper bag limit, no more than 2 fish may be gag or black grouper (individually or in combination). - All snapper grouper 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.
Amendment #9 (1998b) resubmitted	10/13/00	PR: 63 FR 63276 FR: 65 FR 55203	- Commercial trip limit for greater amberjack.
Regulatory Amendment #8 (2000a)	11/15/00	PR: 65 FR 41041 FR: 65 FR 61114	- Established 12 SMZs at artificial reefs off Georgia; revised boundaries of 7 existing SMZs off Georgia to meet Coast Guard permit specs; restricted fishing in new and revised SMZs.
Emergency Interim Rule	09/08/99, expired 08/28/00	64 FR 48324 and 65 FR 10040	- Prohibited harvest or possession of red porgy.
Emergency Action	9/3/99	64 FR 48326	- Reopened the Amendment 8 permit application process.
Amendment #10 (1998d)	07/14/00	PR: 64 FR 37082 and 64 FR 59152 FR: 65 FR 37292	- Identified essential fish habitat (EFH) and established habitat areas of particular concern (HAPCs) for species in the snapper grouper FMU.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #11 (1998e)	12/02/99	PR: 64 FR 27952 FR: 64 FR 59126	- Maximum sustainable yield (MSY) proxy: Goliath and Nassau grouper = 40% static spawning potential ration (SPR); all other species = 30% static SPR. - OY: Hermaphroditic groupers = 45% static SPR; goliath and Nassau grouper = 50% static SPR; all other species = 40% static SPR. - Overfished/overfishing evaluations: Black sea bass: overfished (minimum stock size threshold (MSST)=3.72 million pounds, 1995 biomass=1.33 million pounds); undergoing overfishing (maximum fishing mortality threshold (MFMT)=0.72, fishing mortality (F)1991-1995=0.95). Vermilion snapper: Overfished (static SPR = 21-27%). Red porgy: Overfished (static SPR = 14-19%). Red snapper: overfished (static SPR = 24-32%). Gag: Overfished (static SPR = 27%). Scamp: No longer overfished (static SPR = 35%). Speckled hind: Overfished (static SPR = 8-13%). Warsaw grouper: Overfished (static SPR = 6-14%). Snowy grouper: Overfished (static SPR = 5=15%). White grunt: No longer overfished (static SPR = 29-39%). Golden tilefish: Overfished (couldn't estimate static SPR.) Nassau grouper: Overfished (couldn't estimate static SPR) Goliath grouper: Overfished (couldn't estimate static SPR). - Overfishing level (OFL): Goliath and Nassau grouper = F>F40% static SPR; all other species: = F>F30% static SPR. - Approved definitions for overfished and overfishing. MSST = [(1-natural mortality (M)) or 0.5 whichever is greater]*B_{MSY}. MFMT = F_{MSY}
Amendment #12 (2000c)	09/22/00	PR: 65 FR 35877 FR: 65 FR 51248	- Red porgy: MSY=4.38 mp; OY=45% static SPR; MFMT=0.43; MSST=7.34 mp; rebuilding timeframe=18 years (1999=year 1); no sale during January-April; 1 fish bag limit; 50 lb. bycatch commercial trip limit May-December; modified management options and list of possible framework actions.
Amendment #13A (2003b)	04/26/04	PR: 68 FR 66069 FR: 69 FR 15731	- Extended for an indefinite period the regulation prohibiting fishing for and possessing snapper grouper spp. within the *Oculina* experimental closed area.
Notice of Control Date	10/14/05	70 FR 60058	- The South Atlantic Council is considering management measures to further limit participation or effort in the commercial fishery for snapper grouper species (excluding wreckfish).
Amendment #13C (2006)	10/23/06	PR: 71 FR 28841 FR: 71 FR 55096	- End overfishing of snowy grouper, vermilion snapper, black sea bass, and golden tilefish. Increase allowable catch of red porgy. Year 1 = 2006. - Snowy Grouper commercial: quota (gutted weight,

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
			gw) = 151,000 lbs gw in year 1, 118,000 lbs gw in year 2, and 84,000 lbs gw in year 3 onwards. Trip limit = 275 lbs gw in year 1, 175 lbs gw in year 2, and 100 lbs gw in year 3 onwards. Recreational: Limit possession to one snowy grouper in 5 grouper per person/day aggregate bag limit. - Golden Tilefish Commercial: Quota of 295,000 lbs gw, 4,000 lbs gw trip limit until 75% of the quota is taken when the trip limit is reduced to 300 lbs gw. Do not adjust the trip limit downwards unless 75% is captured on or before September 1. Recreational: limit possession to 1 golden tilefish in 5 grouper per person/day aggregate bag limit. - Vermilion Snapper Commercial: Quota of 1,100,000 lbs gw. Recreational: 12" TL size limit. - Black sea bass commercial: Commercial quota (gutted weight) of 477,000 lbs gw in year 1, 423,000 lbs gw in year 2, and 309,000 lbs gw in year 3 onwards. Require use of at least 2" mesh for the entire back panel of black sea bass pots effective 6 months after publication of the final rule. Require black sea bass pots be removed from the water when the quota is met. Change fishing year from calendar year to June 1 – May 31. Recreational: Recreational allocation of 633,000 lbs gw in year 1, 560,000 lbs gw in year 2, and 409,000 lbs gw in year 3 onwards. Increase minimum size limit from 10" TL to 11" TL in year 1 and to 12" TL in year 2. Reduce recreational bag limit from 20 to 15 per person per day. Change fishing year from the calendar year to June 1 through May 31. - Red porgy commercial and recreational. - Retain 14" TL size limit and seasonal closure (retention limited to the bag limit). - Specify a commercial quota of 127,000 lbs gw and prohibit sale/purchase and prohibit harvest and/or possession beyond the bag limit when quota is taken and/or during January through April. - Increase commercial trip limit from 50 lbs ww to 120 red porgy (210 lbs gw) during May through December. - Increase recreational bag limit from one to three red porgy per person per day.
Notice of Control Date	3/8/07	72 FR 60794	- The South Atlantic Council may consider measures to limit participation in the snapper grouper for-hire fishery.
Amendment #14 (2007) Sent to NOAA Fisheries 7/18/07	2/12/09	PR: 73 FR 32281 FR: 74 FR 1621	- Establish eight deepwater Type II marine protected areas (MPAs) to protect a portion of the population and habitat of long-lived deepwater snapper grouper species.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #15A (2008a)	3/14/08	73 FR 14942	- Establish rebuilding plans and Sustainable Fisheries Act (SFA) parameters for snowy grouper, black sea bass, and red porgy.
Amendment #15B (2008b)	2/15/10	PR: 74 FR 30569 FR: 74 FR 58902	- Prohibit the sale of bag-limit caught snapper grouper species. - Reduce the effects of incidental hooking on sea turtles and smalltooth sawfish. - Adjust commercial renewal periods and transferability requirements. - Implement plan to monitor and assess bycatch, - Establish reference points for golden tilefish. - Establish allocations for snowy grouper (95% commercial & 5% recreational) and red porgy (50% commercial & 50% recreational).
Amendment #16 (SAFMC 2009a)	7/29/09	PR: 74 FR 6297 FR: 74 FR 30964	- Specify SFA parameters for gag and vermilion snapper. - For gag: Specify interim allocations 51% commercial and 49% recreational; recreational and commercial spawning closure January through April; directed commercial quota=352,940 lbs gw; reduce 5-grouper aggregate to 3-grouper and 2 gag/black to 1 gag/black and exclude captain & crew from possessing bag limit. - For vermilion snapper: Specify interim allocations 68% commercial & 32% recreational; directed commercial quota split January-June=315,523 lbs gw and 302,523 lbs July-December; reduce bag limit from 10 to 5 and a recreational closed season October through May 15. In addition, the NOAA Fisheries regional administrator will set new regulations based on new stock assessment. - Require dehooking tools.
Amendment #17A (SAFMC 2010a)	12/3/10 red snapper closure; circle hooks March 3, 2011	PR: 75 FR 49447 FR: 75 FR 76874	- Specify an annual catch limit (ACL) and an accountability measure (AM) for red snapper with management measures to reduce the probability that catches will exceed the stocks' ACL. - Specify a rebuilding plan for red snapper. - Specify status determination criteria for red snapper. - Specify a monitoring program for red snapper.
Emergency Rule	12/3/10	75 FR 76890	- Delay the effective date of the area closure for snapper grouper species implemented through Amendment 17A.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #17B (SAFMC 2010b)	January 31, 2011	PR: 75 FR 62488 FR: 75 FR 82280	- Specify ACLs, annual catch targets (ACTs), and AMs, where necessary, for 9 species undergoing overfishing. - Modify management measures as needed to limit harvest to the ACL or ACT. - Update the framework procedure for specification of total allowable catch.
Notice of Control Date	12/4/08	74 FR 7849	- Establishes a control date for the golden tilefish fishery of the South Atlantic.
Notice of Control Date	12/4/08	74 FR 7849	- Establishes control date for black sea bass pot fishery of the South Atlantic
Amendment #19 (Comprehensive Ecosystem-based Amendment 1) (SAFMC 2010c)	7/22/10	PR: 75 FR 14548 FR: 75 FR 35330	-Provide presentation of spatial information for EFH and EFH-HAPC designations under the Snapper Grouper FMP. - Designation of deepwater coral HAPCs.
Regulatory Amendment 10 (SAFMC 2011a)	5/31/11	PR: 76 FR 9530 FR: 76 FR 23728	Eliminate closed area for snapper grouper species approved in Amendment 17A.
Regulatory Amendment 9 (SAFMC 2011b)	Bag limit: 6/22/11 Trip limits: 7/15/11	PR: 76 FR 23930 FR: 76 FR 34892	- Establish trip limit for vermilion snapper and gag, increase trip limit for greater amberjack, and reduce bag limit for black sea bass.
Regulatory Amendment 11 (SAFMC 2011c)	May 10, 2012	PR: 76 FR 78879 FR: 77 FR 27374	- Eliminate 240 ft closure for six deepwater species.
Amendment #18A (SAFMC 2012a)	July 1, 2012	PR: 77 FR 16991 FR: 77 FR 32408	- Limit participation and effort in the black sea bass fishery. - Modifications to management of the black sea bass pot fishery. - Improve the accuracy, timing, and quantity of fisheries statistics.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment 18B (TBD)	TBD	TBD	- Limit participation in the golden tilefish portion of the Snapper Grouper Fishery. - Establish initial eligibility requirements for a golden tilefish longline endorsement. - Establish an appeals process. - Allocate commercial golden tilefish quota among gear groups. - Allow for transferability of golden tilefish endorsements. - Adjust golden tilefish fishing year. - Modify trip limits for fishermen who receive a golden tilefish longline endorsement. - Establish trip limits for fishermen who do not receive a golden tilefish longline endorsement.
Amendment #20A	October 26, 2012	PR: 77 FR 19165 FR: 77 FR 59129	- Define and redistribute latent shares in the wreckfish ITQ program. - Establish a share cap. - Establish an appeals process.
Amendment #20B	TBD	TBD	-Update wreckfish ITQ according to Reauthorized Magnuson-Stevens Act.
Amendment #23 (Comprehensive Ecosystem-based Amendment 2) (SAFMC 2011d)	January 30, 2012	PR: 76 FR 69230 FR: 76 FR 82183	- Designate the deepwater MPAs as EFH-HAPCs. - Limit harvest of snapper grouper species in South Carolina SMZs to the bag limit. - Modify sea turtle release gear.
Amendment #25 (Comprehensive ACL Amendment) (SAFMC 2011e)	April 16, 2012	PR: 76 FR 74757 Amended PR: 76 FR 82264 FR: 77 FR 15916	- Establish acceptable biological catch (ABC) control rules, ABCs, ACLs, ACTs, and AMs for species not undergoing overfishing. - Remove some species from snapper grouper FMU. - Specify ecosystem component species. - Specify allocations among the commercial and recreational sectors for species not undergoing overfishing. - Limit the total mortality for federally managed species in the South Atlantic to the ACLs.
Supplemental rule (Comprehensive ACL Amendment)	August 17, 2012	PR: 77 FR 23652 FR: 77 FR 42192	- Revise the commercial quota for greater amberjack in the regulations, from 1,169,931 lbs gutted weight to 769,388 lbs gutted weight.
Amendment #24 (SAFMC 2011f)	July 11, 2012	PR: 77 FR 19169 FR: 77 FR 34254	- Specify MSY, rebuilding plan (including ACLs, AMs, and OY), and allocations for red grouper.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment #22	TBD	TBD	- Tagging program to allow harvest of red snapper as stock rebuilds. - Recreational tag program for golden tilefish, snowy grouper, and wreckfish.
Amendment #27	TBD	TBD	- Establish the SAFMC as the managing entity for Nassau grouper in the Southeast U.S., modify the SG framework; modify management measures for blue runner, reevaluate captain and crew possession prohibition for vermilion snapper, groupers, and tilefish, increase crew of commercial snapper grouper fishing trip.
Temporary rule for red snapper through emergency action	TBD	TBD	- Allow limited harvest of red snapper in 2012.
Resubmitted Amendment 18A Action Amendment	TBD	TBD	- Black sea bass pot endorsement transferability.
Regulatory Amendment 13	TBD	PR: 78 FR 17336	- Update ACLs for snapper grouper species based on updated MRIP data.
Regulatory Amendment 14	TBD	TBD	- Modify the fishing year for greater amberjack. - Modify the minimum size limit for gray triggerfish and hogfish. - Modify the commercial and recreational fishing years for black sea bass. - Modify the start of the second commercial fishing season for vermilion snapper. - Modify gag trip limit, and aggregate grouper bag limit.
Regulatory Amendment 15	TBD	TBD	- ACLs for yellowtail snapper; modify management meaures/AM for gag.
Regulatory Amendment 16	TBD	TBD	- Management measures for golden tilefish.
Regulatory Amendment 17	TBD	TBD	- MPAs to enhance protection of speckled hind and warsaw grouper.
Regulatory Amendment 18	TBD	TBD	- ACLs and AMs for vermilion snapper and red porgy. Management measures for vermilion snapper.
Amendment 29	TBD	TBD	- Update ABCs, ACLs, and ACTs for snapper grouper species based on recommendations from SSC.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
Amendment 30	TBD	TBD	- VMS for commercial sector of snapper grouper fishery.
Joint Commercial Logbook Reporting Amendment	TBD	TBD	- Require all federally-permitted commercial fin fish fishermen in the southeast to report electronically.
Joint Charterboat Reporting Amendment	TBD	TBD	- Require all federally-permitted charterboats to report landings information electronically.

History of Management for the Dolphin and Wahoo Fishery off the Atlantic States

The Dolphin Wahoo FMP (SAFMC 2003) was partially approved on December 23, 2003. The FMP represents a proactive approach to maintaining healthy stocks of dolphin and wahoo, with action intended to cap participation, effort, and landings in the fishery. Approved actions provide equitable harvesting restrictions to the recreational and commercial sectors, and maintain the historical participation by both user groups. The intended effects of the FMP are to conserve and manage dolphin and wahoo off the Atlantic states (Maine through the east coast of Florida), and to ensure that no new fisheries for dolphin and wahoo develop.

The following regulations were effective on June 28, 2004: (1) A 20-inch FL minimum size limit for dolphin off the coasts of Georgia and Florida with no size restrictions elsewhere; (2) prohibition of longline fishing for dolphin and wahoo in areas closed to the use of such gear for highly migratory pelagic species; and (3) allowable gear to be used in the fishery (hook-and-line gear including manual, electric, and hydraulic rods and reels; bandit gear; handlines; longlines; and spearfishing (including powerheads) gear. In addition, other approved portions of the FMP were also effective on this date, including (1) the management unit and designations of stock status criteria for the unit; (2) a fishing year of January 1 through December 31; (3) a 1.5 million pound (or 13% of the total harvest) cap on commercial landings; (4) establishment of a framework procedure by which the SAFMC may modify its management measures; and (5) designations of EFH and EFH-HAPC.

The following regulations were effective on September 24, 2004: (1) Owners of commercial vessels and/or charter vessels/headboats must have vessel permits and, if selected, submit reports; (2) dealers must have permits and, if selected, submit reports; (3) longline vessels must comply with sea turtle protection measures; (4) a recreational bag limit of 10 dolphin and 2 wahoo per person per day, with a limit of 60 dolphin per boat per day (headboats are excluded from the boat limit); (5) prohibition on recreational sale of dolphin and wahoo caught under a bag limit unless the seller holds the necessary commercial permits; and (6) a commercial trip limit of 500 pounds for wahoo.

The following regulations were effective on November 23, 2004: (1) Operators of commercial vessels, charter vessels and headboats that are required to have a federal vessel permit for dolphin and wahoo must display operator permits.

Amendment 1 to the Dolphin Wahoo FMP was included in CE-BA 1 (SAFMC 2009c). The amendment provided presentation of spatial information for EFH and EFH- HAPC designations under the FMP. Regulations became effective on July 22, 2010.

Amendment 2 to the Dolphin Wahoo FMP was included in the Comprehensive ACL Amendment (SAFMC 2011c), and the following regulations were effective on April 16, 2012. (1) Established ABCs, ACLs, AMs, and allocations for both commercial and recreational sectors; (2) established ACTs for the recreational sector; (3) prohibited bag limit sales of dolphin from “for-hire” vessels; and (4) established a minimum size limit of 20” FL for South Carolina.

History of management for the FMP for CMP Resources in the Atlantic and Gulf of Mexico.

The FMP for CMP Resources in the Gulf of Mexico and South Atlantic with Environmental Impact Statement (EIS), was approved in 1982 and implemented by regulations effective in February 1983. Managed species included king mackerel, Spanish mackerel, and cobia. The FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf of Mexico. The FMP established allocations for the recreational and commercial sectors harvesting these stocks, and the commercial allocations were divided between net and hook-and-line fishermen.

FMP Amendments

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

Amendment 2, with environmental assessment (EA), implemented in July of 1987, revised MSY for Spanish mackerel downward, recognized two migratory groups, established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and bag limits. Charterboat permits were established, and it was clarified that TAC must be set below the upper range of ABC. The use of purse seines on overfished stocks was prohibited, and their allocation of TAC was redistributed under the 69%/31% split.

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

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

Amendment 5, with EA, implemented in August 1990, made the following changes in the management regime:

- Extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- Revised problems in the fishery and plan objectives;
- Revised the fishing year for Gulf of Mexico Spanish mackerel from July-June to April-March;
- Revised the definition of "overfishing";
- Added cobia to the annual stock assessment procedure;
- Provided that the South Atlantic Council will be responsible for pre-season adjustments

of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf of Mexico Council will be responsible for Gulf of Mexico migratory groups;
- Continued to manage the two recognized Gulf of Mexico migratory groups of king mackerel as one until management measures appropriate to the eastern and western migratory groups can be determined;
- Re-defined recreational bag limits as daily limits;
- Deleted a provision specifying that bag limit catch of mackerel may be sold;
- Provided guidelines for corporate commercial vessel permits;
- Specified that Gulf of Mexico migratory group king mackerel may be taken only by hook-and-line and run-around gillnets;
- Imposed a bag and possession limit of two cobia per person per day;
- Established a minimum size of 12" FL or 14" TL for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

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

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

Amendment 8, with EA, implemented March 1998, made the following changes to the management regime:
- Clarified ambiguity about allowable gear specifications for the Gulf of Mexico migratory group king mackerel fishery by allowing only hook-and-line and run-around gillnets. However, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained;
- Established allowable gear in the South Atlantic and Mid-Atlantic areas as well as providing for the RA to authorize the use of experimental gear;
- Established the South Atlantic Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the Gulf of Mexico and South Atlantic Councils and development of separate FMPs for coastal pelagic species in these areas;

- Established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation on October 16, 1995;
- Increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or $10,000 from commercial sale of catch or charter or head boat fishing in one of the three previous calendar years, but allowed for a one-year grace period to qualify under permits that are transferred;
- Legalized retention of up to five cut-off (damaged) king mackerel on vessels with commercial trip limits;
- Set an OY target at 30% static SPR for the Gulf of Mexico and 40% static SPR for the Atlantic;
- Provided the South Atlantic Council with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf of Mexico migratory group king mackerel in the North area of the Eastern zone (Dade/Monroe to Volusia/Flagler County lines in Florida);
- Established various data consideration and reporting requirements under the framework procedure;
- Modified the seasonal framework adjustment measures and specifications;
- Expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

Amendment 9, with EA, implemented in April 2000, made the following changes to the management regime:

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

Mexico migratory group king mackerel north of an east/west line at the Collier/Lee County line in Florida;

- Increased the minimum size limit for Gulf migratory group king mackerel from 20" FL to 24" FL;
- Allowed the retention and sale of cut-off (damaged), legal-sized king and Spanish mackerel within established trip limits.

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

Amendment 11, with SEIS, partially approved in December 1999, included proposals for mackerel in the South Atlantic Council's Comprehensive Amendment addressing SFA definitions and other provisions in FMPs of the South Atlantic Region.

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

Amendment 13, with SEIS, implemented August 19, 2002, established two marine reserves in the EEZ of the Gulf of Mexico in the vicinity of the Dry Tortugas, Florida, known as Tortugas North and Tortugas South, in which fishing for CMP species is prohibited. This action complements previous actions taken under the NOAA Sanctuaries Act.

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

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

Amendment 16, was not developed.

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

Amendment 18, with EA, was implemented on January 30, 2012, and established ACLs and AMs for Gulf of Mexico and Atlantic migratory groups for cobia, king mackerel, and Spanish mackerel. Amendment 18 also removed cero, little tunny, dolphin, and bluefish from the FMP,

revised the framework procedure, and separated cobia into Atlantic and Gulf of Mexico migratory groups.

Amendment 19, with EA, is under development, including actions that examine sale of cobia, king and Spanish mackerel, tournament sales of king mackerel, Atlantic group Spanish mackerel gillnet endorsement, and modifications to permits related to CMP species.

Amendment 20, also under development, would analyze transit provisions for king mackerel, modify the ACLs for Gulf of Mexico and Atlantic migratory group cobia, and examine regional and/or state by state quotas for CMP species.

REFERENCES

Note: In future amendments, a separate list of references will be included.

Last updated: June 16, 2012

CONTACT: Jason Didden (302) 526-5254

Summary of Feb 2, 2012 Workshop on Opt-In Angler Panels

The workshop was originally titled as a workshop on "Volunteer Angler Surveys" but "Opt-In Angler Panels" more accurately describes the topic of the workshop. Opt-in angler panels recruit participants to report catches or fishing effort through a variety of means, including mail-in forms, online forms, and phone-based applications. The types of recreational fishing information collected vary from program to program, but a key similarity of all opt-in angler panels is that they are comprised of self-selecting individuals who volunteer to participate. In other words, an opt-in online angler panel is not a probability sample, and consequently quite unlikely to accurately represent all anglers. As discussed below, this means that traditional analysis methods may be inappropriate for use with opt-in angler panel data and that opt-in angler panel data will likely be biased, depending on the variables being examined.

On February 2, 2012 the Mid-Atlantic Fishery Management Council (MAFMC - www.mafmc.org), in cooperation with the Marine Recreational Information Program (MRIP - www.countmyfish.noaa.gov), brought together a group of people who are involved with programs that collect opt-in angler data in order to examine questions such as: "Which data needs can be best filled by this kind of data?" and "How can such programs establish and sustain angler enthusiasm and support?" This document summarizes the results of the workshop and proposes a framework for evaluating whether and how opt-in angler panel data should be solicited and/or used. A webinar of the workshop was recorded and is available at: http://www.mafmc.org/events/volunteerdata.htm. There is a wealth of information recorded on

the webinar and this summary focuses only on key, generalizable findings. A spreadsheet summarizing many of the Atlantic Coast programs that collect opt-in angler data was constructed by the workshop participants and is also available at that site.

The workshop was divided up into three parts and this summary maintains that structure. First, several state and independent programs described their programs, and participants discussed the attributes, challenges, and lessons-learned for those programs. Second, experts in survey design described statistical properties of both opt-in panel data and probability sample data. Third, the workshop had a general discussion on a potential framework for evaluating and using self-reported data. This summary was initially drafted by Jason Didden of the Mid-Atlantic Fishery Management Council (the organizer of the workshop) and then circulated among the workshop participants for comments. Afterwards, this document will be presented and reviewed by the MRIP operations team to determine its usefulness as a general guide related to the collection and use of opt-in panel data for fisheries management purposes.

Part 1: Program Descriptions (States and Independent Groups)

The presentations and webinar recordings of the presentations are available at: http://www.mafmc.org/events/volunteerdata.htm. Four primary points are summarized below from the program descriptions and subsequent discussions:

1. Self-reported data have been very important for developing bag/creel and size limit regulations for some states. Predicting the impacts of many bag/creel and size limit regulations requires knowledge of the distribution of lengths of fish caught, including discards. Having enough reported fish lengths facilitates regulatory analysis on critical species such as summer flounder and black sea bass. This is especially true for released fish, as data on released fish are necessary to predict the impacts of any regulation that involves lowering size limits (including slot limits). Self-reported lengths have also been used for allocating striped bass catch between separate resident and migratory fish quotas in the Chesapeake Bay based on fish length.

2. There is a subset of avid anglers who are very keen to provide their data and also very suspect of MRFSS/MRIP data primarily because they (or their friends) were not interviewed. The concern is how to use such data since avid anglers may have different catch rates from the average angler, and if participants are opting into a program, it will not be known how they differ from the average person. Also, there may be a tendency for self-reporters to only report successful trips, which would make catch rates from self-reported data appear higher than the actual average catch rate and bias any estimates that are made based on self-reported data by opt-in participants.

3. Some programs have had substantial drop-offs in participation after the first year or two. Incentives, such as obtaining a bonus fish tag, shirts, or other rewards can help participation. Acknowledging receipt of data, allowing people to see that their data have been recorded, and providing feedback about how the data have been used are equally critical. Stating upfront how data are likely to be used is important to establish accurate expectations. Some have, but quite a few programs have not fully settled into a regular suite of outreach methods that they feel are sufficient to obtain reports from a large and diverse group of anglers that will participate consistently over the long run.

   Programs need to make it easy to participate. For example, the Virginia rack collection program provides freezers at certain ports for anglers to donate carcasses for length measurements and age samples. The donation aspect may be a sufficient incentive to anglers as the samples can contribute to stock assessments and other analyses to track the health of fish stocks. However, the most popular programs have material incentives along with a history of their data getting used in assessments or management.

4. New technologies have increased reporting options. For example, GPS-equipped smartphones allow apps to upload real-time or near real-time reports with either rough or detailed location information. Satellite uplinks can also facilitate uploading in remote or offshore locations. Real-time uploads can also facilitate assignments of dock-side validation for retained catch, but validation of discarded catch is more difficult, requiring expensive and/or impracticable human observers or possibly video monitoring technology. MRIP is exploring video monitoring technology in other projects.

Part 2: Statistical Considerations

The workshop included presentations from two sampling design experts: Kristen Olson, PhD from the University of Nebraska-Lincoln's Survey Research and Methodology Program, and Cynthia Jones, PhD from Old Dominion University's (Virginia) Center for Quantitative Fisheries Ecology. Dr. Olson provided an overview of probability sampling and opt-in online panels from a "general survey quality" perspective, while Dr. Jones focused on fisheries-specific data collection issues. Together they provided a big-picture perspective of issues with both surveys and opt-in online panels.

For a survey, the goal is to obtain a sample that is representative of a target population, or at least understand why a sample is not representative, so that responses can be adjusted or weighted accordingly. This is accomplished through probability sampling – units are randomly sampled from a clearly defined frame (potential contacts) with known probabilities of selection. In a probability sample, the participants are selected by the researcher using a chance or probability mechanism – being a part of the sample is independent of the characteristics of members of the sample. Because of this probability selection approach, the process of selecting a sample can be replicated by an outside researcher. Probability samples have the advantage that survey results can be linked back to the target population with quantifiable precision levels.

Probability samples stand in contrast to an opt-in panel in which the participants are selected through their own decision making processes – being a part of the sample may depend in part or wholly on their characteristics. Unlike probability samples, opt-in panels do not have the advantage of replicability – every opt-in panel may yield a different answer. It is difficult to predict how different these answers may be, because opt-in panels cannot be directly linked back to the general population. Although probability samples can be affected by selected persons not participating, or by incomplete sample lists, these errors are measurable in a probability sample. In an opt-in panel, there is no list from which the sample is drawn and the differences between those who participate and those who do not are not known. For a fishing survey, if the likelihood of certain anglers or trips getting contacted (or participating once contacted) is different from the

universe of anglers or trips, and the fishing activity of those anglers or trips is different from the universe of anglers, survey results will be biased.

Thinking about angling avidity highlights this issue as it relates to using opt-in panel data to estimate the broader population's fishing activity. If you mostly talk to avid anglers (those who fish most frequently), or mostly talk to people who successfully catch fish, you can't use that information to extrapolate up to the general population without introducing bias. For example, if only avid anglers are talked to, and they have higher catch rates or fish more than average, using their information to extrapolate up to the general population will result in biased catch and effort estimates (too high in this case). Similarly, estimates will be biased high if people who don't catch anything are less likely to respond than people who do catch fish (and a relatively high percentage of MRIP intercepts report no fish being caught). The old saying that a few anglers catch most of the fish comes to mind, and it seems at least possible that highly skilled and avid anglers are the ones most likely to be interested in participating in an opt-in panel.

These statistical considerations make self-reported data from self-selecting people very difficult to use when making generalizations about a population. Since such individuals are more likely to be avid anglers, their data can't be used to extrapolate to the total population without biasing the estimates. Again, this is because the self-selecting anglers are probably different from the average angler - they are after all spending a lot of time to record and report their catches, which is not done in a systematic manner by most anglers.

The degree of bias depends upon the relationship between the variables being measured and the likelihood of participating in the data collection program. If the two are highly correlated then there is a high likelihood for bias. A scenario with a high likelihood for bias is in estimating catch rates, where volunteers are more likely to be avid anglers who may have different catch rates than the average angler. A scenario with a lower likelihood for bias might be collecting fish racks for biological research such as determining the relationship between age and fish length. It would seem unlikely that avid anglers would fish on a population of fish that had different growth rates than the average fish.

Data from opt-in panels are currently being used to examine the length distribution of released fish. If the released catch of panel participants is different from the general angling population, then estimates of length distributions will be biased, which could affect predictions about the results of length-based regulations that are based on such data.

For data on a group of anglers that fished in a particular location or at particular time, such as a tournament, if all anglers participate in reporting then you can use the data for that particular group, especially if at least some validation of catch is done. This would be a census of catch for the event. Extrapolating beyond the group that actually reported data is where bias becomes an issue.

Part 3: General Discussion and a Framework for Evaluating and Using Self-Reported Data

The afternoon discussion centered on trying to figure out if, when, and how to use self-reported data from self-selecting anglers, and more generally how best to use the energy and desire of anglers to participate in data collection. Ultimately discussion centered on a set of considerations that should be evaluated regarding self-reported data. It would not be possible to create a complete decision framework in the course of a one day meeting, and often data need to be evaluated on a case-by-case-basis depending on both the characteristics of the data and the decision being evaluated. These considerations include:

What is the likelihood, based on the characteristics of respondents and the kind of data being reported, that data are biased?

- Variables that are closely correlated with the decision to participate in an opt-in panel have a high likelihood for bias.
- Collecting fish racks for size-aging studies would be an example of low likelihood of bias. It seems unlikely that avid anglers would catch faster growing fish.
- Gathering catch per trip information would be an example of high likelihood of bias. It seems likely that avid anglers would be more likely to participate in an opt-in angler panel and have different catch rates than the average angler.

- Using avid anglers to provide qualitative information, such as identifying or describing fishing access sites is likely to improve the completeness and quality of onsite sample frames and therefore reduce the potential for bias.
- Opt-in panel data should not be used without clearly identifying the potential for bias.

Are there other sources for the kind of data being reported?

- If providing the only sources of data or filling a major information gap, such as lengths of released fish, then self-reported data from an opt-in program may be the only information that data managers can obtain. However, making decisions with data that is potentially biased carries risks, even if it is the only source of information. The tradeoffs of using other data that may be less informative but unbiased would have to be weighed against data that on the surface appears more informative but is potentially biased.

What is the risk (fishery closures, overfishing) of using data that are likely biased without ways to examine and correct for such bias?

- If the data in question are being used for fishery quota monitoring, then the risks appear relatively high that unnecessary closures could occur (with negative socio-economic impacts) or closures may not be implemented early enough, resulting in negative biological impacts (overfishing and potentially long-term negative socio-economic impacts).

How well were the volunteers trained?

- Managers would want to be more cautious about data collected by volunteers with less training if measurement error or species identification were important for the topic being investigated. Measurement error and species identification errors can be minimized by good angler training. Conversely, training volunteers may alter their fishing behavior, which could also introduce bias.

What was the level of participation in each kind of data collection?

- Results from programs with very low participation rates would normally be treated more cautiously than programs with higher participation rates. Participation needs to be considered relative to the entire population. For example, a program with 1,000 participants is not necessarily better than a program with 100 participants if both are only covering 10% of the total angling population. Although a higher participation rate indicates a lower risk of bias, it does not indicate whether there is actually bias. The participants and non-participants may have very different fishing activities in a program with a high participation rate, as well as in one with a low participation rate.
- For opt-in panel data, it can be very difficult to assess the level of participation since there is no defined sample or sample frame.

Regardless of the answers to these questions, managers must always be informed in a very direct and upfront way about the potential for bias. It is not enough to relegate such discussion to a reference in an appendix in a historical document. Any time information that is likely biased is used, those biases must be described to decision makers if decision makers are to be able to effectively evaluate the data and make appropriate decisions.

A key challenge is that anglers are most interested in providing data on topics like catch and effort, which are also the topics most prone to bias related to participation from more avid (and skillful) anglers in a non-probability sampling framework such as opt-in panels. One point that should be highlighted is that MRIP survey data collection is also 100% dependent on angler participation since 100% of the data in MRIP are from anglers voluntarily participating in MRIP

surveys. Once the primary MRIP improvements are in place, MRIP needs to work on informing anglers about how MRIP improvements will result in unbiased data.

MRFSS estimates have been susceptible to bias for a variety of reasons over the years. MRIP has been systematically rooting out sources of bias, but it has taken a long time to do so. This was necessary because of the complex statistical issues involved and the need to pre-test and review alternative survey designs through pilot tests and peer reviews. Once MRIP can show that unbiased designs are in place (or at least that any design-based biases have been examined and corrected), angler trust and enthusiasm for providing data may be able to be harnessed within the survey framework of MRIP. Broad-based outreach about ongoing improvements and additional outreach once the main MRIP components have been implemented will be critical given the current level of distrust with MRFSS. Once improvements are in place, there will still be the issue of how much sampling is done to get a given level of precision. Even if probability sampling is used, unbiased estimates that are highly imprecise will still not be of great use to managers or earn anglers trust. Increasing sampling rates so that more anglers are contacted and therefore know their data are getting into the system could be useful for outreach as well as getting better precision with estimates.

An additional discussion noted that while opt-in data likely have bias problems, using self-reported data from a panel of anglers chosen randomly from a license frame is not as susceptible to these same sources of bias. One way to harness the energy of anglers who really want to participate in data collection could be to incorporate those avid anglers in efforts to get good participation in these panel-type surveys, where the self-reported (but not self-selected) data from a group of anglers are tracked and used to ground-truth other estimates. Getting champions for such programs outside of an agency could be useful for securing good participation.

Conclusion

Many areas of scientific inquiry have made good use of citizen science. From birds, butterflies and frogs to water quality and weather, science has benefited from citizen science. With fishing, since the people likely to have high catches seem more likely to participate, a special problem arises. It is similar to posting to CNN or Fox News and asking a group of avid politics watchers to predict the results of the next election. They will want to provide input and will give very good input, but it is not likely that such a group will correctly predict the outcome of the next election. Conversely, talking to a tiny fraction of randomly selected likely voters can get very close to actual election results (http://www.realclearpolitics.com/bush_vs_kerry.html; http://www.realclearpolitics.com/epolls/2008/president/us/general_election_mccain_vs_obama-225.html). Fisheries data are a lot more complicated than the A or B choice usually involved in politics, but the underlying principles are the same.

Opt-in angler data may be useful for certain kinds of data that are not likely to be susceptible to bias, although it is difficult to anticipate what these data may be. However, the unique characteristics of self-selected participants are likely to introduce bias into certain kinds of data, especially catch and effort data. Managers must be made aware of such biases, and the likely extent of such biases should be examined when implementation of these programs is considered.

If anglers are asked to report information but then that information is not used due to these biases, it is possible that more harm than good will be done as a result of the program in terms of angler trust and confidence in recreational data collection overall. However, for certain kinds of information (for example biological specimen collection) opt-in participation by volunteer anglers may be a good way to harness anglers' sincere desire to participate in data collection that improves the science and management of recreational fisheries. In addition, more research should be conducted to examine possible ways to correct for bias when possible, in order to make the best use of the data that anglers do go through the effort of providing.