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Amendment 31

to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region

Atlantic Cobia Management

March 2018

Environmental Assessment | Regulatory Impact Review | Regulatory Flexibility Analysis

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Abbreviations and Acronyms Used in the FMP

ABC	acceptable biological catch
ACL	annual catch limits
AM	accountability measures
ACT	annual catch target
B	a measure of stock biomass in either weight or other appropriate unit
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{MSY}
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F_{OY}
B_{CURR}	The current stock biomass
CLM	Commercial Landings Monitoring System
CMP	coastal migratory pelagics
CPUE	catch per unit effort
EA	environmental assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
ESA	Endangered Species Act
F	a measure of the instantaneous rate of fishing mortality
$F_{30\%SPR}$	fishing mortality that will produce a static SPR = 30%
F_{CURR}	the current instantaneous rate of fishing mortality
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B_{OY}
FEIS	final environmental impact statement
FMP	fishery management plan
FMU	fishery management unit
HAPC	Habitat Area of Particular Concern
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
Magnuson-Stevens Act	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
NS	National Standard
OFL	overfishing limit
OY	optimum yield
PSE	percent standard error
RIR	regulatory impact review
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
SPR	spawning potential ratio
SRD	Science and Research Director
SSC	Scientific and Statistical Committee

Amendment 31 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region with Environmental Assessment and Regulatory Impact Review

Proposed action:	Revise the management system for Atlantic cobia
Lead agency:	Amendment – South Atlantic Fishery Management Council Environmental Assessment – National Marine Fisheries Service (NMFS) Southeast Regional Office
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Summary

The South Atlantic and Gulf of Mexico Fishery Management Councils are proposing Amendment 31 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region to remove Atlantic cobia (Georgia through New York) from the fishery management plan or establish a management process with the Atlantic States Marine Fisheries Commission.

After the 2015 overage of the recreational and total Atlantic cobia annual catch limits and a subsequent shortened 2016 recreational season, the South Atlantic Fishery Management Council requested that the Atlantic States Marine Fisheries Commission consider complementary management for Atlantic cobia, and the Atlantic States Marine Fisheries Commission began work on an Interstate Fishery Management Plan for Atlantic Migratory Group of Cobia.

The recreational closure in federal waters for 2016 became effective on June 20, 2016, at which time South Carolina also closed their state waters to recreational harvest. Virginia and North Carolina implemented harvest limits but kept state waters open through August and September, respectively. Georgia did not close state waters, but most Atlantic cobia are caught in federal waters off Georgia. Landings of Atlantic cobia north of Virginia are very small.

Following notification that 2016 landings had again exceeded the Atlantic cobia recreational and total annual catch limits, the National Marine Fisheries Service closed the recreational season in federal waters on January 24, 2017. Again, South Carolina closed state waters to track the federal closure. Georgia did not close its state waters but requested that the National Marine Fisheries Service open federal waters to allow Georgia fishermen to have some access to Atlantic cobia. Virginia implemented harvest limits with a season in state waters of June 1 through September 15, 2017, and North Carolina specified harvest limits with a season in state waters of May 1 through August 31, 2017.

In May 2017, the Atlantic States Marine Fisheries Commission's South Atlantic State/Federal Fisheries Management Board approved a motion to request that the South Atlantic Fishery Management Council transfer sole management of Atlantic cobia to the Atlantic States Marine Fisheries Commission, which would require that Atlantic cobia be removed from the federal fishery management plan. In June 2017, the South Atlantic Fishery Management Council directed staff to start work on an amendment to revise the management system for Atlantic cobia. In November 2018, the Atlantic States Marine Fisheries Commission approved their Interstate Fishery Management Plan for Atlantic Migratory Group Cobia. State implementation plans are scheduled to become effective in April 2018.

The action in Amendment 31 is in accordance with the provisions set forth in the Magnuson-Stevens Fishery Conservation and Management Act. The intent of this amendment is to allow for more equitable distribution of harvest and facilitate better coordination between management of Atlantic cobia in state and federal waters. Amendment 31, with the integrated environmental assessment, has been made available for public review before and during each South Atlantic Fishery Management Council meeting and will be made available for public comment during the proposed rule phase.

Atlantic Cobia Management

Action: Revise the management system for Atlantic cobia

Preferred Alternative 2: Remove Atlantic cobia from the Coastal Migratory Pelagics Fishery Management Plan.

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Chapter 1. Introduction

1.1 What Action is Being Proposed?

Amendment 31 amends the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP). Amendment 31 to the CMP FMP (Amendment 31) includes one action to remove Atlantic migratory group cobia (Atlantic cobia) from the CMP FMP or to establish a management process with the Atlantic States Marine Fisheries Commission (ASMFC) that would aid in the development of consistent regulations in federal and state waters. Atlantic cobia occur from Georgia through New York.

Who's Who?

- ***Gulf of Mexico*** and ***South Atlantic Fishery Management Councils*** – Engage in a process to determine a range of actions/alternatives and recommend action to the National Marine Fisheries Service.
- ***National Marine Fisheries Service*** and ***Council staffs*** – Develop alternatives based on guidance from the Council and analyze the environmental impacts of those alternatives.
- ***Secretary of Commerce*** – Will approve, disapprove, or partially approve the amendment as recommended by the Councils.
- ***Atlantic States Marine Fisheries Commission*** – will manage Atlantic cobia in state waters through an interstate FMP starting in April 2018.

1.2 Who is Proposing the Action?

The coastal migratory pelagics (CMP) fishery is managed jointly by the Gulf of Mexico Fishery Management Council (Gulf Council) and the South Atlantic Fishery Management Council (South Atlantic Council). Amendments to the CMP FMP (plan amendments) must be approved by both the Gulf Council and the South Atlantic Council. Because this amendment applies only to Atlantic cobia, the South Atlantic Council is proposing the action. If approved by both Councils, this amendment would be submitted to the National Marine Fisheries Service (NMFS) for approval and implementation by the Secretary of Commerce. NMFS is a line office in the National Oceanic and Atmospheric Administration.

1.3 Why are the Councils Considering Action?

The Councils are considering changes to the management of Atlantic cobia as the majority of the coastwide catch occurs in state waters and, despite recent federal closures, recreational catches have still exceeded the recreational annual catch limit (ACL) and the total ACL. The Councils have determined that either complementary management between the states and NMFS, or complete management by the states in federal waters, would be more effective to constrain harvest and prevent overfishing; thereby, offering greater biological protection to the stock and decreasing adverse socio-economic effects to fishermen.

After the 2015 overage of the Atlantic cobia recreational and total ACLs, and subsequent shortened 2016 recreational season, the South Atlantic Council started work on an amendment to revise Atlantic cobia management measures to help reduce the rate of recreational harvest,

extend the length of the season, and reduce the likelihood that the recreational ACL would be exceeded in future years.[1] Realizing that constraining catch in federal waters is not enough to prevent the recreational ACL from being exceeded, the South Atlantic Council sent a letter to the ASMFC requesting that they consider complementary management measures for Atlantic cobia. In May 2016, the ASMFC's Interstate Fisheries Management Program Policy Board discussed Atlantic cobia and the ASMFC started exploring options for the development of an interstate FMP for Atlantic cobia to better manage cobia landings coastwide in state waters. The Policy Board directed the South Atlantic State/Federal Management Board (South Atlantic Board) of the ASMFC to develop alternatives for developing an FMP that is either joint, complementary, or exclusively managed by the ASMFC to determine what type of FMP is the best way to move forward. In August 2016, the ASFMC's South Atlantic Board discussed management of Atlantic cobia and approved the development of a new Interstate FMP for Atlantic Migratory Group Cobia (Interstate FMP), which would allow for complementary management. In May 2017, the ASMFC's South Atlantic State/Federal Fisheries Management Board approved a motion to request that the South Atlantic Council transfer sole management of Atlantic cobia to the ASMFC, which would require that Atlantic cobia be removed from the federal FMP. In September 2017, public hearings on the draft Interstate FMP were held throughout the South Atlantic states. In November 2017, the ASFMC approved the final Interstate FMP. Implementation of state plans is expected in April 2018.

1.3.1 Purpose and Need Statement

Purpose for Actions

The purpose is to reduce complexity of management and facilitate improved coordination of state and federal management of Atlantic cobia.

Need for Actions

The need is to provide for effective management of Atlantic cobia and fair and equitable access to harvest opportunities without reducing protection to the stock.

1.4 When and Why Has Cobia Closed in Federal Waters?

The recreational closure of Atlantic cobia in federal waters for 2016 became effective on June 20, 2016, at which time South Carolina also closed their state waters to recreational harvest. Virginia and North Carolina implemented harvest limits but kept state waters open through August and September, respectively. Georgia did not close state waters, but most cobia are caught in federal waters off Georgia.

Following notification that 2016 landings had again exceeded the Atlantic cobia recreational and total ACLs, NMFS closed the recreational season on January 24, 2017. These federal closures had a disproportionate impact on Georgia and South Carolina fishermen. Cobia are more often caught in federal waters off Georgia, while South Carolina closed the state waters to track the federal regulations. Virginia implemented harvest limits with a season in state waters of June 1 through September 15, 2017, and North Carolina specified harvest limits during a season in state waters of May 1 through August 31, 2017.

[1] The final rule for CMP Framework Amendment 4 was published on August 4, 2017, with an effective date of September 5, 2017.

1.5 What are the Current Regulations for Atlantic Cobia in State and Federal Waters?

Federal regulations for commercial harvest of Atlantic cobia in the exclusive economic zone (EEZ) from Georgia through New York include a minimum size limit of 33 inches fork length (FL) and a possession limit of two fish per person per day or six fish per vessel per day, whichever is more restrictive. Federal regulations for recreational harvest of Atlantic cobia in the EEZ include a minimum size limit of 36 inches FL and a trip limit of one fish per person per day or six fish per vessel per day, whichever is more restrictive. Federal waters were closed to recreational harvest of Atlantic cobia on June 20, 2016, and January 24, 2017, following overages of the recreational and total ACLs in 2015 and 2016.

Regulations for size and bag limits of Atlantic cobia in state waters are consistent with regulations in federal waters for Georgia. However, Georgia did not close state waters in 2016 and 2017, but most cobia are caught in federal waters off Georgia.

Regulations in state waters for bag and size limits of Atlantic cobia are consistent with regulations in federal waters for some areas of South Carolina. In April 2016, the governor of South Carolina approved legislation to establish a Southern Cobia Management Zone, which includes South Carolina state waters from Jeremy Inlet, Edisto Island, to the South Carolina/Georgia boundary. Effective May 1, 2016, Atlantic cobia harvest in the Southern Cobia Management Zone was limited to catch and release only from May 1 through May 31 and was limited to one fish per person per day or three fish per vessel per day, whichever is more restrictive, from June 1 through April 30. The full language of the bill is available at: https://legiscan. com/SC/text/H4709/2015. In 2017, South Carolina closed their state waters to recreational harvest of Atlantic cobia on January 24, 2017, to track the federal closure.

In February 2016, the North Carolina Marine Fisheries Commission (North Carolina Commission) approved a reduction in the recreational bag limit for Atlantic cobia in North Carolina state waters to one fish per person per day, effective February 27, 2016 (see http://portal.ncdenr.org/web/mf/proclamation-ff-09-2016). The North Carolina Commission made additional changes to Atlantic cobia harvest in state waters in May 2016. Effective May 23, 2016, the recreational minimum size limit was 37 inches FL, and state waters closed on September 30, 2016. On for-hire trips, the harvest limit was four cobia per vessel per day or one cobia per person per day if fewer than four people are on board. Private recreational harvest was only allowed on Monday, Wednesday, and Saturday, with a vessel limit of two cobia per day and a bag limit of one cobia per person per day if there was only one person on board. Shore-based cobia harvest was allowed seven days a week with a recreational bag limit of one fish per person per day (see: http://portal.ncdenr.org/web/mf/proclamation-ff-25-2016). In 2017, the recreational minimum size limit was set to 36 inches FL, and state waters were open from May 1 through August 31, 2017 (see: http://portal.ncdenr.org/web/mf/proclamation-ff-13-2017). In addition, the recreational bag limit was one fish per person per day limit and four fish per vessel limit if more than four people are on board the vessel.

Effective June 1, 2016, the recreational bag limit for Atlantic cobia in Virginia was one-fish per person and a two-fish maximum per boat. Fish had to be at least 40 inches total length (TL); only one could be greater than 50 inches TL; and no gaffing was allowed. The season was open until August 30, 2016. Effective April 1, 2017, the recreational harvest limits in Virginia state

waters were one-fish per person and three-fish per vessel; the minimum size limit was 40 inches TL with no more than one cobia over 50 inches TL per boat. Gaffing for cobia is not allowed in Virginia; and all anglers fishing for cobia must obtain a Recreational Cobia Permit from the Virginia Marine Resources Commission and report all harvest and Atlantic cobia fishing activity. In 2017, state waters were open from June 1 through September 15 (see: http://mrc.virginia.gov/regulations/fr510.shtm).

Recreational landings estimates from the Marine Recreational Information Program (MRIP) show low landings of Atlantic cobia north of Virginia, with only small numbers in the MRIP estimates from Delaware, New Jersey, and Maryland every few years. There are no MRIP cobia landings estimates for New York. New Jersey and New York are subject to a minimum size limit of 37 inches TL and a recreational bag limit of two fish per person per day. Maryland and Delaware do not currently have harvest regulations for Atlantic cobia in state waters.

1.5.1 ASMFC's Interstate FMP

The ASMFC approved the Interstate FMP for Atlantic cobia in November 2017. In February 2018, the ASMFC approved the state implementation plans. The state implementation plans are expected to be effective in April 2018. Compliance reports will be required to be submitted to ASMFC by each state annually. Management measures for Atlantic cobia in state waters for 2018 are provided in the Interstate FMP and the state implementation plans. In addition, because South Carolina is reliant upon federal regulations for Atlantic cobia off its state, it will need to go through a time-consuming legislative process to ensure that Atlantic cobia have regulations in place should Atlantic cobia be removed from the CMP FMP.

Management measures included in the ASMFC's Interstate FMP include a recreational bag limit of one fish per person and a minimum size limit of 36 inches FL or TL equivalent. Vessel limits will be determined once individual states set their seasonal restrictions, but may not exceed six fish per vessel. The Interstate FMP sets state-specific allocations of a coastwide recreational harvest limit that is equivalent to the federal Atlantic group cobia recreational ACL (**Table 1.5.1**). The Interstate FMP requires evaluation of recreational harvest overages of specific-state allocations over a three-year time period. If overages occur, states are required to adjust management measures to reduce harvest in the subsequent three-year period.

Table 1.5.1. State-specific allocations of a coastwide recreational harvest limit that is equivalent to the federal Atlantic cobia ACL of 620,000 pounds whole weight.

State	Allocation	Soft Target with Current ACL
Georgia	9.5%	58,311 pounds
South Carolina	12.2%	74,885 pounds
North Carolina	38.5%	236,313 pounds
Virginia	39.8%	244,292 pounds
De minimis	*1%*	*6,200 pounds*

Under the Interstate FMP, management of the commercial sector is the same as what is specified from the final rule for the CMP FMP. Under the Interstate FMP, the commercial sector in state waters will be managed with a 33-inch FL minimum size limit and two-fish limit per person, with a six-fish maximum vessel limit, whichever is more restrictive. The current commercial ACL of 50,000 pounds applies to the entire commercial sector from Georgia through

New York. The commercial sector would close in state and Federal waters when the commercial ACL is met or is projected to be met.

The Interstate FMP also provides the opportunity for states to declare de minimis status for their recreational Atlantic cobia sector if landings constitute less than 1% of the recreational Atlantic group cobia harvest. De *minimis* states would be required to adopt the regulations (including season) of the closest adjacent non-de *minimis* state or accept a one fish per vessel per day trip limit and 29-inch FL minimum size. Maryland, Delaware, and New Jersey have declared a de *minimus* status.

If Atlantic cobia is retained in the CMP FMP, a recreational quota allocated to each state in the Interstate FMP would be based on the recreational ACL specified by the South Atlantic Council. Alternatively, if Atlantic cobia is removed from the federal CMP FMP, the ASMFC may choose to base recreational quotas on a different overall harvest limit. Any management measures specified by the ASMFC would still be dependent on the most recent stock assessment and the best available science.

The Interstate FMP for Atlantic cobia can be found in **Appendix C**.

1.6 Which Species and Areas Would be Affected by the Action?

Though king mackerel, Spanish mackerel, and cobia are included in the CMP FMP, cobia is the only species addressed in this amendment. Cobia is managed as two migratory groups (Atlantic and Gulf of Mexico). The action in this amendment addresses management of Atlantic migratory group cobia (Atlantic cobia) only.

The stock boundary between the Atlantic and Gulf of Mexico (Gulf) migratory groups of cobia extends due east of the Georgia/Florida border. The northern stock boundary of Atlantic cobia is at the jurisdictional boundary between the Mid-Atlantic and New England Fishery Management Councils (**Figure 1.6.1**). The southern boundary is based on the approach used in the most recent stock assessment (SEDAR 28, 2013), which incorporated information about the Gulf and Atlantic stocks through genetic data and tagging studies. New genetic data and tagging studies have been conducted and will be included in the upcoming benchmark stock assessment for Atlantic cobia (SEDAR 58). Cobia caught off the east coast of Florida are considered Gulf migratory group cobia (Gulf cobia) and are counted towards the Florida East coast zone's allocation of the Gulf cobia ACL. However, the South Atlantic Council manages harvest of cobia off the east coast of Florida since it is in the South Atlantic's jurisdiction. Cobia caught in state and federal waters count towards that area or zone's ACL.

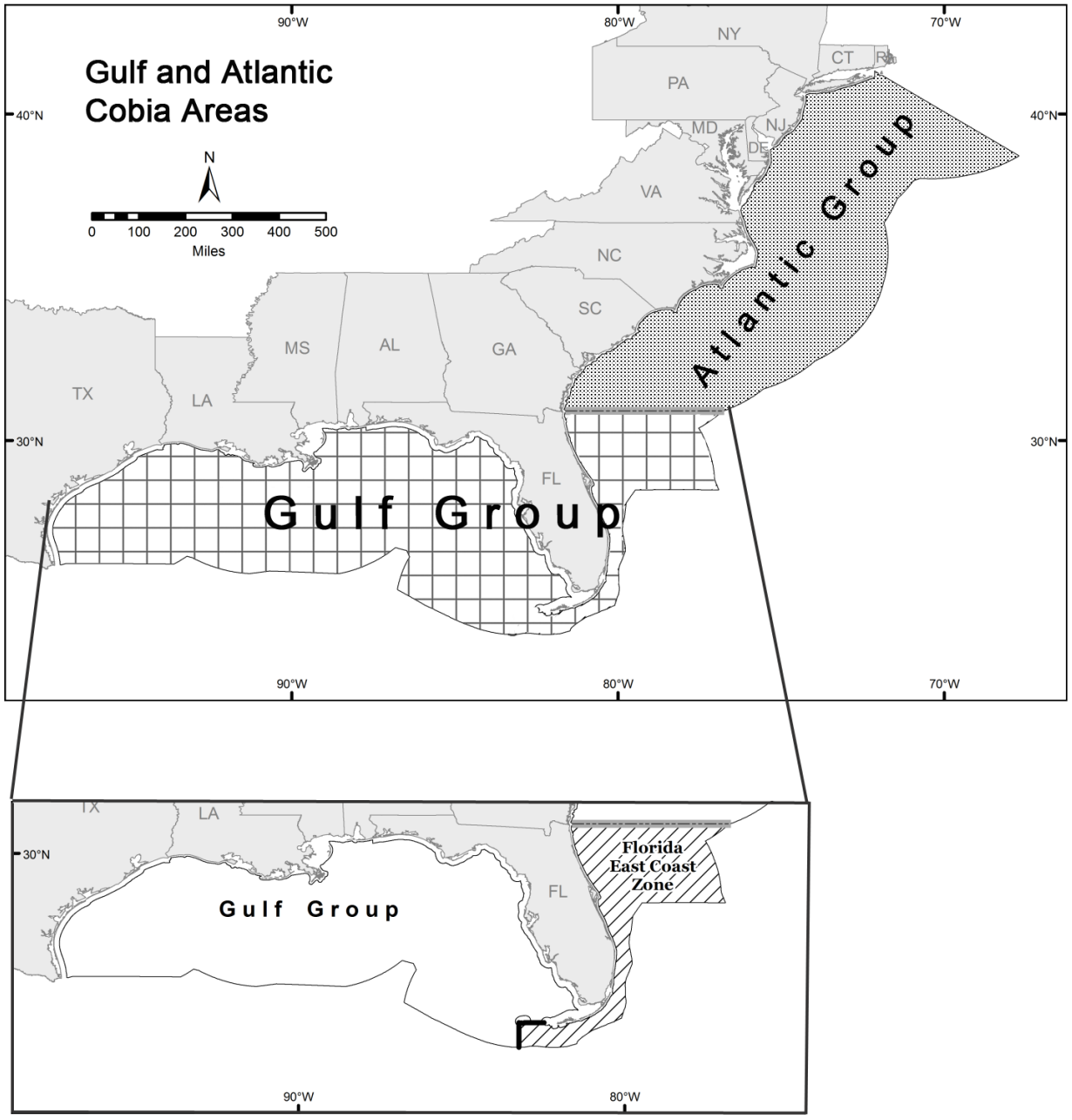

Figure 1.6.1. Boundary between Atlantic and Gulf cobia.

Chapter 2. Proposed Action and Alternatives

Action: Revise the management system for Atlantic cobia

Alternative 1 (No Action): Continue the current management of Atlantic cobia via the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Preferred Alternative 2: Remove Atlantic cobia from the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Alternative 3: Establish a policy in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for complementary management of Atlantic cobia with the Atlantic States Marine Fisheries Commission.

Alternative 4: Establish a framework procedure in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for an enhanced cooperative management system with the Atlantic States Marine Fisheries Commission that allows changes to Atlantic cobia management through National Marine Fisheries Service rulemaking.

Discussion:

This action includes alternatives to revise the management system for Atlantic cobia. The South Atlantic Fishery Management Council (South Atlantic Council) and the Gulf of Mexico Fishery Management Council (Gulf Council) are considering this change to facilitate coordination between management in state and federal waters to prevent overharvest of Atlantic cobia and ensure fair and equitable distribution of access of the resource throughout the region.

Alternative 1 (No Action) would not change the current management structure for Atlantic cobia. The Atlantic States Marine Fisheries Commission (ASMFC) would manage Atlantic cobia in state waters and the South Atlantic Council would manage Atlantic cobia in federal waters. **Preferred Alternative 2** would remove Atlantic cobia from the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region (CMP FMP) as well as the regulatory measures associated with it (**Table 4.1.1.3**). The ASMFC would have the option of extending state management measures into federal waters.

Removal of Atlantic cobia from the CMP FMP under **Preferred Alternative 2** would require consideration of NMFS guidelines at 50 CFR §600.305(c). The Magnuson-Stevens Act section 302(h)(1) requires a council to prepare an FMP for each fishery under its authority that is in need of conservation and management. Not every fishery requires federal management. A council should consider the following list of factors when deciding whether additional stocks require

conservation and management. These factors are reviewed with respect to **Preferred Alternative 2** in Chapter 4:

i. The stock is an important component of the marine environment.
ii. The stock is caught by the fishery.
iii. Whether an FMP can improve or maintain the condition of the stock.
iv. The stock is a target of a fishery.
v. The stock is important to commercial, recreational, or subsistence users.
vi. The fishery is important to the Nation or to the regional economy.
vii. The need to resolve competing interests and conflicts among user groups and whether an FMP can further that resolution.
viii. The economic condition of a fishery and whether an FMP can produce more efficient utilization.
ix. The needs of a developing fishery, and whether an FMP can foster orderly growth.
x. The extent to which the fishery is already adequately managed by states, by state/federal programs, or by federal regulations pursuant to other FMPs or international commissions, or by industry self-regulation, consistent with the requirements of the Magnuson-Stevens Act and other applicable law.

Removal of Atlantic cobia from the CMP FMP would also result in essential fish habitat for the species no longer being identified and described This could affect NMFS' ability to protect localized areas within EFH that are vulnerable to degradation and especially important ecologically for coastal migratory species. Further, **Preferred Alternative 2** would diminish the effectiveness of the NMFS to protect genetically distinct inshore spawning populations of Atlantic cobia through the EFH consultation process. However, the ASMFC's Interstate FMP does encourage states to ensure protection of habitat areas that have already been identified as important to Atlantic cobia by notifying and working with federal, state, and local agencies.

Under **Preferred Alternative 2**, scientific support would still be available to ASMFC through NMFS. Section 5103(a) of the Atlantic Coastal Fisheries Cooperative Management Act of 1993 states that the Federal government will provide support for state coastal fisheries programs in the form of "collection, management, and analysis of fishery data; law enforcement; habitat conservation; fishery research, including biological and socioeconomic research; and fishery management planning." Additionally, Section 5103(b) states in the absence of a federal FMP, the Secretary may extend state regulations into federal waters.

Alternative 3 would update the CMP FMP to acknowledge ASMFC's role in management of Atlantic cobia and how the South Atlantic Council would go about considering changes made in state waters for implementation in federal waters. Under **Alternative 3**, the South Atlantic Council would decide whether to adopt ASMFC regulations in federal waters on a case by case basis consistent with the ASFMC Interstate FMP. This alternative gives the South Atlantic Council the flexibility to continue to manage Atlantic cobia, but the majority of the management responsibility would be by the states through the ASFMC Interstate FMP.

Alternative 4 would set up a procedure in which ASMFC can propose rules directly to the National Marine Fisheries Service (NMFS), without formal action from the South Atlantic Council. Rules would still need to meet Magnuson-Stevens Fishery Conservation and

Management Act (Magnuson-Stevens Act) standards and CMP FMP objectives. The South Atlantic Council would be informed of ASMFC rules and provide comment on whether the rules meet standards and requirements of the CMP FMP, Magnuson-Stevens Act, and other applicable law. The South Atlantic Council could still adjust Atlantic cobia management through the normal amendment and rulemaking process. The proposed procedure and protocol for enhanced cooperative management with ASMFC can be found in **Appendix D**.

Regardless of which alternative is selected, the ASFMC has approved and will implement the Interstate FMP in April 2018. This plan is expected to constrain harvest in state waters and provide positive biological benefits to the Atlantic cobia stock. As the Interstate FMP would be in place under all alternatives and is expected to control harvest in state waters, the biological effects of **Alternative 1 (No Action), Preferred Alternative 2, Alternative 3,** and **Alternative 4** would be expected to be very similar because most of the Atlantic cobia harvest (> 80%) occurs in state waters. If Atlantic cobia is removed from the CMP FMP under **Preferred Alternative 2**, regulations could be extended into federal waters to constrain harvest in both state and federal waters. The difference between **Preferred Alternative 2** and **Alternatives 1 (No Action), 3,** and **4** would be that **Preferred Alternative 2** would allow for a more efficient use of resources since Atlantic cobia would already be managed by the ASMFC.

The long-term economic effects of the alternatives would be dependent upon future management decisions and may be positive or negative, depending on the outcomes of management for the Atlantic cobia stock in state and federal waters. There is no clear ranking of alternatives with regard to social effects, as many cause positive and negative social effects to different coastal communities. **Alternative 1 (No Action)** could generate negative social effects for South Carolina and Georgia if recreational harvest of Atlantic cobia continues to exceed the ACL, resulting in harvest closures in federal waters. **Preferred Alternative 2** would be expected to decrease management complexity, but long-term social effects would be largely dependent on the future management choices made by ASMFC. **Alternatives 3** and **4** would help ensure regulatory consistency between state and federal waters but could still result in negative social effects if harvest of Atlantic cobia continues to exceed the recreational and total ACL. **Alternative 3** would allow for more public participation than **Alternative 4**, but is time consuming. **Alternative 4** would allow managers to react to changes quickly, but may result in less time for public participation. From a perspective of minimizing potential regulatory complexity resulting from inconsistent regulations between state and federal waters and resulting administrative costs, **Preferred Alternative 2** would be most beneficial, followed by **Alternative 4**, **Alternative 3**, and **Alternative 1 (No Action)**.

Currently, Gulf of Mexico (Gulf) cobia is managed by the Gulf of Mexico Fishery Management Council and a portion of the ACL for Gulf cobia is allocated the Florida East Coast for management by the South Atlantic Council. This action addresses management for Atlantic cobia (GA-NY) only and management of Gulf cobia would not be affected by actions proposed in Amendment 31.

In addition to the actions in Amendment 31, Atlantic cobia is scheduled to undergo a stock ID workshop and benchmark assessment, with results tentatively scheduled to be available in Fall 2018 and Winter 2019, respectively. The South Atlantic Council has the option to postpone work on this amendment until after the stock ID workshop and/or the benchmark assessment. A

tentative timeline for Gulf and South Atlantic Council, NMFS, and SEDAR actions can be found in **Section 3.5.1**. If results from the upcoming Stock ID Workshop for Atlantic cobia indicate a change in the stock boundary for Atlantic and Gulf cobia the Gulf and South Atlantic Councils would need to determine if a change in the management boundary between the stocks is warranted. Any change in management boundary would be addressed with an amendment to the CMP FMP as well as an amendment or addendum to the ASFMC Interstate FMP. This process would involve multiple opportunities for public input.

Chapter 3. Affected Environment

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

- **Habitat Environment** (Section 3.1)
- **Biological Environment** (Section 3.2)
- **Economic Environment** (Section 3.3)
- **Social Environment** (Section 3.4)
- **Administrative Environment** (Section 3.5)

3.1 Habitat Environment

The South Atlantic Fishery Management Council (South Atlantic Council) has management jurisdiction of the federal waters (3-200 nautical miles) offshore of North Carolina, South Carolina, Georgia, and Florida. Under the Fishery Management Plan for Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico and Atlantic Region (CMP FMP), the South Atlantic Council manages Atlantic migratory group cobia (Atlantic cobia) through the Mid-Atlantic region.

South Atlantic Region

The continental shelf off the southeastern U.S., extending from the Dry Tortugas, Florida, to Cape Hatteras, North Carolina, encompasses an area in excess of 100,000 square km (Menzel 1993). Based on physical oceanography and geomorphology, this environment can be divided into two regions: Dry Tortugas, Florida, to Cape Canaveral, Florida, and Cape Canaveral, Florida, to Cape Hatteras, North Carolina. The continental shelf from the Dry Tortugas, Florida, to Miami, Florida, is approximately 25 km wide and narrows to approximately 5 km off Palm Beach, Florida. The shelf then broadens to approximately 120 km off Georgia and South Carolina before narrowing to 30 km off Cape Hatteras, North Carolina. The Florida Current/Gulf Stream flows along the shelf edge throughout the region. In the southern region, this boundary current dominates the physics of the entire shelf (Lee et al. 1994).

In the northern region, additional physical processes are important, and the shelf environment can be subdivided into three oceanographic zones (Atkinson et al. 1985; Menzel 1993), the outer shelf, mid-shelf, and inner shelf. The outer shelf (40-75 meters (m)) is influenced primarily by the Gulf Stream and secondarily by winds and tides. On the mid-shelf (20-40 m), the water column is almost equally affected by the Gulf Stream, winds, and tides. Inner shelf waters (0-20 m) are influenced by freshwater runoff, winds, tides, and bottom friction. Water masses present

from the Dry Tortugas, Florida, to Cape Canaveral, Florida, include Florida Current water, waters originating in Florida Bay, and shelf water.

Spatial and temporal variation in the position of the western boundary current has dramatic effects on water column habitats. Variation in the path of the Florida Current near the Dry Tortugas induces formation of the Tortugas Gyre (Lee et al. 1992, 1994). This cyclonic eddy has horizontal dimensions of approximately 100 km and may persist near the Florida Keys for several months. The Pourtales Gyre, which has been found to the east, is formed when the Tortugas Gyres moves eastward along the shelf. Upwelling occurs in the center of these gyres, thereby adding nutrients to the near surface (<100 m) water column. Wind and input of Florida Bay water also influence the water column structure on the shelf off the Florida Keys (Smith 1994; Wang et al. 1994). Further, downstream, the Gulf Stream encounters the "Charleston Bump", a topographic rise on the upper Blake Ridge where the current is often deflected offshore resulting in the formation of a cold, quasi-permanent cyclonic gyre and associated upwelling (Brooks and Bane 1978). The North Carolina coast consists of a series of cuspate bays or coastal compartments, each with different spatial orientations and a geologic character reflecting the adjacent continental shelf (McNinch and Luettich 2000). Offshore projecting shoals at Cape Fear, Cape Lookout, and Cape Hatteras, North Carolina, are prominent features that extend to the continental shelf break. They are an accretional feature formed by processes of longshore drift and prevailing wind and wave conditions. The cape-associated shoal complexes demarcate where the Labrador Current flowing south collides with the Gulf Stream flowing north. Further, the shoals affect longshore coastal currents that interact with Gulf Stream intrusions to produce local upwelling (Blanton et al. 1981; Janowitz and Pietrafesa 1982). Shoreward of the Gulf Stream, seasonal horizontal temperature and salinity gradients define the mid-shelf and inner-shelf fronts. Upwelling in frontal eddies and summer bottom intrusions driven by the Gulf Stream contribute to a high level of productivity by providing nutrient rich waters and a succession of biological responses (Lee et al. 1991). In coastal waters, river discharge and estuarine tidal plumes contribute to the water column structure.

The water column from Dry Tortugas, Florida, to Cape Hatteras, North Carolina, serves as habitat for many species of fish, invertebrates, turtles, and marine mammals. Most marine fish and shellfish release pelagic eggs when spawning and thus, most species utilize the water column during some portion of their early life history (Leis 1991; Yeung and McGowan 1991). Many fish inhabit the water column as adults. Pelagic fishes include numerous clupeoids, flying fish, jacks, cobia, bluefish, dolphin, barracuda, and the mackerels, tunas, and sharks (Schwartz 1989). Some pelagic species are associated with particular benthic habitats, while other species are truly pelagic.

Mid-Atlantic Region

Information about the physical environment of the Mid-Atlantic region was provided by the Mid-Atlantic Fishery Management Council and adapted from the 2016 Mackerel, Squid, and Butterfish Specifications Environmental Assessment, available at: http://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specspr.html.

Climate, physiographic, and hydrographic differences separate the Atlantic Ocean from Maine to Florida into the New England-Middle Atlantic Area and the South Atlantic Area (division/mixing at Cape Hatteras, North Carolina). The inshore New England-Middle Atlantic

area is fairly uniform physically and is influenced by many large coastal rivers and estuarine areas. The continental shelf (characterized by water less than 650 ft. in depth) extends seaward approximately 120 miles off Cape Cod, narrows gradually to 70 miles off New Jersey, and is 20 miles wide at Cape Hatteras. Surface circulation is generally southwesterly on the continental shelf during all seasons of the year, although this may be interrupted by coastal indrafting and some reversal of flow at the northern and southern extremities of the area. Water temperatures range from less than 33^{o}F from the New York Bight north in the winter to over 80^{o}F off Cape Hatteras in summer.

Within the New England-Middle Atlantic Area, the Northeast U.S. Continental Shelf Large Marine Ecosystem includes the area from the Gulf of Maine to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream. The Northeast U.S. Continental Shelf Large Marine Ecosystem is a dynamic, highly productive, and intensively studied system providing a broad spectrum of ecosystem goods and services. This region, encompassing the continental shelf area between Cape Hatteras and the Gulf of Maine, spans approximately 250,000 km^2 and supports some of the highest revenue fisheries in the U.S. The system historically underwent profound changes due to very heavy exploitation by distant-water and domestic fishing fleets. Further, the region is experiencing changes in climate and physical forcing that have contributed to large-scale alteration in ecosystem structure and function. Projections indicate continued future climate change related to both short and medium terms cyclic trends as well as non-cyclic climate change.

A number of distinct subsystems comprise the region. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, North Carolina. Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2006).

Essential Fish Habitat for Coastal Migratory Pelagics

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

A description of the EFH for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011), and is incorporated herein by reference. EFH for CMPs include coastal estuaries from the US/Mexico border to the boundary between the areas covered by the Gulf of Mexico Fishery Management Council and the South Atlantic Fishery Management Council from estuarine waters out to depths of 100 fathoms (GMFMC 2004). In the South Atlantic, EFH for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf

break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all primary nursery areas and all secondary nursery areas).

For cobia, EFH 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 species with pelagic larvae. For king and Spanish mackerel and cobia, essential fish habitat occurs in the South Atlantic and Mid-Atlantic Bights.

HAPCs for Coastal Migratory Pelagics (CMP)

A description of the HAPCs for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC/ SAFMC 2011), and is incorporated herein by reference. Areas which meet the criteria for 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 cobia based on abundance data from the Estuarine Living Marine Resources Program. Estuaries meeting this criteria for cobia include Broad River (South Carolina).

EFH Consultation

The consultation requirements of §305(b) of the Magnuson-Stevens Act (Magnuson-Stevens Act;16 U.S.C. 1855(b)) provide that:

- Federal agencies must consult with the Secretary on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- The Secretary shall provide recommendations (which may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH) to conserve EFH to federal or state agencies for activities that would adversely affect EFH;
- The federal action agency must provide a detailed response in writing to the National Marine Fisheries Service (NOAA Fisheries Service) and to any Council commenting under §305(b)(3) of the Magnuson-Stevens Act within 30 days after receiving an EFH Conservation Recommendation.

An EFH consultation is the process of satisfying the Federal agency consultation and response requirements of section 305(b)(2) and 305(b)(4)(B) of the Magnuson-Stevens Act, and the EFH Conservation Recommendation requirement of section 305(b)(4)(A) of that Act. When completed, an EFH consultation generally consists of: 1) notification to NOAA Fisheries Service of a federal action that may adversely affect EFH, 2) an EFH assessment provided to NOAA Fisheries Service, 3) EFH Conservation Recommendations provided by NOAA Fisheries Service to the Federal action agency, and 4) the Federal agency's response to NOAA Fisheries Service's EFH Conservation Recommendations. EFH guidelines allow the NOAA Fisheries Assistant Administrator to request further review of federal action agency decisions that are contrary to NOAA Fisheries Service's recommendations (50 CFR 600.920(k)(2)). The Federal agency

response must be provided within 30 days after receiving an EFH Conservation Recommendation and at least 10 days before final action on the project if the response is inconsistent with any of the conservation recommendations (50 CFR 600.920(k)(1)).

3.2 Biological and Ecological Environment

3.2.1 Fish Populations Affected by this Amendment

The action in this amendment only applies to the cobia component of the coastal migratory pelagics fishery.

3.2.1.1

Cobia is a member of the family Rachycentridae but is managed in the CMP FMP because of its migratory behavior. Cobia is distributed worldwide in tropical, subtropical and warm-temperate waters. In the western Atlantic it occurs from Nova Scotia, Canada, south to Argentina, including the Caribbean Sea. It is abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico. Cobia prefer water temperatures between 68-86°F. Seeking shelter in harbors and around wrecks and reefs, cobia are often found off south Florida and the Florida Keys. As a pelagic fish, cobia are found over the continental shelf as well as around offshore rocky outcrops, coral reefs, and artificial reefs. Cobia prefers to reside near any structure that interrupts the open water such as pilings, buoys, platforms, anchored boats, and flotsam. Cobia are also found inshore inhabiting bays, inlets, and mangroves. Research by Darden et al. (2014) supports the conclusion that offshore stocks of cobia are genetically homogeneous, but finds two genetically distinct inshore aggregations of cobia for South Carolina and Virginia.

Stock Description

Two migratory groups, Gulf of Mexico and Atlantic, are recognized for cobia. Cobia from federal waters off the east coast of Florida are part of the Gulf of Mexico migratory group. Cobia from the Florida/Georgia border north to New York are considered the Atlantic migratory group. Genetics research has demonstrated a distinct population segment for the Gulf of Mexico extending around the Florida peninsula into southeast Florida (Darden 2012). Recent research supports the conclusion that offshore populations of cobia within the Atlantic migratory group are genetically homogenous, but finds two genetically distinct aggregations of cobia for South Carolina and Virginia (Darden et al. 2014). These aggregations are known to utilize inshore estuarine habitats. Tag-recapture data from several long-term studies suggest that a high number of tagged fish demonstrate little movement or exchange between stocks in the Atlantic and Gulf of Mexico (Perkinson and Denson 2012).

3.2.1.2 Cobia Reproduction

Cobia form large aggregations, spawning during daylight hours between June and August in the Atlantic Ocean near the Chesapeake Bay, off North Carolina in May and June, and in the Gulf during April through September. Spawning frequency is once every 9-12 days, spawning 15-20 times during the season. During spawning, cobia undergo changes in body coloration from brown to a light horizontal-striped pattern, releasing eggs and sperm into offshore open water. Cobia have also been observed spawning in estuaries and shallow bays with the young heading offshore soon after hatching. Inshore spawning of cobia has been documented in Port

Royal Sound and St. Helena Sound, South Carolina, based on the presence of eggs, newly hatched larvae and reproductively mature females (Lefebvre and Denson, 2012). Cobia eggs are spherical, averaging 1.24 mm in diameter. Larvae are released approximately 24-36 hours after fertilization.

3.2.1.3 Cobia Development Growth and Movement Patterns

Newly hatched larvae are 2.5 mm (1 inch) long and lack pigmentation. Five days after hatching, the mouth and eyes develop, allowing for active feeding. A pale yellow streak is visible, extending the length of the body. By day 30, the juvenile takes on the appearance of the adult cobia with two color bands running from the head to the posterior end of the juvenile.

Weighing up to a record 61 kg (135 pounds whole weight [lbs ww]), cobia are more common at weights of up to 23 kg (50 lbs ww). They reach lengths of 50-120 cm (20-47 inches), with a maximum of 200 cm (79 inches). Cobia grow quickly and have a moderately long life span. Maximum ages observed for cobia in the Gulf were 9 and 11 years for males and females, respectively, while off the North Carolina coast maximum ages were 14 and 13 years, respectively. Females reach sexual maturity at 3 years of age and males at 2 years in the Chesapeake Bay region. During autumn and winter months, cobia migrate south and offshore to warmer waters. In early spring, migration occurs northward along the Atlantic coast.

3.2.2 Description of the Cobia Portion of the Coastal Migratory Pelagics Fishery

Currently, no commercial vessel permit is required for harvest or sale of cobia. Cobia is considered a limited harvest species, and the possession limit for recreational or commercial harvest is two fish per person per day.

Two migratory groups, Gulf of Mexico and Atlantic, are recognized for cobia. Cobia from federal waters off the east coast of Florida are part of the Gulf of Mexico migratory group. Cobia from the Florida/Georgia border north to New York are considered the Atlantic migratory group. In 2016, the Atlantic cobia annual catch limit (ACL) was 50,000 lbs ww for the commercial sector and 620,000 lbs ww for the recreational sector.

Over the last 5 years (2011-2015), annual commercial landings have averaged approximately 50,516 lbs ww (**Table 3.2.2.1**). Recreational landings from federal waters off Virginia and North Carolina have been increasing in recent years, and in 2015, landings off Virginia and North Carolina accounted for the highest landings in the region (**Table 3.2.2.1**). Landings in New York are relatively minor. According to landings data, the majority of these landings originate from state waters (e.g., pound net landings or landings originating within Chesapeake Bay).

Table 3.2.2.1. Annual commercial and recreational landings (lbs ww*) of cobia in the state and federal waters of the Atlantic (New York-Georgia).

Year	Commercial Landings	Recreational Landings
2005	29,290	915,300
2006	31,990	980,071
2007	32,037	745,776
2008	33,739	537,767
2009	42,385	760,841
2010	56,393	938,527
2011	33,963	347,527
2012	42,176	496,173
2013	53,108	895,925
2014	69,197	544,952
2015	71,790 (lbs landed weight)	1,565,186
2016	87,905	1,341,597

* All years are in whole weight except for 2015 commercial landings, which are landed weight (gutted weight plus whole weight)
Source: Southeast Fisheries Science Center (SEFSC) ACL Landings Dataset, 2016 Commercial Quota Monitoring Program

Table 3.2.2.2. Recreational landings (lbs ww) of cobia from state and federal waters, Georgia through New York during 2005-2016.

Year	Georgia	South Carolina	North Carolina	Mid-Atlantic	Total
2005	1,353	3,788	320,267	606,760	932,169
2006	2,818	99,012	102,253	798,178	1,002,261
2007	62,701	266,670	88,190	337,601	755,162
2008	255,682	48,100	64,250	174,588	542,621
2009	1,988	74,220	121,052	579,698	776,957
2010	77,845	63,678	559,476	244,320	945,319
2011	88,364	1,554	119,678	141,875	351,471
2012	103,180	222,353	66,645	105,844	498,022
2013	29,304	19,159	492,998	365,848	907,309
2014	20,670	32,010	277,846	221,193	551,719
2015	68,448	125,365	642,906	721,589	1,558,308
2016	223	75,919	331,082	934,374	1,341,598
Average	59,381	85,986	265,554	435,989	846,910

Source: Southeast Fisheries Science Center

3.2.3 Status of Stock

Cobia

Both the Gulf and Atlantic migratory groups of cobia were assessed by SEDAR 28 in 2013. The SEDAR 28 stock assessment for Atlantic migratory group cobia (Atlantic cobia) determined that the stock is not overfished or experiencing overfishing. The Gulf of Mexico Fishery Management Council Scientific and Statistical Committee's (SSC) reviewed the SEDAR 28 stock assessment of Gulf migratory group cobia (Gulf cobia) which determined that the stock was not overfished or experiencing overfishing. SEDAR will be conducting a Stock ID Workshop for cobia, as well as a benchmark stock assessment. Stock ID Workshop results are anticipated late-2018, assessment results are anticipated early 2020.

3.2.4 Bycatch

Cobia has not historically been targeted by the commercial sector due to low possession limits. However, there is some indication that even with the low possession limits, the directed harvest of cobia appears to be increasing (ASFMC 2017). **Table 3.2.4.1** lists the top three species caught on commercial trips where at least one pound of cobia was caught in the Gulf of Mexico and South Atlantic and cobia contributed only 7% of harvest on these trips. Red grouper, red snapper and king mackerel contributed to most of the landings on these trips.

Table 3.2.4.1 Top three species caught on trips where at least one pound of cobia was caught with all gear types in the Gulf of Mexico and South Atlantic from 2010-2014. Cobia were not listed in the top three species by harvest on these trips. Cobia contributed only 7% of harvest on these trips.

Species	% of Harvest (All Gear Types)
Red Grouper	35.4%
Red Snapper	15.9%
King mackerel	9.0%

Source: Southeast Fisheries Science Center Commercial Logbook (April 2016)

The recreational cobia fishery tends to be a targeted fishery. Vessels use towers to get a higher vantage point in which to find the cobia in the nearshore coastal zones of some states. Various small and large coastal sharks and various ray species are the most common bycatch. Cobia are encountered as bycatch in the troll and live bait fisheries for king and Spanish mackerel, dolphin, and other pelagic species. Additionally, cobia are taken incidental to offshore bottom fishing activities for snapper/grouper species. (ASFMC 2017).

Cobia are uncommon bycatch components in most U.S. South and Mid-Atlantic fisheries. Mortalities resulting from cobia released from varying depths in the hook and line fisheries and regulatory discards from the large mesh gill fisheries in North Carolina and Virginia are unknown.

The Bycatch Practicability Analysis in **Appendix F** describes bycatch in the CMP fishery in more detail.

3.2.5 Protected Species

Protected species or distinct population segments (DPS) of sea turtles, fish, coral, and marine mammals can be found within the action area of the CMP fishery. Six species or distinct DPSs of sea turtles listed under the Endangered Species Act (ESA) may be affected by the proposed action: the endangered leatherback, the endangered hawksbill, the endangered Kemp's ridley, the threatened Northwest Atlantic DPS of loggerhead, and the threatened North Atlantic and South Atlantic DPSs of green sea turtles.

Five DPSs of Atlantic sturgeon also occur in the action area and may be affected by the proposed action. The New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs are listed as endangered. The Gulf of Maine DPS is listed as threatened. The U.S. DPS of smalltooth sawfish is listed as endangered and may also occur in the action area and be affected by the proposed action. Additionally, seven species of coral (elkhorn, staghorn, lobed star, mountainous star, boulder star, pillar, and rough cactus corals) can be found in the action area.

Species of large whales protected by the ESA that occur throughout the Atlantic Ocean include the blue whale, fin whale, North Atlantic right whale, sei whale, and the sperm whale. Additionally, the West Indian manatee also occurs in both the Gulf of Mexico and the Atlantic Ocean. These species are also considered depleted under the Marine Mammal Protection Act (MMPA). Depleted and endangered designations afford special protections from captures, and further measures to restore populations to recovery or the optimum sustainable population are identified through required recovery (ESA species) or conservation plans (MMPA depleted species). Numerous other species of marine mammals listed under the MMPA occur throughout the Atlantic Ocean.

Portions of designated critical habitat for elkhorn and staghorn corals, the Northwest Atlantic loggerhead sea turtle, and the North Atlantic right whale also occur within the proposed action area.

National Marine Fisheries Service (NMFS) completed a biological opinion on June 18, 2015 (2015 Opinion), evaluating the impacts of the continued authorization of the CMP fishery on ESA-listed species. In the biological opinion, NMFS determined that the continued authorization of the CMP fishery, is not likely to adversely affect any ESA-listed whales, Gulf sturgeon, or corals. NMFS also determined that the continued authorization of the CMP fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn corals or the Northwest Atlantic loggerhead sea turtle, and will have no effect on designated critical habitat for the North Atlantic right whale.

The 2015 Opinion concluded that the CMP fishery's continued authorization is likely to adversely affect but is not likely to jeopardize green, hawksbill, Kemp's ridley, leatherback, or the Northwest Atlantic DPS of loggerhead sea turtles, Atlantic sturgeon, or the smalltooth sawfish.

An incidental take statement for sea turtles, smalltooth sawfish, and Atlantic sturgeon was issued. Reasonable and prudent measures to minimize the impact of these incidental takes were specified, along with terms and conditions to implement them.

On April 6, 2016, NMFS and the U.S. Fish and Wildlife Service published a final rule (81 FR 20057), effective May 6, 2016, listing eleven DPSs of green sea turtle. The final rule, which superseded the previous listing, listed eight DPSs as threatened and three DPSs as endangered. On June 29, 2016, NMFS published a final rule (81 FR42268) to list Nassau grouper as threatened under the ESA, effective July 29, 2016. Because the range of both the North Atlantic and South Atlantic DPSs of green sea turtles and the Nassau grouper occur within the action area of the CMP fishery, NMFS reinitiated consultation on the CMP fishery in March 2017.

NMFS completed an Amendment to the 2015 Opinion on November 13, 2017. The Amended Biological Opinion concluded that the CMP fishery's continued authorization is not likely to adversely affect Nassau grouper and is likely to adversely affect but is not likely to jeopardize the North Atlantic and South Atlantic DPSs of green sea turtle. A revised incidental take statement was issued.

The Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2017 MMPA List of Fisheries as a Category III fishery (81 FR 54019), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

The Gulf and South Atlantic CMP gillnet fishery is classified as Category II fishery in the 2017 MMPA List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

3.3 Economic Environment

A description of the Atlantic cobia stock is provided in **Section 3.2.**

Economic information pertaining to cobia can be found in Vondruska (2010), as well as Amendment 18 (GMFMC/SAFMC 2011), Amendment 20B (GMFMC/SAFMC 2014), and Amendment 4 (GMFMC/SAFMC 2016) and is incorporated herein by reference. The following section contains updated information on the economic environment of this fishery.

3.3.1. Commercial Sector

There is no federal permit required for the commercial harvest of Atlantic migratory group cobia. However, commercial harvest of cobia in the EEZ may only be sold to dealers with a federal dealer permit. As of October 17, 2017, there were 433 entities with a Gulf and South Atlantic Dealer permit.

Total Landings and Dockside Revenues

Prior to 2015, the South Atlantic Council's management area for Atlantic cobia extended from the east coast of Florida through New York. As implemented through Amendment 20B (GMFMC/SAFMC 2014) and effective in 2015, the current management area for Atlantic cobia extends from Georgia through New York. The tables presented below include cobia landings and revenues from Georgia through New York only to be consistent with the current stock boundaries of the Atlantic cobia migratory group. Also, all states from Virginia to New York are combined as one area and denoted as Mid-Atlantic (Mid-Atl). Landings are reported in whole weight (ww) for years prior to 2015, to align with the manner in which the commercial ACL (quota) was monitored prior to 2015. From 2015 on, the commercial ACL has been specified and monitored in terms of landed weight ("as reported"), which is a combination of gutted and whole weight. This means landings in gutted weight are not converted to whole weight, or vice-versa, but landings in whole or gutted weight are simply added together to track landings against the ACL. Landings prior to 2015 cannot be directly converted to landed weight.

From 2012 through 2016, total annual commercial landings of Atlantic cobia increased steadily (**Table 3.3.1.1**). This increase was driven by landings in North Carolina and the Mid-Atlantic states. Georgia through South Carolina landings remained low and stable. The average annual dockside price for 2012 through 2016 was $2.34 per lb (2016 $).[2] North Carolina has consistently been the top producer of cobia, followed by the Mid-Atlantic states and Georgia/South Carolina (**Table 3.3.1.1**). Virginia (not shown in the table) accounted for most of the Mid-Atlantic landings. One notable feature for the Mid-Atlantic area is the very high rate of growth in cobia landings from 2012 through 2016, which resulted in an increase of almost 450% overall.

[2]This average price calculation treats lbs ww and lbs lw as equivalent.

Table 3.3.1.1. Commercial Atlantic cobia landings (lbs ww for 2012-2014; lbs lw for 2015-2016) and revenues (2016 $) by state/area.

	GA/SC*	NC	Mid-Atl	Total
	Landings (lbs ww for 2012-2014; lbs lw for 2015-2016)			
2012	3,887	32,008	6,448	42,343
2013	4,477	35,496	13,093	53,066
2014	4,009	41,848	23,111	68,968
2015	2,768	52,729	27,283	82,780
2016	4,270	48,275	35,360	87,905
Average**	3,882	42,071	21,059	67,012
	Dockside Revenue (2016 $)			
2012	$15,174	$65,258	$14,215	$94,647
2013	$15,856	$76,232	$36,489	$128,577
2014	$12,000	$90,043	$63,016	$165,059
2015	$8,894	$114,675	$76,476	$200,045
2016	$15,673	$107,957	$73,823	$197,453
Average	$13,519	$90,833	$52,804	$157,156

Source: SEFSC Commercial ACL Dataset (October 2017)
*Georgia and South Carolina are combined for confidentiality purposes.
**This 5-year average treats ww and lw as equivalent.

Commercial fishermen harvest cobia using various gear types. **Table 3.3.1.2** shows commercial Atlantic cobia landings and revenues by gear type. In **Table 3.3.1.2**, "Hook and Line" includes handline, longline, power-assisted line, and troll line, while "Others" includes traps, other net gear, dredges/gigs/spears, and unclassified gear. The dominant gear type varied from 2012 through 2016, with gillnets generating the highest average annual landings overall (**Table 3.3.1.2**). Although not shown in the table, handline accounted for the biggest share of the hook and line landings (~77%); whereas longline accounted for only a small share (~2%).

Table 3.3.1.2. Commercial Atlantic cobia landings (lbs ww for 2012-2014; lbs lw for 2015-2016) and revenue (2016$) by gear.

	Hook and Line	Gillnets	Others	Total
	Landings (lbs ww for 2012-2014; lbs lw for 2015-2016)			
2012	12,996	21,224	8,123	42,343
2013	23,581	13,205	16,280	53,066
2014	37,158	23,540	8,270	68,968
2015	35,217	36,758	10,805	82,780
2016	14,710	33,736	39,459	87,905
Average*	24,732	25,693	16,587	67,012
	Dockside Revenue (2016 $)			
2012	$29,007	$42,806	$22,834	$94,647
2013	$53,772	$28,552	$46,253	$128,577
2014	$94,506	$51,392	$19,161	$165,059
2015	$92,726	$80,360	$26,959	$200,045
2016	$38,420	$75,755	$83,278	$197,453
Average	$61,686	$55,773	$39,697	$157,156

Source: SEFSC Commercial ACL Dataset (October 2017)
*This 5-year average treats ww and lw as equivalent.
Note: "Hook and Line" includes handline, longline, power assisted line, and troll line; "Others" include traps, dredges/gigs/spears, other net gear, and unclassified gear.

On average, June is the peak month for cobia landings and dockside revenue (**Figure 3.3.1.1**). January through April are the lowest months for landings and revenue. There are, however, some notable variations from the general average. Two peak landings occurred in 2012 (June and October) and in 2014 (May and August) (**Figure 3.3.1.2**). Also, in 2015 and 2016, peak landings occurred during the months of November and December, respectively (**Figure 3.3.1.2**). This may suggest an increasing interest in fishing for cobia later in the year. Seasonal variations in prices tended to cause peak revenue months to diverge slightly from peak landings months (**Figure 3.3.1.2** and **Figure 3.3.1.3**).

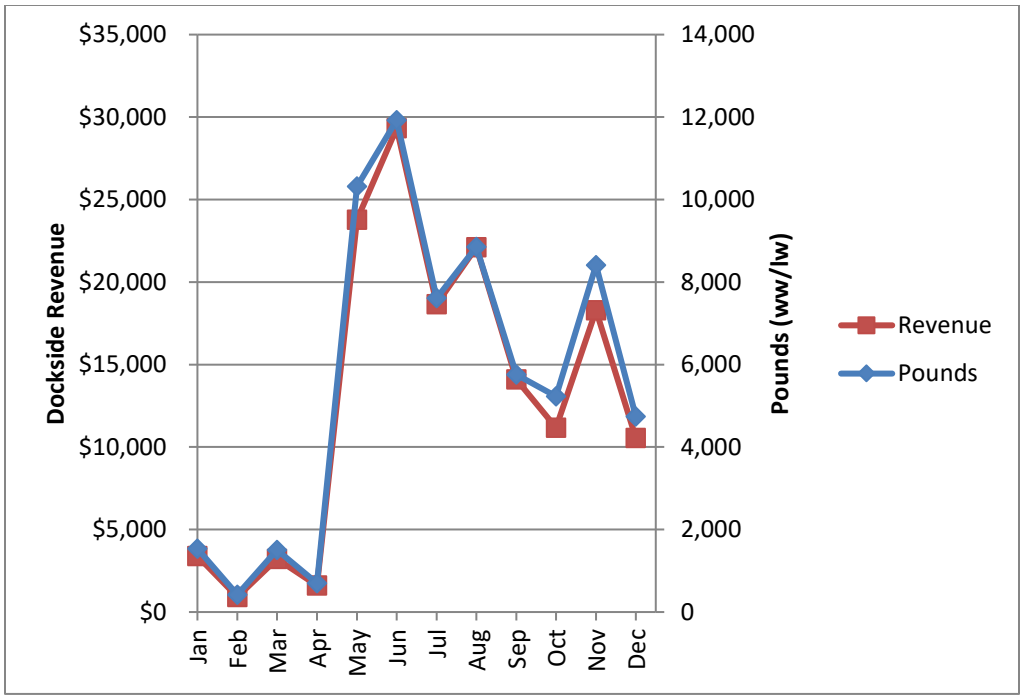

Figure 3.3.1.1. Average (2012-2016)* monthly Atlantic cobia landings (lbs ww/lw) and revenue (2016 $).
Source: SEFSC Commercial ACL Dataset (October 2017)
*Landings in ww and lw are treated as equivalent.

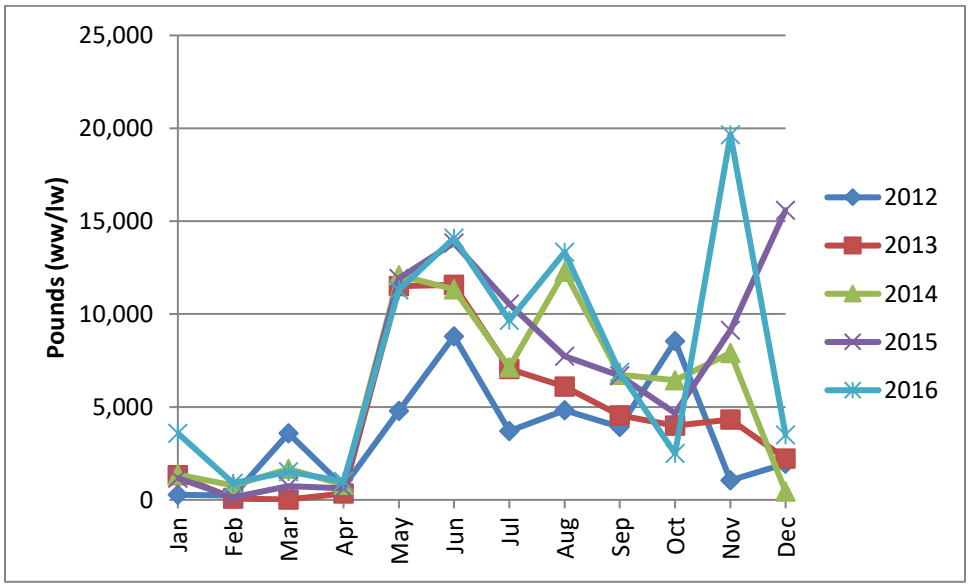

Figure 3.3.1.2. Monthly Atlantic cobia landings (lbs ww for 2012-2014; lbs lw for 2015-2016).
Source: SEFSC Commercial ACL Dataset (October 2017)

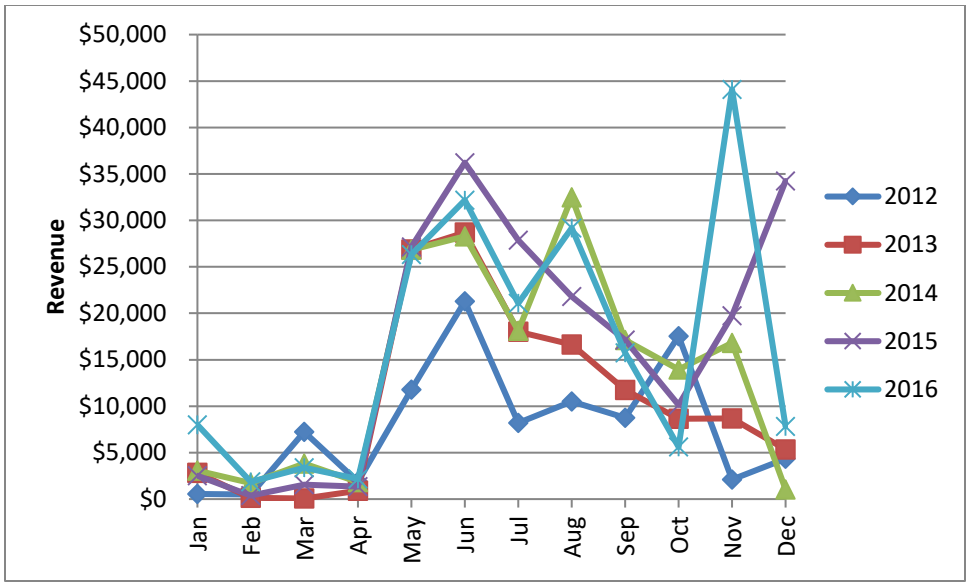

Figure 3.3.1.3. Monthly Atlantic cobia revenue (2016 $), 2012–2016.
Source: SEFSC Commercial ACL Dataset (October 2017)

Vessels, Trips, Landings, and Dockside Revenues

The following summaries of landings, value, and effort (**Tables 3.3.1.3** and **3.3.1.4**) are based on logbook information and the NMFS Accumulated Landings System (ALS) for prices and so would not exactly match with the landings and revenues presented above. In addition, the landings are presented in gutted weight rather than in total or landed weight. Landings for all species in the Southeast Fisheries Science Center Social Science Research Group's (SEFSC-SSRG) Socioeconomic Panel data are expressed in gutted weight to provide one unit for all species. This is because data summarizations, as presented in **Table 3.3.1.3** and **Table 3.3.1.4** below, generally involve a multitude of species. It is also important to note that federally-permitted vessels that are required to submit logbooks generally report their harvest of most species regardless of whether the fish were caught in state or federal waters.

The number of South Atlantic vessels that harvested Atlantic cobia increased from 2012 through 2014 and then dropped in 2015 through 2016. On average (2012 through 2016), these vessels landed cobia on approximately 12% of their South Atlantic trips (excluding Florida) and cobia accounted for less than 1% of their annual all species revenue (**Table 3.3.1.3** and **Table 3.3.1.4**).[3] Total landings and dockside revenue estimates for vessels that harvested Atlantic cobia (presented here) are only for Georgia through North Carolina trips and thus may be considered underestimates.

[3]Florida is excluded to be consistent with the current stock boundaries for Atlantic cobia.

Table 3.3.1.3. Number of South Atlantic vessels, trips, and landings (lbs gw) by year for Atlantic cobia.

Year	# of vessels that caught cobia (> 0 lbs gw)	# of trips that caught cobia	cobia landings (lbs gw)	Other species' landings jointly caught w/ cobia (lbs gw)	# of South Atlantic trips that only caught other species	Other species' landings on South Atlantic trips w/o cobia (lbs gw)
2012	92	331	13,026	307,054	2,319	2,121,282
2013	103	335	14,079	311,009	2,422	2,263,747
2014	110	385	15,467	340,977	2,759	2,440,923
2015	97	295	14,595	262,883	2,100	1,812,060
2016	97	340	18,451	312,181	2,602	2,203,170
Average	100	337	15,124	306,821	2,440	2,168,236

Source: SEFSC-SSRG Socioeconomic Panel v.4 July 2017

Table 3.3.1.4. Number of South Atlantic vessels and ex-vessel revenues by year (2016 dollars) for Atlantic cobia.

Year	# of vessels that caught cobia (> 0 lbs gw)	Dockside revenue from cobia	Dockside revenue from 'other species' jointly caught w/ cobia	Dockside revenue from 'other species' caught on South Atlantic trips w/o cobia	Total dockside revenue	Average total dockside revenue per vessel
2012	92	$30,864	$745,073	$5,130,172	$5,906,109	$64,197
2013	103	$35,900	$921,208	$5,938,209	$6,895,317	$66,945
2014	110	$37,726	$862,564	$5,622,852	$6,523,142	$59,301
2015	97	$36,907	$727,385	$4,330,259	$5,094,551	$52,521
2016	97	$45,262	$709,832	$5,420,732	$6,175,826	$63,668
Average	100	$37,332	$793,212	$5,288,445	$6,118,989	$61,326

Source: SEFSC-SSRG Socioeconomic Panel v.4 July 2017

Tabulation of vessel/trip level information for Mid-Atlantic vessels similar to that in **Table 3.3.1.3** or **Table 3.3.1.4** is not available. However, an approximation of similar information for the Mid-Atlantic vessels is presented in **Table 3.3.1.5** that focuses exclusively on cobia landings and revenues. Total cobia landings and revenue are the same as those presented in **Table 3.3.1.1** and vessel/trip information is based on the dealer weigh-out database (Larkin, pers. comm. 2016). The numbers of commercial vessels and trips that harvested cobia from 2012 through 2016 in the Mid-Atlantic were more or less stable, with the exception of a spike in cobia trips in

2015 (**Table 3.3.1.5**). During this time period, average vessel-level revenue from cobia was highest during 2014 through 2015; however, it was quite low in general.

Table 3.3.1.5. Mid-Atlantic vessels, trips, cobia landings by weight, and dockside revenue (2016 $), 2012–2016.

Year	Number of vessels that landed cobia	Number of trips that landed cobia	Cobia landings (lbs ww for 2012-2014; lbs lw for 2015-2016)	Dockside revenue from cobia (2016 $)	Revenue per vessel from cobia (2016 $)
2012	22	131	6,448	$14,215	$646
2013	32	134	13,093	$36,489	$1,140
2014	21	153	23,111	$63,016	$3,001
2015	25	383	27,283	$76,476	$3,059
2016	38	152	35,360	$73,823	$1,943
Average	28	191	21,059	$52,804	$1,958

Source: **Table 3.3.1.1** for cobia landings and revenue; dealer weigh-out database for the number of vessels and trips.

Imports

Imports of seafood products compete in the domestic seafood market and have in fact dominated many segments of the seafood market. Imports affect the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports have downstream effects on the local fish market. At the harvest level for coastal migratory pelagic (CMP) species, including cobia, imports affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production of CMP species, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings. The following describes the imports of fish products that directly compete with domestic harvest of cobia.

Imports[4] of fresh cobia ranged from 0.9 million lbs product weight (pw) to 1.7 million lbs pw during 2012 through 2016, with a peak in 2014. Annual revenue from these imports ranged from $2.6 million to $7.5 million (2016 dollars[5]). Imports of fresh cobia primarily originated in Panama, and entered the U.S. through the port of Miami.

Imports of frozen cobia were sparse, with average annual imports of approximately 52,000 lbs pw from 2012 through 2016, worth approximately $124,000 (2016 dollars). Imports of frozen cobia primarily originated in Panama and entered the U.S. through the ports of Savannah, Los Angeles, and Miami.

[4]NOAA Fisheries Service purchases fisheries trade data from the Foreign Trade Division of the U.S. Census Bureau. Data are available for download at http://www.st.nmfs.noaa.gov/st1/trade/index.html.
[5]Converted to 2016 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Commercial Sector Business Activity

The commercial harvest and subsequent sales and consumption of fish generates business activity as fishermen expend funds to harvest the fish and consumers spend money on goods and services, such as cobia purchased at a local fish market and served during restaurant visits. These expenditures spur additional business activity in the region(s) where the harvest and purchases are made, such as jobs in local fish markets, grocers, restaurants, and fishing supply establishments. In the absence of the availability of a given species for purchase, consumers would spend their money on substitute goods, such as other finfish or seafood products, and services, such as visits to different food service establishments. As a result, the analysis presented below represents a distributional analysis only; that is, it only shows how economic effects may be distributed through regional markets and should not be interpreted to represent the impacts if these species are not available for harvest or purchase.

Estimates of the U.S. average annual business activity associated with the commercial harvest of cobia were derived using the model developed for and applied in NMFS (2017) and are provided in **Table 3.3.1.6.**[6] This business activity is characterized as jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts, which represent the contribution made to the U.S. Gross Domestic Product (GDP). These impacts should not be added together because this would result in double counting. It should be noted that the results provided should be interpreted with caution and demonstrate the limitations of these types of assessments. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. For example, the results provided here apply to an "all other finfish" category rather than just cobia, and a harvester job is "generated" for approximately every $33,000 (2016 dollars) in ex-vessel revenue. These results contrast with the number of harvesters (vessels) with recorded landings of cobia presented in **Table 3.3.1.3** and **Table 3.3.1.5.**

Table 3.3.1.6. Average annual business activity (2012 through 2016) associated with the commercial harvest of cobia. All monetary estimates are in 2016 dollars.*

Species	Average Ex-vessel Value (thousands $)	Total Jobs	Harvester Jobs	Output (Sales) Impacts ($ thousands)	Income Impacts ($ thousands)	Value Added ($ thousands)
Cobia	$157	21	5	$1,563	$566	$804

Source: Calculated by NMFS SERO using the model developed for and applied in NMFS (2017).
*Converted to 2016 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

3.3.2 Recreational Sector

The recreational sector is comprised of the private and for-hire modes. The private mode includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire mode is composed of charter boats and headboats (also called partyboats). Charter boats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats

[6]A detailed description of the input/output model is provided in NMFS (2011).

carry more passengers and payment is per person. The type of service, from a vessel- or passenger-size perspective, affects the flexibility to search different fishing locations during the course of a trip and target different species since larger concentrations of fish are required to satisfy larger groups of anglers.

Permits

A federal charter/headboat (for-hire) vessel permit is required for harvesting CMP species, including cobia, when fishing on for-hire vessels. The South Atlantic for-hire permit is an open access system. As of Oct 17, 2017, there were 1,732 valid South Atlantic charter/headboat CMP permits. Although the for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat. Operation as either a headboat or charter boat is not restricted by the permitting regulations and vessels may operate in both capacities. However, only selected headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the SEFSC that the vessel primarily operates as a headboat. As of February 17, 2017, 63 South Atlantic headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.). The majority of these headboats were located in Florida/Georgia (36), followed by North Carolina (16), and South Carolina (11).

There are no specific federal permitting requirements for recreational anglers to fish for or harvest cobia. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment.

Landings

On average, from 2012 through 2016, the recreational sector landed approximately 971,000 lbs of Atlantic cobia (**Table 3.3.2.1**). Average cobia landings in the Mid-Atlantic states were the highest and were driven by large increases in 2015 and 2016. Virginia (not shown in the table) accounted for most of these landings (~97%). North Carolina generated the second highest average landings from 2012 through 2016, followed by South Carolina, and then Georgia. Landings fluctuated in most states during this time period (**Table 3.3.2.1**). The private/rental mode generated the majority of cobia landings from 2012 through 2016, while landings of cobia on headboats were minimal (**Table 3.3.2.2**).

Table 3.3.2.1. Annual recreational landings (lbs ww for 2012-2014; lbs lw for 2015-2016) of Atlantic cobia, by state.

	Georgia	South Carolina	North Carolina	Mid-Atl	Total
2012	103,180	222,353	66,645	105,844	498,022
2013	29,304	19,159	492,998	365,848	907,309
2014	20,670	32,010	277,846	221,193	551,719
2015	68,448	125,365	642,906	721,589	1,558,308
2016	223	75,919	331,082	934,374	1,341,598
Average*	44,365	94,961	362,295	469,770	971,391

Source: SEFSC Recreational ACL file (October 2017)
*This 5-year average treats ww and lw as equivalent.

Table 3.3.2.2. Annual recreational landings (lbs ww for 2012-2014; lbs lw for 2015-2016) of Atlantic cobia, by fishing mode.

	Charter	Headboat	Private/Rental	Shore	Total
2012	40,084	1,855	386,048	70,035	498,022
2013	78,725	6,363	822,223	0	907,310
2014	49,503	6,604	457,662	37,950	551,719
2015	87,629	2,338	1,431,897	36,444	1,558,307
2016	128,241	1,426	1,125,580	86,351	1,341,598
Average*	76,836	3,717	844,682	46,156	971,391

Source: SEFSC Recreational ACL file (October 2017)
*This 5-year average treats ww and lw as equivalent.

Peak recreational landings of Atlantic cobia occurred in the May-June wave each year from 2012 through 2015 and then in the July-August wave in 2016 (**Figure 3.3.2.1**). Atlantic cobia landings in general were heavily concentrated during May through August.

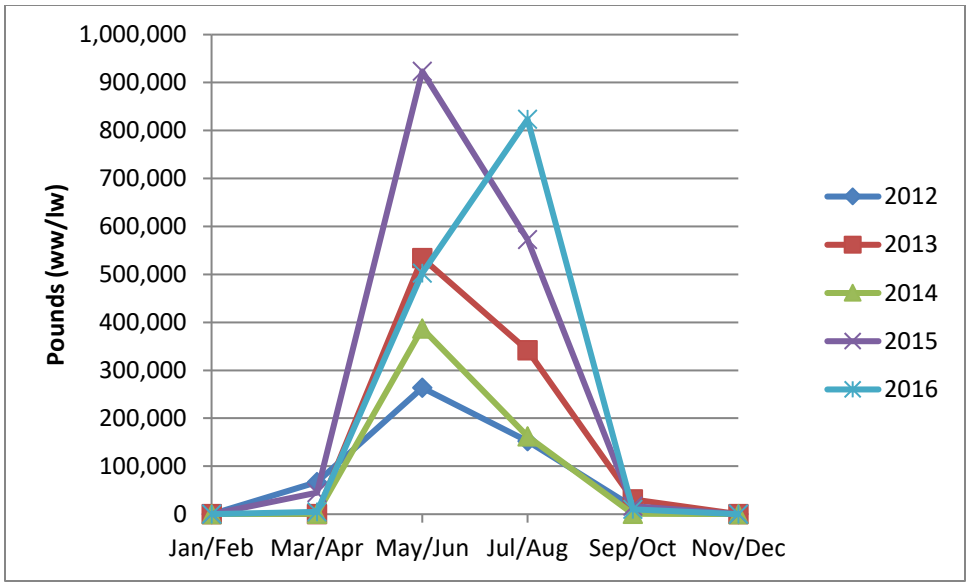

Figure 3.3.2.1. Distribution of Atlantic cobia recreational harvest (lbs ww for 2012-2014; lbs lw for 2015-2016), by wave.
Source: SEFSC Recreational ACL file (October 2017)

Angler Effort

Recreational effort derived from the Marine Recreational Information Program (MRIP) database can be characterized in terms of the number of trips as follows:

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

Estimates of annual Atlantic cobia effort (in terms of individual angler trips) for 2012-2016 are provided in **Table 3.3.2.3** for target trips and **Table 3.3.2.4** for catch trips. Target and catch trips are shown by fishing mode (charter, private/rental, shore) for Georgia, South Carolina, North Carolina, and the Mid-Atlantic states combined. Cobia, like dolphin, is one of the few species where target trips generally exceed catch trips. On average (2012-2016), there were more than 3 times as many Atlantic cobia target trips as there were catch trips (**Table 3.3.2.3** and **Table 3.3.2.4**). This is suggestive of a relatively strong interest in fishing for cobia among recreational anglers across all fishing modes. For each state, the private/rental mode has been the dominant fishing mode both in target and catch effort.

Other measures of effort are possible, such as directed trips (the number of individual angler trips that either targeted or caught a particular species). Estimates of cobia trips for additional years, and other measures of directed effort, are available at http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index.

Table 3.3.2.3. Target trips for Atlantic cobia, by fishing mode and state, 2012-2016.

	Georgia	North Carolina	South Carolina	Mid-Atlantic*	Total
	Shore Mode				
2012	0	12,444	914	14,939	28,297
2013	0	15,976	627	5,693	22,296
2014	0	17,086	2,395	18,565	38,046
2015	0	22,249	372	19,684	42,305
2016	0	23,736	86	16,608	40,430
Average	0	18,298	879	15,098	34,275
	Charter Mode				
2012	0	345	1,025	156	1,526
2013	160	2,446	0	24	2,630
2014	0	1,703	1,452	295	3,450
2015	742	2,714	1,182	2,075	6,713
2016	0	4,801	1,576	911	7,288
Average	180	2,402	1,047	692	4,321
	Private/Rental Mode				
2012	2,495	23,320	57,543	37,706	121,064
2013	12,235	50,883	22,373	53,981	139,472
2014	1,322	50,112	23,365	49,075	123,874
2015	12,343	59,971	9,877	76,617	158,808
2016	2,959	60,919	17,647	111,775	193,300
Average	6,271	49,041	26,161	65,831	147,304
	All Modes				
2012	2,495	36,110	59,482	52,801	150,888
2013	12,395	69,305	23,000	59,697	164,397
2014	1,322	68,900	27,212	67,934	165,368
2015	13,085	84,934	11,430	98,376	207,825
2016	2,959	89,457	19,309	129,298	241,023
Average	6,451	69,741	28,087	81,621	185,900

Source: MRIP database, NOAA Fisheries, NMFS, SERO.
*Virginia accounted for over 99% of Mid-Atlantic trips that targeted cobia (on average; 2012-2016).

Table 3.3.2.4. Catch trips for Atlantic cobia, by fishing mode and state, 2012-2016.

	Georgia	North Carolina	South Carolina	Mid-Atlantic*	Total
	Shore Mode				
2012	0	7,983	0	2,055	10,038
2013	0	2,673	0	0	2,673
2014	0	6,128	3,268	0	9,396
2015	0	3,556	2,753	0	6,309
2016	0	7,316	0	7,583	14,899
Average	0	5,531	1,204	1,928	8,663
	Charter Mode				
2012	140	472	372	156	1,140
2013	160	2,798	48	24	3,030
2014	55	1,559	110	72	1,796
2015	0	2,598	805	1,140	4,543
2016	0	3,331	1,591	754	5,676
Average	71	2,152	585	429	3,237
	Private/Rental Mode				
2012	3,296	4,869	5,134	6,658	19,957
2013	1,157	21,047	3,699	14,256	40,159
2014	1,436	10,561	2,957	14,803	29,757
2015	2,372	19,162	4,484	24,254	50,272
2016	389	13,109	5,445	35,054	53,997
Average	1,730	13,750	4,344	19,005	38,828
	All Modes				
2012	3,436	13,324	5,506	9,038	31,304
2013	1,317	26,518	3,747	14,280	45,862
2014	1,492	18,248	6,335	14,876	40,951
2015	2,372	25,316	8,043	25,395	61,126
2016	389	23,757	7,036	43,391	74,573
Average	1,801	21,433	6,133	21,396	50,763

Source: MRIP database, NOAA Fisheries, NMFS, SERO.
*Virginia accounted for over 97% of Mid-Atlantic trips that caught cobia (on average; 2012-2016).

Similar analysis of recreational angler trips is not possible for the headboat mode because headboat data are not collected at the angler level in the Southeast.[7] Estimates of effort by the headboat mode are provided in terms of angler days, or the total number of standardized full-day angler trips.[8] Headboat effort in the South Atlantic (excluding Florida), in terms of angler days, was mostly stable during 2012-2016 and was the highest, on average, during the summer months of June through August (**Table 3.3.2.5** and **Table 3.3.2.6**).

Table 3.3.2.5. South Atlantic headboat angler days and percent distribution by state, 2012-2016, excluding Florida.

	Angler Days		Percent Distribution	
	GA/SC*	NC	GA/SC*	NC
2012	42,064	20,766	66.95%	33.05%
2013	42,853	20,547	67.59%	32.41%
2014	44,092	22,691	66.02%	33.98%
2015	41,479	22,716	64.61%	35.39%
2016	43,954	21,565	67.09%	32.91%
Average	42,888	21,657	66%	34%

*Georgia and South Carolina are combined for confidentiality purposes.
Source: NMFS Southeast Region Headboat Survey (SRHS).

[7]MRIP does sample headboats in the Northeast region; however, there were only 3 estimated heaboat trips that targeted cobia and 169 headboat trips that caught cobia in the Mid-Atlantic sub-region from 2012-2016.
[8]Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

Table 3.3.2.6. South Atlantic headboat angler days and percent distribution by month, 2012-2016.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Headboat Angler Days											
2012	9,230	9,663	17,307	19,587	18,232	27,819	35,115	25,052	15,894	8,677	6,564	8,252
2013	10,182	10,892	14,541	16,129	20,969	33,079	39,463	33,830	16,335	14,534	6,698	10,537
2014	8,748	13,512	19,808	22,570	25,764	39,115	44,066	32,886	15,203	15,235	9,088	14,611
2015	12,661	11,148	21,842	25,128	25,172	36,907	42,558	30,772	15,649	13,375	9,623	12,562
2016	9,818	12,243	23,872	22,217	27,374	37,454	45,744	29,223	17,061	9,202	12,820	13,404
Avg	10,128	11,492	19,474	21,126	23,502	34,875	41,389	30,353	16,028	12,205	8,959	11,873
	Percent Distribution											
2012	5%	5%	9%	10%	9%	14%	17%	12%	8%	4%	3%	4%
2013	4%	5%	6%	7%	9%	15%	17%	15%	7%	6%	3%	5%
2014	3%	5%	8%	9%	10%	15%	17%	13%	6%	6%	3%	6%
2015	5%	4%	8%	10%	10%	14%	17%	12%	6%	5%	4%	5%
2016	4%	5%	9%	9%	11%	14%	18%	11%	7%	4%	5%	5%
Avg	4%	5%	8%	9%	10%	14%	17%	13%	7%	5%	4%	5%

Source: NMFS Southeast Region Headboat Survey (SRHS).

Economic Value

Economic value can be measured in the form of consumer surplus (CS) per additional cobia kept on a trip for anglers (the amount of money that an angler would be willing to pay for a fish in excess of the cost to harvest the fish). There is no available estimate of CS for cobia, but dolphin or king mackerel CS estimates may be close proxies. The estimated values of the CS per fish for a second, third, fourth, and fifth king mackerel kept on a trip are approximately $100, $66, $49, and $39 respectively. For dolphin, the values for the second, third, fourth, and fifth kept fish are approximately $15, $10, $7, and $6, respectively (Carter and Liese 2012; values updated to 2016 dollars).[9]

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

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The estimated NOR value for an average South Atlantic charter angler trip is $165 (2016 dollars) and the estimated NOR value for a South Atlantic

[9]Converted to 2016 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

headboat angler trip is $45 (2016 dollars) (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR per cobia target trip are not available.

Recreational Sector Business Activity

The desire for recreational fishing generates economic activity as consumers spend their income on various goods and services needed for recreational fishing. This spurs economic activity in the region where recreational fishing occurs. It should be clearly noted that, in the absence of the opportunity to fish, the income would presumably be spent on other goods and services and these expenditures would similarly generate economic activity in the region where the expenditure occurs. As such, the analysis below represents a distributional analysis only.

Estimates of the business activity (economic impacts) associated with recreational angling for Atlantic cobia were calculated using average trip-level impact coefficients derived from the 2015 Fisheries Economics of the U.S. report (NMFS 2017) and underlying data provided by the National Oceanic and Atmospheric Administration (NOAA) Office of Science and Technology. Economic impact estimates in 2015 dollars were adjusted to 2016 dollars using the annual, not seasonally adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Business activity (economic impacts) for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (contribution to the GDP in a state or region). Estimates of the average annual economic impacts (2012-2016) resulting from Atlantic cobia target trips are provided in **Table 3.3.2.7**. Of the Mid-Atlantic states, only Virginia is included as it accounted for 99% of recreational cobia target trips in the sub-region. The average impact coefficients, or multipliers, used in the model are invariant to the "type" of effort and can therefore be directly used to measure the impact of other effort measures such as cobia catch trips. To calculate the multipliers from **Table 3.3.2.7**, simply divide the desired impact measure (sales impact, value-added impact, income impact or employment) associated with a given state by the number of target trips for that state.

The estimates provided in **Table 3.3.2.7** only apply at the state-level. Addition of the state-level estimates to produce a regional (or national) total may underestimate the actual amount of total business activity, because state-level impact multipliers do not account for interstate and interregional trading. It is also important to note, that these economic impacts estimates are based on trip expenditures only and do not account for durable expenditures. Durable expenditures cannot be reasonably apportioned to individual species. As such, the estimates provided in **Table 3.3.2.7** may be considered a lower bound on the economic activity associated with those trips that targeted cobia.

Estimates of the business activity associated with headboat effort are not available. Headboat vessels are not covered in MRIP in the Southeast, so, in addition to the absence of estimates of target effort, estimation of the appropriate business activity coefficients for headboat effort has not been conducted. Headboat vessels in the Northeast are covered by MRIP; however, headboat trips that targeted or caught cobia there are negligible.

Table 3.3.2.7. Estimated annual average economic impacts (2012-2016) from recreational trips that targeted Atlantic cobia, by state and mode, using state-level multipliers. All monetary estimates are in 2016 dollars in thousands.

	NC	SC	GA	VA*
	Charter Mode			
Target Trips	2,402	1,047	180	692
Value Added Impacts	$832	$425	$45	$72
Sales Impacts	$1,556	$785	$82	$129
Income Impacts	$565	$277	$31	$49
Employment (Jobs)	13	7	1	1
	Private/Rental Mode			
Target Trips	49,041	26,161	6,271	65,027
Value Added Impacts	$1,804	$531	$126	$1,948
Sales Impacts	$3,208	$964	$219	$3,337
Income Impacts	$1,127	$318	$76	$1,163
Employment (Jobs)	33	11	2	32
	Shore			
Target Trips	18,298	879	0	15,098
Value Added Impacts	$1,153	$50	$0	$413
Sales Impacts	$2,001	$86	$0	$661
Income Impacts	$707	$29	$0	$247
Employment (Jobs)	22	1	0	7
	All Modes			
Target Trips	69,741	28,087	6,451	80,817
Value Added Impacts	$3,789	$1,006	$171	$2,433
Sales Impacts	$6,765	$1,835	$301	$4,127
Income Impacts	$2,399	$623	$106	$1,459
Employment (Jobs)	68	19	3	40

*Headboat target trips in Virginia are negligible and are excluded.
Source: Effort data from MRIP; economic impact results calculated by NMFS SERO using NMFS (2017) and underlying data provided by the NOAA Office of Science and Technology.

3.4 Social Environment

This section provides information on the fishermen, communities and businesses that may be affected by the proposed action. Descriptions of fishing communities with high levels of commercial involvement and with recreational engagement are included, and community level data are presented in order to meet the requirements of National Standard 8 of the Magnuson-Stevens Act. Lastly, social vulnerability data are presented to assess the potential for environmental justice concerns.

The recent harvesting patterns for cobia reflect shifts in effort or changes in species range/status, which follow the establishment of two migratory groups of cobia and setting of ACLs and annual catch targets in Amendment 18 (GMFMC/SAFMC 2011) and a modified stock

boundary in Amendment 20B (GMFMC/SAFMC 2014). The community description for Atlantic cobia includes only communities north of the Georgia/Florida line through Mid-Atlantic region with both recreational and commercial fishing communities identified. For more comprehensive demographic descriptions of the communities, see the SERO Community Snapshots [10] and for Mid-Atlantic communities, see the Northeast Fisheries Science Center Community Snapshots.[11]

South Atlantic Recreational Fishing Communities

There are little data on cobia harvest at the community level for recreational fishing communities, but the NMFS Southeast Region headboat survey does provide quantitative information of where cobia is recreationally harvested. **Figure 3.4.1** provides cobia landings trends for fishing communities in the South Atlantic for the time series from 2010 to 2014. The communities of Calabash, North Carolina, Tybee Island, Georgia and Atlantic Beach, North Carolina have all seen increases in their landings trend since 2010 in **Figure 3.4.1**. Others like Myrtle Beach, South Carolina and Carolina Beach, North Carolina have seen a recent downturn in their landings from 2013 to 2014.

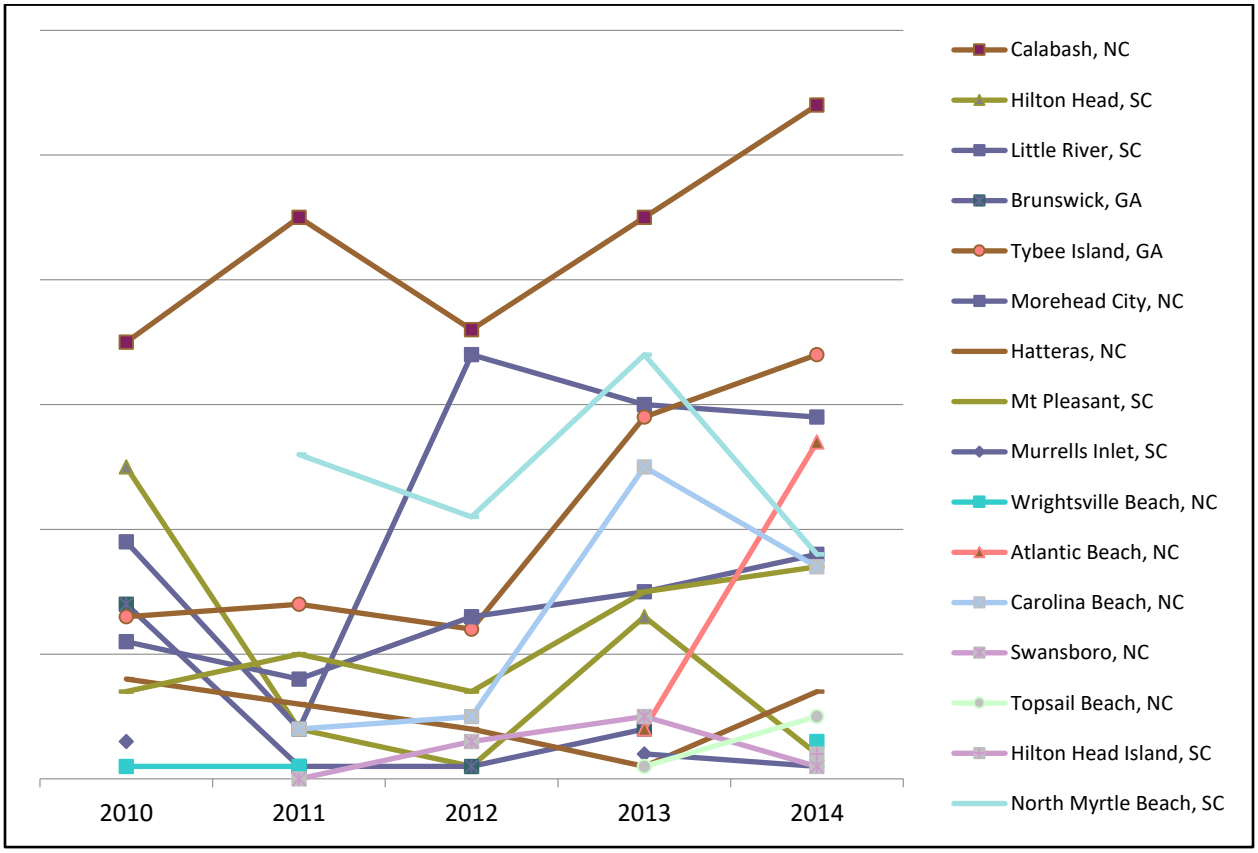

Figure 3.4.1. Cobia Headboat Landing Trends for South Atlantic Fishing Communities.
Source: NMFS Southeast Region Headboat Survey (SRHS).

Recreational fishing communities for the South Atlantic are listed in **Figure 3.4.2**. These communities were selected by their index ranking based on a factor analysis of a number of

[10] http://sero.nmfs.noaa.gov/sustainable_fisheries/social/community_snapshot/index.html
[11] http://www.nefsc.noaa.gov/read/socialsci/communitySnapshots.php

criteria including number of charter permits and recreational fishing infrastructure as listed under the MRIP survey identified within each community. There are two thresholds included in **Figure 3.4.2** that correspond to both1 and ½ standard deviations from the mean. The recreational engagement score is standardized so the mean is zero. Several communities in North Carolina and South Carolina exceed the threshold of 1 standard deviation which suggests those communities are highly engaged in recreational fishing. While this measure is not specific to cobia, but an overall recreational engagement measure, it is assumed that there would be more harvest of cobia from these ports recreationally because of increased effort.

The communities of Atlantic Beach, Hatteras, Manteo, Morehead City, North Carolina and Charleston, Hilton Head, Little River and Murrells Inlet, South Carolina all exceed the threshold of 1 standard deviation and likely have some dependence upon recreational fishing. The communities of Carolina Beach, Kill Devil Hills, Nags Head, Oak Island, Wanchese, Wilmington, North Carolina and Mount Pleasant, South Carolina all exceed the ½ standard deviation threshold and would also likely have some dependence upon recreational fishing within their economies, but not as much as those that exceed both thresholds. These communities may experience some effects of changes to management as they exhibit substantial recreational fishing activity. Unfortunately, we are unable at this time to describe cobia harvest within a community and must rely on an overall recreational fishing measure.

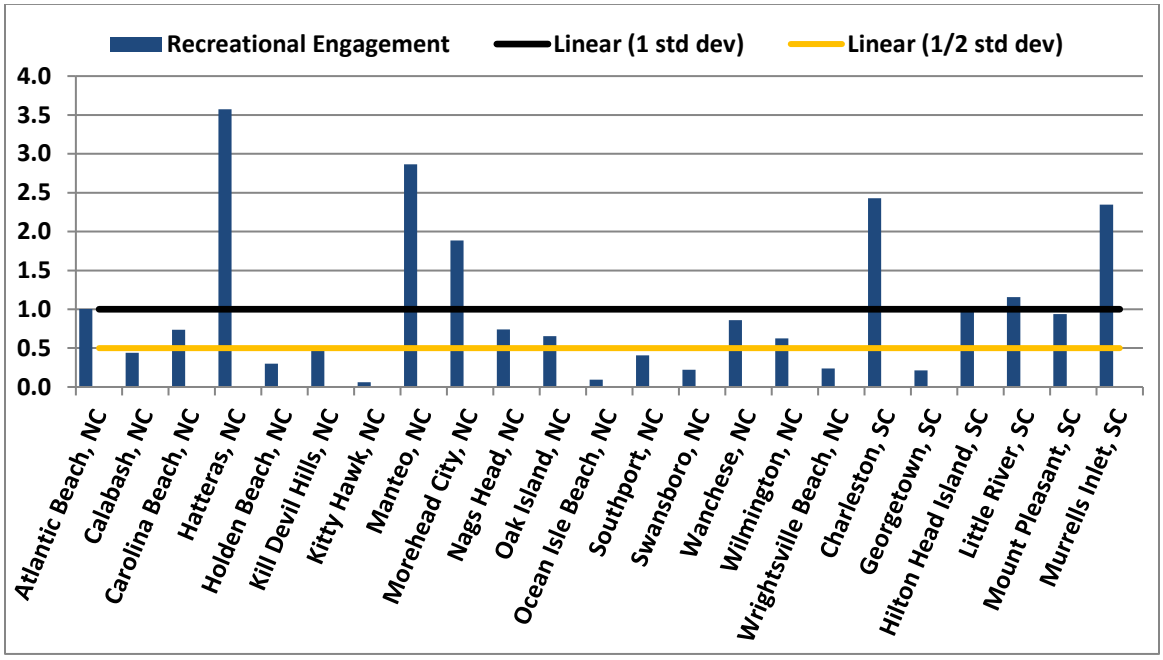

Figure 3.4.2. Recreational Engagement for Cobia Atlantic Group Fishing Communities.
Source: SERO Community Social Vulnerability Indicators 2016.

South Atlantic Commercial Fishing Communities

The communities ranked in **Figure 3.4.3** represent those top 16 communities in terms of their commercial landings of cobia within the South Atlantic states, based on a regional quota (RQ) in 2016. The RQ measures the highest proportions of commercial harvest of a species throughout the region to indicate the "top commercial communities." These communities will be the most likely to be affected by changes to commercial management for cobia. The data are based upon

dealer data aggregated at the community level. The community of Washington has seen a marked increase in its RQ for cobia in 2015 and 2016, especially since it had little to no landings previously. Avon saw a marked decrease in their RQ in 2014, but has seen a rise in the past two years. Wanchese was previously in the top 16 but has dropped out over the past two years and in fact, most communities in **Figure 3.4.3** have seen decreases in their RQ.

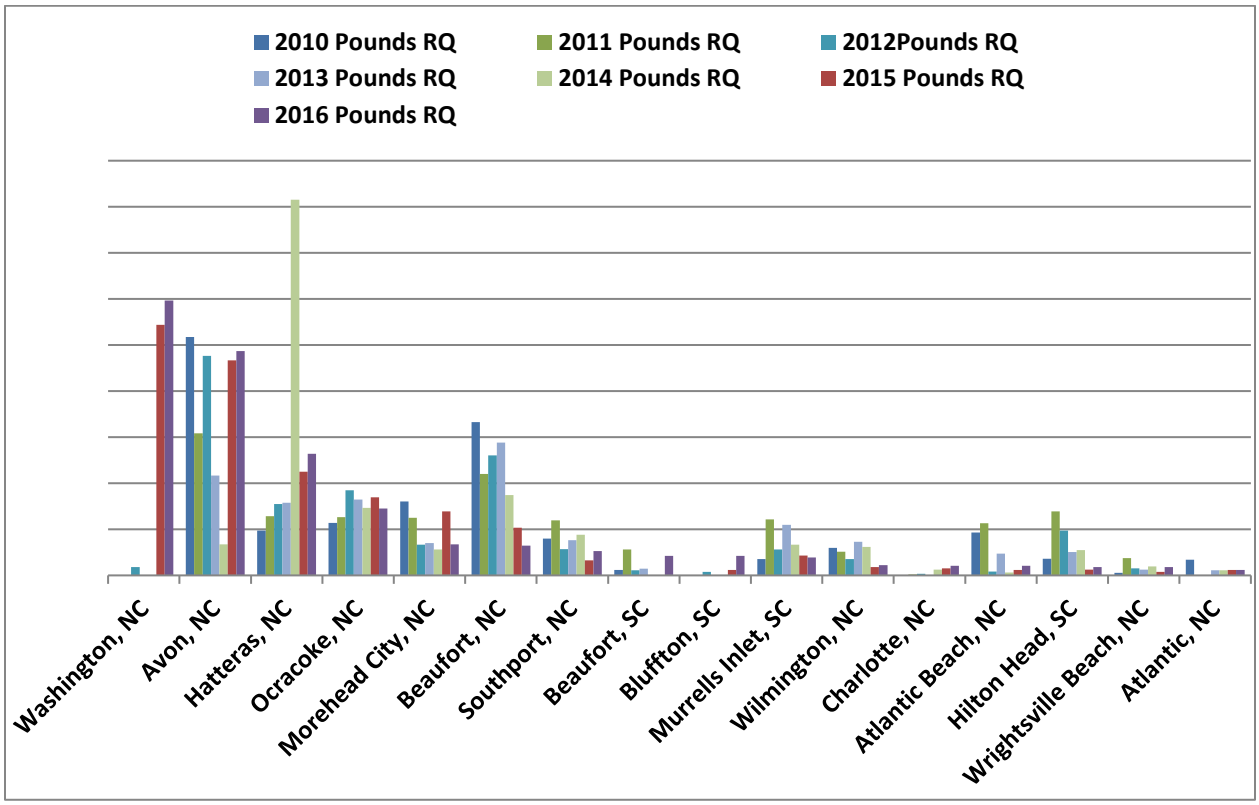

Figure 3.4.3. Cobia Commercial Regional Quotient for South Atlantic Fishing Communities.
Data source: SEFSC Commercial ALS Dataset with dealer address 2016

Mid-Atlantic Group Recreational Fishing Communities

Quantitative information on the recreational harvest of cobia from the Northeast headboat survey is sparser than for the South Atlantic. Many landings data do not have a homeport associated with them. From the data that are available, the communities of Northumberland, Virginia, and Hampton, Virginia, have seen recent increases in their cobia harvest. Most of the recreational harvest of cobia in the Mid-Atlantic is from private boat sector (Personal communication, Eric Thunberg NEFSC) for which we do not have data at the community level. However, input from public comments and attendance at public hearings indicate that Virginia Beach, Virginia, is an important community for recreational cobia.

Mid-Atlantic Commercial Fishing Communities

Commercial landings of cobia in the Mid-Atlantic have recently increased as shown in **Figure 3.4.4**. The communities of Arlington (County), Virginia; Norfolk, Virginia; and Frederick (County), Virginia have seen substantial increases in their cobia harvest in 2014.

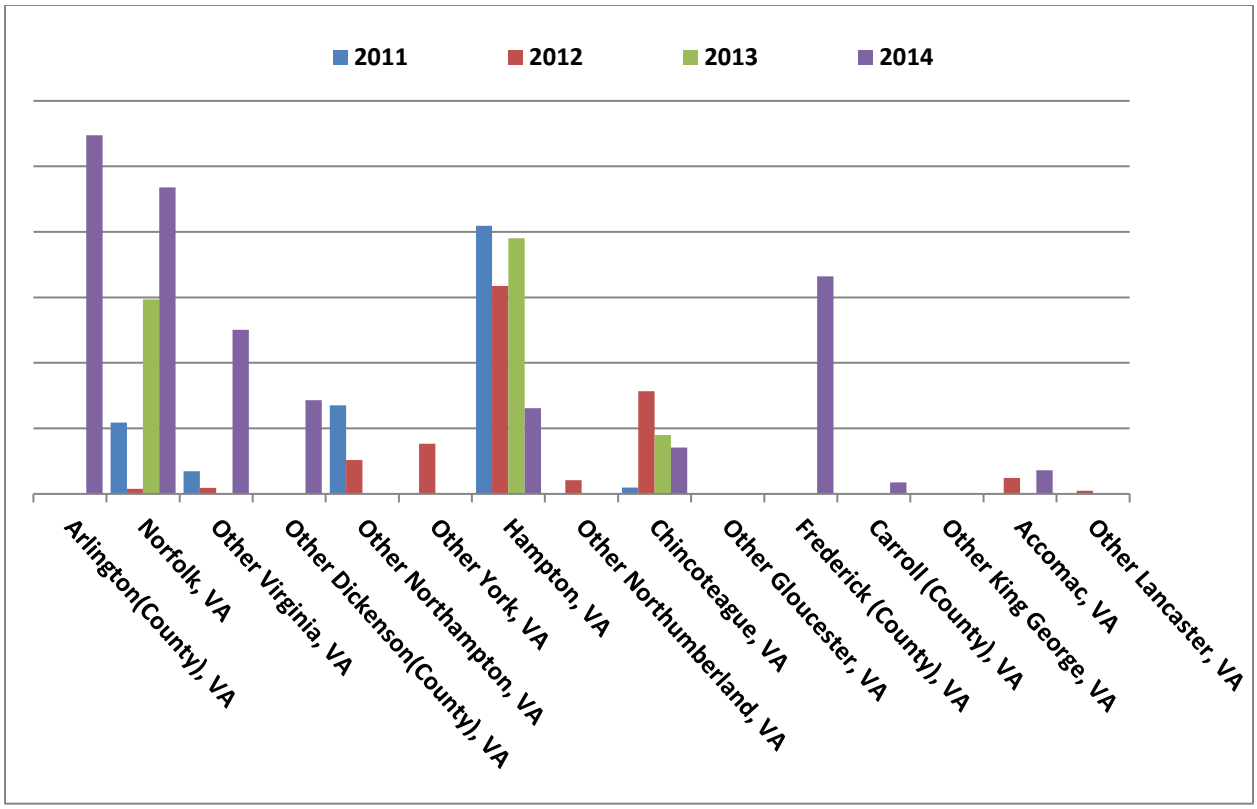

Figure 3.4.4. Cobia Commercial Regional Quotient for Mid-Atlantic Fishing Communities.
Source: NEFSC Commercial Landings Dataset with dealer address. Eric Thunberg (Pers Comm 2016).

Environmental Justice

Executive Order 12898 requires Federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, Federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. This executive order is generally referred to as environmental justice (EJ).

The three indices are poverty, population composition, and personal disruptions. The variables included in each of these indices have been identified through the literature as being important components that contribute to a community's vulnerability (Jepson and Colburn 2013; Jacob et al. 2013). Indicators such as increased poverty rates for different groups, more single female-headed households and households with children under the age of 5, disruptions such as higher separation rates, higher crime rates and unemployment all are signs of populations experiencing vulnerabilities. These vulnerabilities signify that it may be difficult for someone living in these communities to recover from significant social disruption that might stem from a change in their ability to work or maintain a certain income level. For those communities that exceed the threshold of 1 standard deviation for all indices, it would be expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

The suite of indices created to examine the social vulnerability of Atlantic Group fishing communities are depicted in **Figures 3.4.5** and **3.4.6**. No community exceeds both thresholds for all three vulnerabilities in **Figure 3.4.5**. The community of Manteo seems to demonstrate the most vulnerability by exceeding the 1 standard deviation threshold for Poverty and exceeding the ½ standard deviation for Personal Disruption. Calabash, Southport, Morehead City and Wilmington are the only other communities that exceed a threshold for any of their indicators.

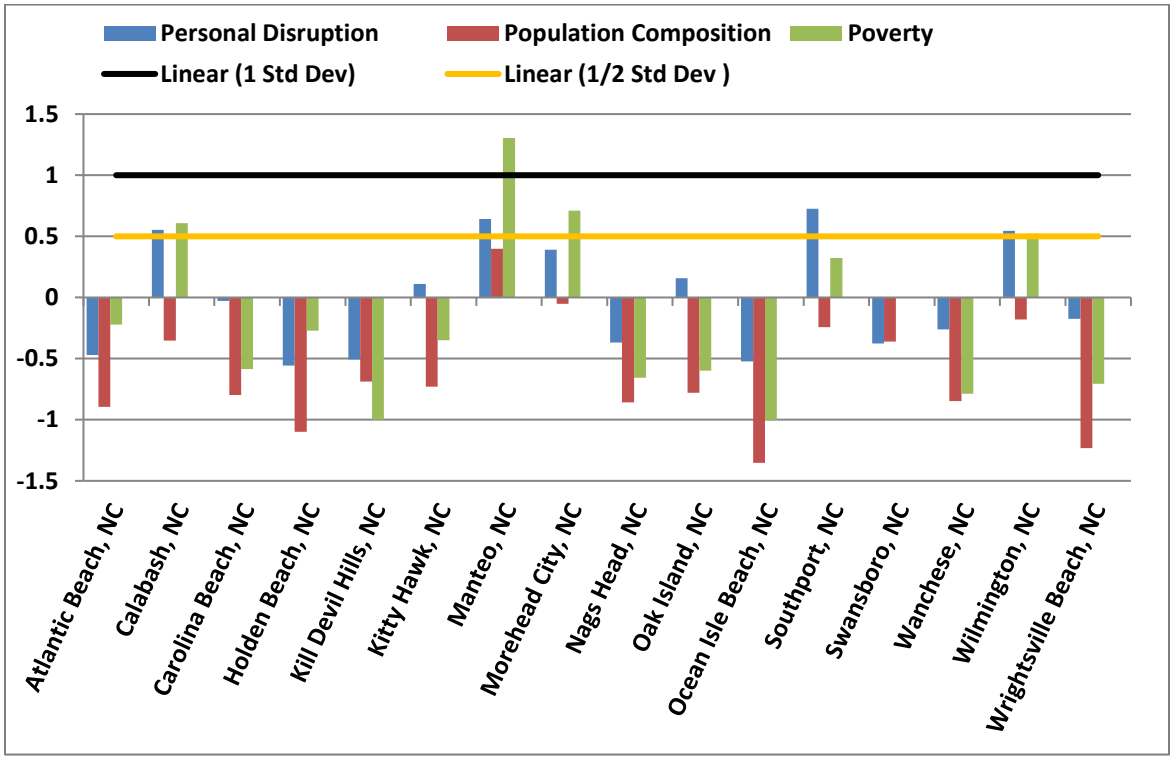

Figure 3.4.5. Social Vulnerability Indices for Atlantic Group Fishing Communities.
Source: SERO Community Social Vulnerability Indicators 2016 (ACS 2010-2014).

The other communities that were included in the Atlantic Group also demonstrate little vulnerability, except Georgetown, South Carolina, and Beaufort, North Carolina. These two communities exceed the 1 standard deviation thresholds for both personal disruption and poverty. Georgetown, South Carolina, has a relatively high score for the population composition measure, which includes number of minorities.

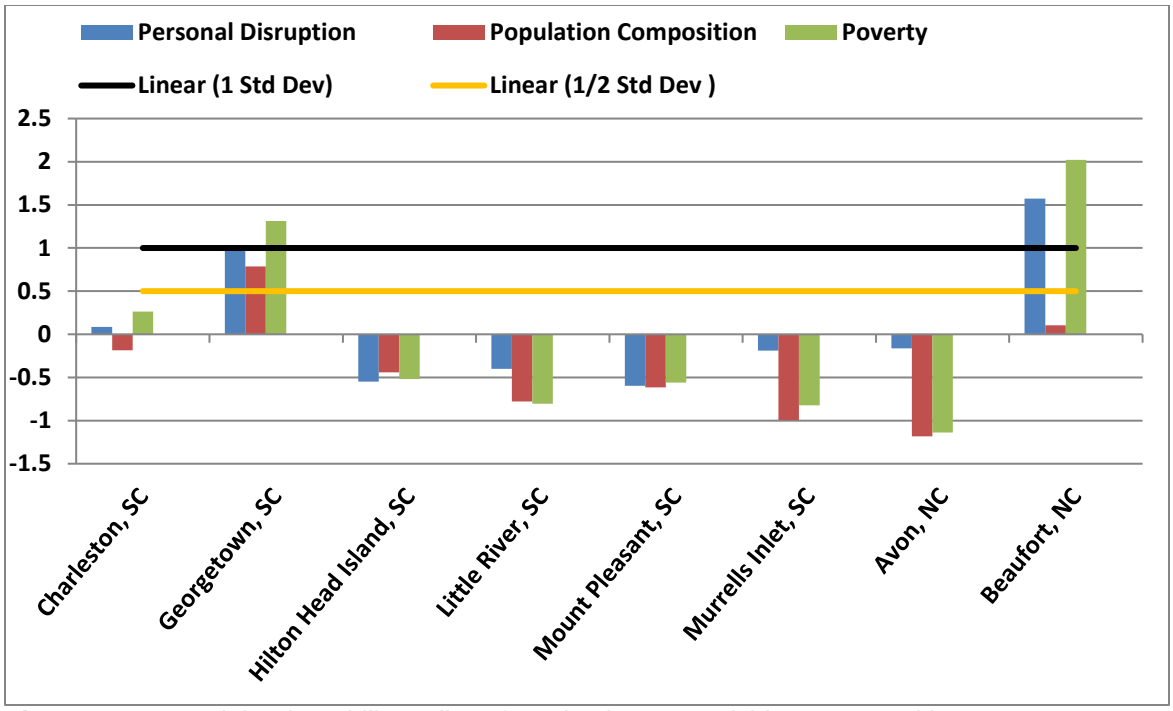

Figure 3.4.6. Social Vulnerability Indices for Atlantic Group Fishing Communities, cont.
Source: SERO Community Social Vulnerability Indicators 2016 (ACS 2010-2014).

For the Mid-Atlantic communities presented in **Figure 3.4.7**, District 9 in Accomack County, Virginia and Norfolk are the only communities that exceed one or both thresholds for all three indices. Districts 3 and 6 in Accomack County also demonstrate some vulnerability with both personal disruption and poverty exceeding one or both thresholds; the same is true for District 5 in Northampton County, Virginia.

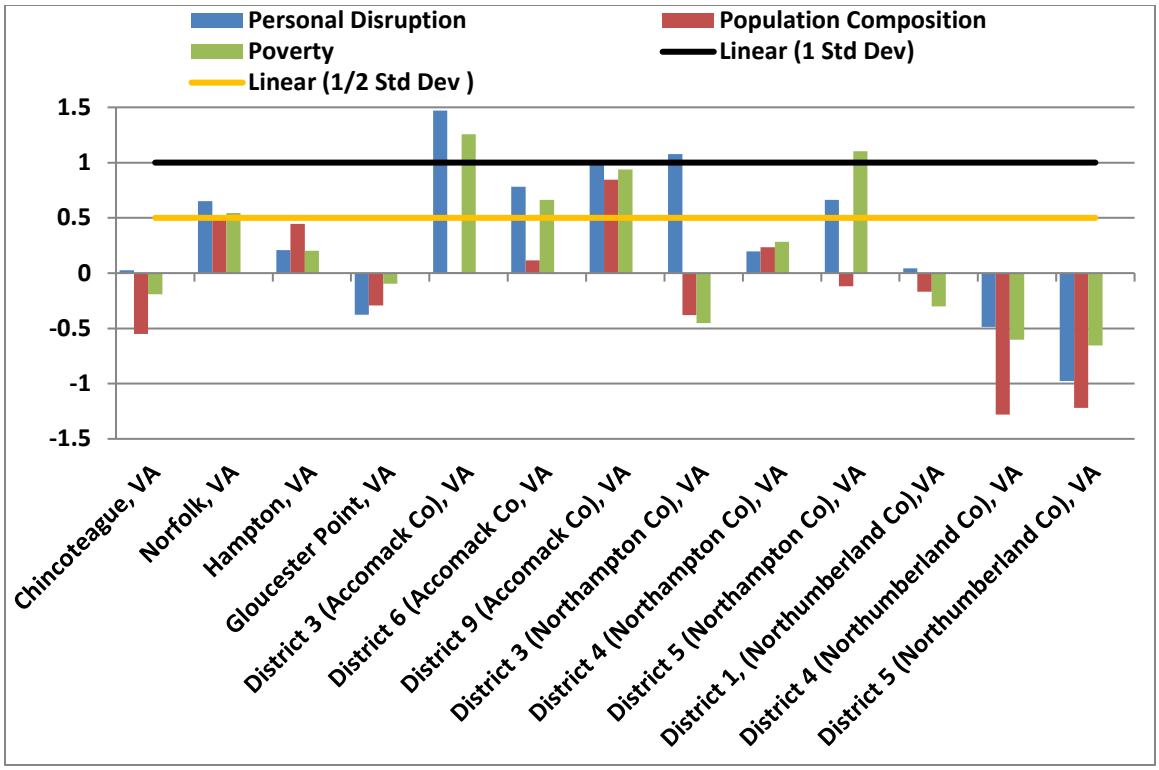

Figure 3.4.7. Social Vulnerability Indices for Mid-Atlantic Group Fishing Communities
Source: SERO Community Social Vulnerability Indicators 2016 (ACS 2010-2014).

While these measures identify those communities that demonstrate social vulnerability, we cannot say for sure that fishermen in these communities will suffer the same vulnerabilities. Although we have information concerning the community's overall status with regard to minorities and poverty and other social vulnerabilities, we do not have such information for fishermen themselves. Therefore, we can only place our fishing activity within the community as a proxy for understanding the role that these social indicators have in the vulnerability of those being affected by regulatory change. While subsistence fishing is also an activity that can be affected by regulatory change, we have very little, if any, data on this activity at this time. We assume that the effects to other sectors will be similar to those that affect subsistence fishermen who may rely on cobia.

3.5 Administrative Environment

3.5.1 The Fishery Management Process and Applicable Laws

3.5.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The U.S. claims through the Magnuson-Stevens Act, sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nautical miles (nm) 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 (Secretary) 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 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 nm 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 13 voting members: one from NMFS; one each from the state fishery agencies; and eight public members appointed by the Secretary. Non-voting members include representatives of the U.S. Fish and Wildlife Service, US Coast Guard (USCG), and Atlantic States Marine Fisheries Commission (ASMFC).

The Mid-Atlantic Fishery Management Council (Mid-Atlantic Council) has two voting seats on the South Atlantic Council's Mackerel Cobia Committee but does not vote during Council sessions. The Mid-Atlantic Council is responsible for fishery resources in federal waters off New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. The coastal migratory pelagic fishery is jointly managed with the Gulf of Mexico Fishery Management Council (Gulf Council).

The Councils use their respective SSCs to review data and science used in assessments and fishery management plans/amendments. In 2017, The SEDAR Steering Committee recommended a Benchmark Assessment be conducted for Atlantic cobia. This process will include a Stock ID Workshop to develop stock structure recommendations prior to the start of the SEDAR 58 Data Workshop. The Stock ID process is set to begin in Spring 2018 (Workshop: April 10-12 and Review: June 5-7) with results anticipated fall of 2018. The SEDAR 58 Stock Assessment will take place throughout 2019, with result tentatively available to the South Atlantic Council late-2019. A timeline for Amendment 31, the Interstate FMP, and the SEDAR Stock Assessment is provided in **Figure 3.5.1.1.1**.

Regulations contained within FMPs are enforced through actions of the NMFS' Office for Law Enforcement (NOAA/OLE), the USCG, and various state authorities. The public is involved in the fishery management process through participation at public meetings, on advisory panels, and through council meetings that, with some exceptions, are open to the public. The regulatory process is in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments

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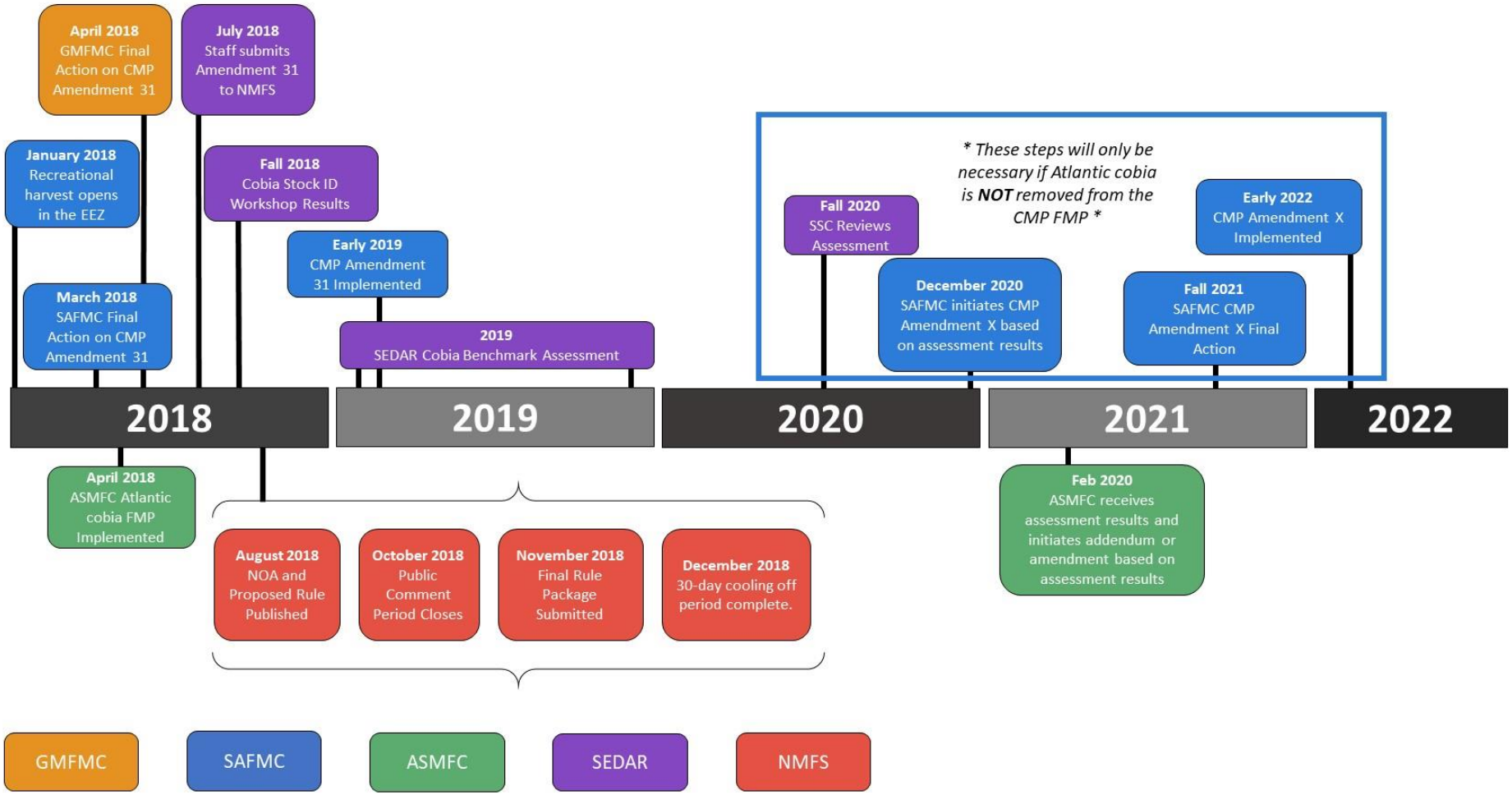

Figure 3.5.1.1.1. Timeline of actions for CMP Amendment 31, ASMFC Interstate FMP, and SEDAR 58.
*Timeline is tentative and may change based on Council action and SEDAR assessment scheduling needs.

3.5.1.2 State Fishery Management

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 state governments have the authority to manage their respective state fisheries including enforcement of fishing regulations. Each of the states exercises legislative and regulatory authority over their states' natural resources through discrete administrative units. Although each agency listed below is the primary administrative body with respect to the state's natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources.

The states are also involved through the Gulf States Marine Fisheries Commission and the Atlantic States Marine Fisheries Commission in management of marine fisheries. These commissions were created to coordinate state regulations and develop management plans for interstate fisheries.

NMFS' 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 programs (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional programs (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act). Additionally, it works with the commissions to develop and implement cooperative State-Federal fisheries regulations.

More information about these agencies can be found from the following web pages:
Florida Fish and Wildlife Conservation Commission http://www.myfwc.com
Georgia Department of Natural Resources, Coastal Resources Division http://crd.dnr.state.ga.us/
South Carolina Department of Natural Resources http://www.dnr.sc.gov/
North Carolina Department of Environmental Qualityhttp://portal.ncdenr.org/web/guest/
Virginia Marine Resources Commission http://www.mrc.virginia.gov/
New York State Department of Environmental Conservation http://www.dec.ny.gov/
Maryland Department of Natural Resources, Estuarine and Marine Fisheries Division
http://dnr.maryland.gov/fisheries/Pages/default.aspx
Pennsylvania Fish and Boat Commission http://fishandboat.com/mpag1.htm
New Jersey Department of Environmental Protection, Division of Fish and Wildlife
http://www.nj.gov/dep/fgw/
Delaware Department of Natural Resources and Environmental Conservation
http://www.dnrec.delaware.gov/fw/Pages/DFW-Portal.aspx

3.5.1.3 Enforcement

Both the NOAA/OLE and the USCG have the authority and the responsibility to enforce regulations. NOAA/OLE agents, who specialize in living marine resource violations, provide fisheries expertise and investigative support for the overall fisheries mission. The USCG is a multi-mission agency, which provides at sea patrol services for the fisheries mission.

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

NOAA General Counsel issued a revised Southeast Region Magnuson-Stevens Act Penalty Schedule in June 2003, which addresses all Magnuson-Stevens Act violations in the Southeast Region. In general, this penalty schedule increases the amount of civil administrative penalties that a violator may be subject to up to the current statutory maximum of $120,000 per violation. The Final Penalty Policy was issued and announced on April 14, 2011 (76 FR 20959).

Chapter 4. Environmental Effects

4.1 Action: Revise the management system for Atlantic cobia

Alternative 1 (No Action): Continue the current management of Atlantic cobia via the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Preferred Alternative 2: Remove Atlantic cobia from the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Alternative 3: Establish a policy in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for complementary management of Atlantic cobia with the Atlantic States Marine Fisheries Commission.

Alternative 4: Establish a framework procedure in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for an enhanced cooperative management system with the Atlantic States Marine Fisheries Commission that allows changes to Atlantic cobia management through National Marine Fisheries Service rulemaking.

4.1.1 Biological Effects

Recreational landings for Atlantic migratory group cobia (Georgia through New York) were substantially higher in 2015 than previous years including 2013 and 2014. Landings in 2016 were also high despite a harvest prohibition in federal waters that occurred on June 20, 2016 (**Table 4.1.1.1**).

Table 4.1.1.1. Recreational landings by state.

	Georgia	South Carolina	North Carolina	Mid-Atlantic	Total
2012	103,180	222,353	66,645	105,844	498,022
2013	29,304	19,159	492,998	365,848	907,309
2014	20,670	32,010	277,846	221,193	551,719
2015	68,448	125,365	642,906	721,589	1,558,308
2016	223	75,919	331,082	934,374	1,341,598
Average	44,365	94,961	362,295	469,770	971,391

Source: SEFSC Recreational ACL file (October 2017)

In 2015, recreational landings reached 251% of the recreational annual catch limit (ACL) and 233% of the stock ACL (recreational and commercial ACLs combined). On June 20, 2016, Atlantic cobia for the recreational sector closed in federal waters because the recreational and total ACLs were exceeded in 2015, and the recreational accountability measure (AM) was triggered (81 FR 12601). However, North Carolina and Virginia did not adopt compatible regulations, and harvest continued in state waters after harvest was prohibited in the exclusive economic zone (EEZ).

In 2016, a similar situation emerged. Recreational landings reached 216% of the recreational ACL and 200% of the stock ACL (recreational and commercial ACLs combined) and as such the AM was triggered and the 2017 fishing season was shortened to January 24, 2017 (82 FR 8363). Once again, North Carolina and Virginia did not adopt compatible fishing regulations and harvest continued in state waters.

Majority of the landings of Atlantic group cobia occur in North Carolina and Virginia, with much lower landings off Georgia and South Carolina. A very small amount of landings occur north of Virginia. Florida landings (both east and west coast) are considered to be part of the Gulf of Mexico migratory group cobia (Gulf cobia).

Since 2013, landings have been much higher in the state waters versus federal waters (**Table 4.1.1.2**). However, there have been years in which landings were higher from federal waters versus state waters. In 2016, federal waters were closed to recreational harvest for part of the year, contributing to the lower recreational landings in federal waters.

Table 4.1.1.2. Percentage of Commercial and Recreational Atlantic cobia landings that were harvested Federal and State waters. The Atlantic cobia stock is New York through Georgia.

Year	Commercial Landings			Recreational Landings		
	Federal	State	Unknown	Federal	State	Unknown
2006	43%	40%	17%	11%	89%	0%
2007	45%	29%	26%	49%	49%	1%
2008	39%	37%	23%	63%	36%	1%
2009	29%	53%	18%	19%	81%	0%
2010	28%	55%	17%	28%	72%	0%
2011	40%	33%	27%	52%	48%	1%
2012	32%	53%	15%	59%	41%	0%
2013	38%	37%	25%	18%	81%	1%
2014	27%	40%	34%	16%	83%	1%
2015	18%	49%	33%	18%	82%	0%
2016*	17%	43%	40%	6%	94%	0%

Source: SEFSC
*Commercial sector closed federal waters on December 6, 2016, and recreational sector closed federal waters on June 20, 2017.

Under **Alternative 1 (No Action)**, current management of Atlantic cobia, which includes ACLs, AMs, and other measures, would continue in federal waters through the CMP FMP (**Table 4.1.1.3**). Further, under **Alternative 1 (No Action)**, the Atlantic States Marine Fisheries Commission (ASMFC) would manage Atlantic cobia in state waters through its Interstate FMP. Federal regulations for commercial harvest of Atlantic cobia in the EEZ from Georgia through New York, include a minimum size limit of 33 inches fork length (FL) and a possession limit of two fish per person per day or six fish per vessel per day, whichever is more restrictive. Federal regulations for recreational harvest of Atlantic cobia in the EEZ include a minimum size limit of 36 inches FL and a trip limit of one fish per person per day or six fish per vessel per day, whichever is more restrictive. The current AM is to reduce the length of the following recreational season by the amount necessary to ensure recreational landings achieve the recreational annual catch target, but do not exceed the recreational ACL of 620,000 pounds. The recreational fishing year begins January 1. State regulations would be based on the ASMFC's Interstate FMP and state implementation plans (**Table 4.1.1.4**).

Table 4.1.1.3. Summary of Current Federal Cobia Management Measures

	Commercial Regulations	**Recreational Regulations**
Size Limit	33 inches FL	36 inches FL
Possession Limit	Two fish per person per day or six fish per vessel per day, whichever is more restrictive	One fish per person per day or six fish per vessel per day, whichever is more restrictive
Annual Catch Limit	50,000 pounds	620,000 pounds
Accountability Measures	In-season closure	If the recreational and total ACL is exceeded, reduce the length of the following recreational season by the amount necessary to ensure recreational landings achieve the recreational annual catch target, but do not exceed the recreational ACL

With the implementation of the ASMFC's Interstate FMP for Atlantic Migratory Group of Cobia (Interstate FMP), recreational landings from states such as North Carolina and Virginia, which did not establish compatible regulations with federal waters in 2015 and 2016, would be expected to be constrained to the state soft targets specified in the Interstate FMP resulting in a decrease in recreational Atlantic cobia landings relative to previous years. If the Interstate FMP is effective, the recreational ACL would not be exceeded, and the biological and ecological impacts to the stock would likely be positive.

Table 4.1.1.4. Summary of Management Measures through the Interstate FMP

	Commercial	Recreational
Size Limit	33inches FL minimum size limit	Minimum size limit of 36 inches FL or total length equivalent
Possession Limit	2 fish limit per person, with a 6 fish maximum vessel limit.	One fish per person; vessel limits to be determined by each state but may not exceed six fish per vessel.
State Harvest Targets	50,000 pounds region wide	Total 620,000 pounds: Georgia: 58,311 pounds, South Carolina: 74,885 pounds, North Carolina: 236,316 pounds, Virginia: 244,292 pounds, de minimis for states north of Virginia
Compliance requirements	In-season closure of federal waters if commercial ACL of 50,000 pounds is met or predicted to be met.	After 3 years, if a state's average annual landings over the 3-year time period are greater than their annual soft harvest target, that state shall adjust their season length or vessel limits for the following 3 years, as necessary, to prevent exceeding their share in the future.

Alternative 2 (Preferred) would remove Atlantic cobia from the FMP and there would no longer be federal management for the stock in the Atlantic north of Florida. Management of the Gulf migratory group would continue as part of the CMP FMP. This alternative would remove all the federal regulations for Atlantic cobia including the ACL, AM, and other management measures. Under this alternative, scientific support would still be available to the ASMFC through the National Marine Fisheries Service (NMFS). Section 5103(a) of the Atlantic Coastal Fisheries Cooperative Management Act of 1993 states that the federal government will provide support for state coastal fisheries programs in the form of "collection, management, and analysis of fishery data; law enforcement; habitat conservation; fishery research, including biological and socioeconomic research; and fishery management planning." Additionally, Section 5103(b) states in the absence of a federal FMP, the Secretary may extend state regulations into federal waters.

Removal of Atlantic cobia from the CMP FMP under **Preferred Alternative 2** would require consideration of NMFS guidelines at 50 CFR §600.305(c). The Magnuson-Stevens Fishery Conservation and Management Act section 302(h)(1) requires a council to prepare an FMP for each fishery under its authority that requires (or in other words, is in need of) conservation and management. 16 U.S.C. 1852(h)(1). Not every fishery requires federal management. Any stocks that are predominately caught in federal waters and are overfished or subject to overfishing, or

likely to become overfished or subject to overfishing, are considered to require conservation and management. Beyond such stocks, Councils may determine that additional stocks require "conservation and management." (See Magnuson-Stevens Act definition at 16 U.S.C. 1802(5)). Based on this definition of conservation and management, and other relevant provisions of the Magnuson-Stevens Act, a council should consider the following non-exhaustive list of factors when deciding whether additional stocks require conservation and management:

i. The stock is an important component of the marine environment.
ii. The stock is caught by the fishery.
iii. Whether an FMP can improve or maintain the condition of the stock.
iv. The stock is a target of a fishery.
v. The stock is important to commercial, recreational, or subsistence users.
vi. The fishery is important to the Nation or to the regional economy.
vii. The need to resolve competing interests and conflicts among user groups and whether an FMP can further that resolution.
viii. The economic condition of a fishery and whether an FMP can produce more efficient utilization.
ix. The needs of a developing fishery, and whether an FMP can foster orderly growth.
x. The extent to which the fishery is already adequately managed by states, by state/federal programs, or by federal regulations pursuant to other FMPs or international commissions, or by industry self-regulation, consistent with the requirements of the Magnuson-Stevens Act and other applicable law.

An examination of these 10 factors reveals that greater than 80% of Atlantic cobia landings occur in state waters where it is an important component of the marine environment (Factor i). The species is an important commercial and recreational stock caught in the coastal migratory pelagics (CMP) fishery (Factors ii and v), is targeted by fishermen participating that fishery (Factor iv), and is important to the regional economy (Factor vi).

Since most landings of Atlantic cobia occur in state waters, the Fishery Management Plan (FMP) for CMP Resources of the Gulf of Mexico and Atlantic Region (CMP FMP) cannot constrain state landings to the recreational or total ACL (Factor iii) and as such does not provide a sufficient management structure for this species. The recreational and total ACL was met in 2015 and 2016, the recreational AM was triggered, leading to a closure of federal waters to recreational harvest in 2016 and 2017. Georgia did not close its state waters; however, most landings are in federal waters. South Carolina, issues compatible regulations and closes state waters when the federal waters close. North Carolina and Virginia, where most of the Atlantic cobia landings occur, did not issue compatible regulations and harvest in state waters continued. Thus, despite closures of federal waters to recreational harvest Atlantic cobia, the total ACL has been exceeded by more than 200%. Implementation of the ASMFC's Interstate FMP is expected to constrain harvest of Atlantic cobia in state waters.

There are competing interests and needs between user groups in Georgia and South Carolina versus North Carolina and Virginia (Factor vii). During the closure of federal waters in 2016 and 2017, recreational fishermen in North Carolina and Virginia had access to Atlantic cobia but recreational fishermen from Georgia and South Carolina did not. The CMP FMP cannot resolve

this issue alone because it can only control harvest of Atlantic cobia in federal waters where a small proportion of the stock occurs. Further, CMP FMP cannot provide efficient economic utilization of the Atlantic cobia since there is inequitable access to the resources among the different states (Factor viii). The implementation of the Interstate FMP in April 2018 is expected to help resolve competing interests and provide more efficient utilization of the resource.

The Atlantic cobia portion of the CMP fishery is fully exploited and there is a need to constrain harvest rather than foster growth (Factor ix). When a species is removed from a FMP, as would be the case under **Preferred Alternative 2**, that species is no longer subject to federal management, and could be subject to an uncontrolled harvest in federal waters if there are no other mechanisms in place to control harvest. However, it is expected that under **Preferred Alternative 2**, the ASFMC would extend regulations into federal waters and Atlantic group cobia would be managed under the Interstate FMP. The Interstate FMP contains management measures that are similar to the CMP FMP but requires each coastal state to implement and enforce the management measures in both state and federal waters. The ASMFC's approved the state's implementation plans at their February 2018 meeting and the measures will be implemented by the respective states beginning in April 2018. Assuming the states are able to manage and enforce these management measures, it is expected that harvest of Atlantic cobia would be constrained, overfishing of the stock would not occur, and the biological and ecological benefits to the stock are expected to be beneficial. Scientific support would still be available to ASMFC through NMFS, and compliance requirements would be in place to constrain harvest (**Table 4.1.1.4**). Under **Preferred Alternative 2**, the South Atlantic Council and NMFS would not manage Atlantic cobia in federal waters; however, in federal management may not be needed since Atlantic cobia resource could be adequately managed by the states through the ASMFC (Factor x).

Under **Alternative 3,** the CMP FMP would be updated to acknowledge ASMFC's role in managing Atlantic cobia. This process would defer to the Interstate FMP for management of Atlantic cobia but the species would remain in the CMP FMP. Under **Alternative 3**, the Council would decide whether to adopt ASMFC regulations in federal waters on a case by case basis consistent with the ASFMC Interstate FMP. To do so, the South Atlantic Council would need to implement regulations through the amendment process to make them compatible with the ASFMC Interstate FMP. This alternative gives the South Atlantic Council the flexibility to continue to manage Atlantic cobia but the majority of the management responsibility would be by the states through the ASFMC Interstate FMP.

Alternative 4 would establish a framework procedure in the CMP FMP for an enhanced cooperative management system with the ASMFC that allows changes to Atlantic cobia management through NMFS rulemaking (**Appendix D**). This alternative would set up a procedure in which ASMFC can propose new regulations directly to NMFS, without formal action from the South Atlantic Council. Rules would still need to meet Magnuson-Stevens Act standards and CMP FMP objectives. The South Atlantic Council would be informed of ASMFC rules and provide comment on whether the rules meet appropriate federal and CMP FMP standards. The South Atlantic Council would still have the ability to manage Atlantic group cobia through the amendment process but routine changes to the regulations would not require

South Atlantic Council action. **Alternative 4** would be expected to have positive biological impacts to the stock because management would be conducted by the ASFMC through their Interstate FMP. This would likely better suit the needs of Atlantic cobia, which is predominately harvested in state waters.

Regardless of which alternative is selected, the ASFMC has approved and will implement the Interstate FMP in April 2018. This plan is expected to constrain harvest in state waters and provide positive biological benefits. Thus, the biological effects of **Alternative 1 (No Action), Preferred Alternative 2, Alternative 3,** and **Alternative 4** would be expected to be very similar because most of the Atlantic cobia harvest (> 80%) occurs in state waters and the Interstate FMP would be in place to control harvest in state waters. Overfishing would not be expected under any of the alternatives considered. If Atlantic cobia is removed from the CMP FMP under **Preferred Alternative 2**, regulations could be extended into federal waters to constrain harvest in both state and federal waters. The difference between **Preferred Alternative 2** and **Alternatives 1 (No Action), 3,** and **4** would be that **Preferred Alternative 2** would allow for a more efficient use of resources since Atlantic cobia would already be adequately managed by the ASMFC in state and federal waters. **Alternative 1 (No Action)** could allow for inconsistent and more complex management measures for Atlantic cobia between state waters and federal waters. Under **Alternative 3**, changes to the CMP FMP would be made through the full amendment process to maintain regulatory consistency between the federal and Interstate FMPs but there could be a time period where federal and state regulations would not be consistent due to the differing amounts of time that are necessary to amend the federal FMP compared to the Interstate FMP. Under the cooperative framework procedure in **Alternative 4**, the time necessary to amend the CMP FMP would be reduced; therefore, the time periods necessary to amend the two FMPs for Atlantic cobia may be more in-line.

This action would not modify the way in which the Atlantic cobia portion of the CMP fishery is prosecuted in terms of gear types used or effort. Therefore, there are no additional impacts on Endangered Species Act (ESA)-listed species or designated critical habitats anticipated as a result of this action (see Section 3.2.5 for a detailed description of ESA-listed species and critical habitat in the action area).

With regards to Essential Fish Habitat (EFH) (see Section 3.1), removal of Atlantic cobia from the CMP FMP under **Preferred Alternative 2** would not lessen the overall extent of EFH identified and described by the South Atlantic Council in the CMP FMP. However, a considerable amount of habitat is designated as habitat of particular concern (HAPC) for all life stages of cobia. All coastal inlets, the cape associated shoal complexes of North Carolina, and the Broad River Estuary in South Carolina would no longer be designated as HAPC. The Broad River Estuary is the only South Carolina estuary designated as an HAPC. **Alternative 2 (Preferred)** would diminish the effectiveness of the NMFS to protect localized areas within EFH that are vulnerable to degradation and especially important ecologically for coastal migratory species. Further, **Preferred Alternative 2** would diminish the effectiveness of the NMFS to protect genetically distinct inshore spawning populations of Atlantic cobia through the EFH consultation process. **Alternative 1, Alternative 3,** and **Alternative 4** would not result in a change to EFH habitat designations.

4.1.2 Economic Effects

The direct and indirect economic effects of this action would be highly dependent upon the alternative chosen and the subsequent management actions of the South Atlantic Council, as carried out through future amendments to the CMP FMP and/or management actions of the ASMFC as carried out through future amendments to the Interstate FMP for Atlantic cobia. As background, recreational harvest of Atlantic cobia was closed in-season on June 20, 2016, and on January 24, 2017, in the federal waters of EEZ as part of recreational AMs intended to constrain harvest to the recreational ACL. These harvest closures remained in place for the rest of the calendar year. In terms of recreational harvest, North Carolina and Virginia, which have readily available access to Atlantic cobia in state waters, kept their respective state waters open under restrictive harvest measures and seasons. Georgia did not close recreational harvest of cobia state waters, however, most harvest of Atlantic cobia off of Georgia occurs in the EEZ. South Carolina closed recreational harvest of Atlantic cobia in state waters to correspond with the harvest closure in the EEZ. Thus, the in-season harvest closures of Atlantic cobia in the EEZ more proportionally negatively affected participants and fishing communities in South Carolina and Georgia than those found further north due varying levels of access to the cobia resource. From an economic-effects perspective, the effects on access to the resource translate to changes in consumer surplus (CS) for anglers, net operating revenue (NOR) of for-hire businesses, and business activity occurring from fishing expenditures in other local businesses and communities that is derived from allowing the harvest of Atlantic cobia. Quantitative estimates of the cumulative effects of this action are not available but estimates for CS, NOR, and business activity associated with the Atlantic cobia portion of the CMP fishery are provided in **Section 3.3**.

Given the recent trends in recreational landings, it is assumed that a recreational harvest closure of Atlantic cobia in federal waters could continue in the near future under **Alternative 1 (No Action)**, as federal management would continue without formal co-management with the ASMFC. This alternative would maintain the ACL and AMs for Atlantic cobia, thus the potential associated negative, direct, short-term economic effects from limiting harvest both in absolute and regional terms. Conversely, the ACL and AMs are intended to constrain harvest to a sustainable level, which could yield long-term direct and indirect economic benefits from a robust Atlantic cobia stock and related fishery. However, since greater than 80% of the Atlantic cobia landings occur in state waters, the ACLs and AMs have negligible effect for Atlantic cobia if the states do not adopt compatible regulations when a harvest closure occurs in the EEZ.

The ASMFC did approve an Interstate FMP for Atlantic cobia that is expected to constrain recreational harvest of Atlantic cobia to the ACL in the future, provide an equitable distribution of access to Atlantic cobia that can be harvested recreationally among the states in the South and Mid-Atlantic Regions, and prevent the need for an in-season closure of recreational harvest in the EEZ stemming from the federal AMs. Coinciding with this distribution of access to and harvest of Atlantic cobia, presumably a similar distribution of economic effects would occur among the states. The lack of formal co-management between the South Atlantic Council and ASMFC in **Alternative 1 (No Action**) may create inconsistent management measures for

Atlantic cobia between state waters and federal waters, which increases the complexity of regulations and potentially the administrative costs of Atlantic cobia management.

For **Preferred Alternative 2**, although there are no management measures that directly affect recreational sector participants, those individuals that currently or previously harvested Atlantic cobia in the EEZ could be directly affected if federal management measures are removed. This alternative would remove the harvest constraint of the ACL and the current AM that can trigger an in-season closure for Atlantic cobia in federal waters, which would forgo the associated negative, direct, short-term economic effects from limiting harvest in the EEZ in both in absolute and regional terms. The ASMFC Interstate FMP for Atlantic cobia does intend to limit total recreational harvest to the same level of the current sector ACL, however, this harvest level is not directly constraining and is monitored over a three-year time period. However, the removal of the ACL could create the potential for an increase in harvest of Atlantic cobia ASMFC chooses to base state-by-state allocations on another overall harvest level, which may yield positive, short-term economic effects of increased consumer surplus (CS) for anglers, increased net operating revenue (NOR) of for-hire businesses if angler demand for for-hire trips increases, and increased business activity resulting from fishing expenditures in other local businesses and communities that would occur if there is additional fishing activity for cobia. Additionally, there would be lower administrative costs for NMFS with the removal of direct federal input into Atlantic cobia management and less regulatory complexity due to consistency in regulations between federal and state waters. The indirect long-term economic effects of **Preferred Alternative 2** would stem from future management decisions, which may be positive or negative, depending on outcomes for the Atlantic cobia stock and resulting harvest occurring in state and federal waters.

Alternative 3 and **Alternative 4** would maintain federal management for Atlantic cobia in the EEZ and establish formal co-management with the ASMFC. Under federal management, the ACL and AMs for Atlantic cobia would remain in place in the EEZ. The economic effects of these actions on the recreational sector would be similar to those described for **Alternative 1 (No Action),** with the continued potential negative, direct, short-term economic effects occurring from constraining harvest weighed alongside the long-term direct and indirect economic benefits that may be incurred from a robust cobia stock and related fishery. Under **Alternative 3**, changes to the CMP FMP would be made on a case by case basis through the full amendment process to maintain regulatory consistency between the federal and Interstate FMPs. This may create a time period where federal and state regulations would not be consistent due to the differing amounts of time that are necessary to amend the federal FMP compared to the Interstate FMP, thus creating a temporary, yet elevated regulatory complexity and administrative cost for Atlantic cobia management. Under the cooperative framework procedure in **Alternative 4**, the time necessary to amend the CMP FMP would be reduced, therefore, the time periods necessary to amend the two FMPs for Atlantic cobia may be more in-line. This alternative would mitigate some of the aforementioned potential regulatory complexity and administrative costs.

For the commercial sector, there are no anticipated economic effects from **Alternative 1 (No Action)**, **Alternative 3**, and **Alternative 4** as current commercial management measures would remain in place in the EEZ. **Preferred Alternative 2** would remove the current federal regulations for Atlantic cobia, however, it is unclear how this alternative may affect the

commercial harvest of Atlantic cobia in the EEZ. In the near-term, it is likely that commercial management measures implemented in the Interstate FMP for Atlantic cobia would remain consistent with those currently in place via the CMP FMP, thereby, not generating economic effects. It is possible that removing Atlantic cobia from federal management (**Preferred Alternative 2**) may create indirect economic effects if varying commercial regulations for Atlantic cobia are implemented on a state by state basis and these regulations are extended into the EEZ. The extent and direction (negative or positive) of these effects would be dependent on the subsequent regulations put in place for the EEZ under the Interstate FMP.

Given the ranges of potential direct and indirect economic effects, there is no clear overarching ranking for the alternatives. **Alternative 1 (No Action), Alternative 3**, and **Alternative 4** may be least beneficial in the short-term for recreational Atlantic cobia participants, as these alternatives leave the recreational and total ACLs in place along with the potential for the recreational AM to trigger an in-season closure of harvest in federal waters if landings of Atlantic cobia are not successfully constrained to the ACLs by the ASMFC's Interstate FMP or otherwise. Conversely, keeping the ACLs and AM in place may cause long-term positive economic effects through future management and stock outcomes if these measures constrain harvest to sustainable levels, thereby, providing sustained economic benefits derived from the cobia resource. However, since most of the harvest of Atlantic cobia is in state waters (> 80%), the ACLs and AMs that constrain harvest in only federal waters are likely to have little effect on constraining overall harvest and preventing overfishing. **Preferred Alternative 2** could provide the largest short-term, positive economic effects through removal of constraining ACL and AMs, thus potentially increasing harvest and related economic benefits. However, it is expected that harvest in state and federal waters would instead be constrained by the ASMFC's Interstate FMP. Under **Preferred Alternative 2**, scientific support, including stock assessments, would still be available to ASMFC through the NMFS. It is expected that the Interstate FMP would set harvest for Atlantic cobia at levels that would prevent overfishing.

The long-term economic effects would be dependent upon future management decisions and may be positive or negative, depending on the outcomes of management for the Atlantic cobia stock in state and federal waters. Finally, from a perspective of minimizing potential regulatory complexity resulting from inconsistent regulations between state and federal waters and resulting administrative costs, **Preferred Alternative 2** would be most beneficial, followed by **Alternative 4**, **Alternative 3**, and **Alternative 1 (No Action)**.

4.1.3 Social Effects

The social effects on the commercial sector and the for-hire and private components of the recreational sector under this **Action** are expected to be minimal. However, long-term impacts on the social environment would be highly dependent on future management measures proposed by ASMFC as well as management measures proposed by the South Atlantic Council under **Alternatives 1 (No Action), 3,** and **4**.

Due to harvest exceeding the recreational and total ACL, the recreational harvest in federal waters was closed in-season on June 20, 2016, followed the next year by an in-season closure on

January 24, 2017. South Carolina closed state waters to track the federal closures. Virginia and North Carolina implemented harvest limits but kept state waters open. Georgia did not close state waters, but most Atlantic cobia are caught in federal waters off Georgia. Under **Alternative 1 (No Action)**, it is expected that South Carolina and Georgia could continue to experience federal or state recreational harvest closures if the ASFMC's Interstate FMP is not effective at constraining harvest. This would cause negative social effects for participants in the recreational Atlantic cobia portion of the CMP fishery in South Carolina and Georgia by providing an inequitable distribution of access when compared to landings prior to the 2016 and 2017 federal closures. Additionally, **Alternative 1 (No Action)** could cause inconsistent regulations between state and federal waters, increasing regulatory complexity.

Preferred Alternatives 2 through **Alternative 4** acknowledge the role of ASMFC in the management of Atlantic cobia. The long-term social effect of ASMFC's plan on the commercial sector and for-hire and private components of the recreational sector are currently unknown. The baseline recreational and commercial management measures in the ASMFC Interstate FMP match those set up in Framework Amendment 4 to the CMP FMP (SAFMC 2016). As such, it is reasonable to assume that baseline social effects would be similar to those detailed in Framework Amendment 4. However, individual states can implement regulations that are more restrictive than the baseline. The potential social effects of the state plans are currently unknown. Unlike Framework Amendment 4, ASMFC's plan includes a soft recreational harvest target that is monitored over a three-year time period. This provides more flexibility to the recreational sector and may help to mitigate negative social effects related to uncertainty in recreational landings estimates.

Additionally, ASMFC's Interstate FMP could create a scenario in which recreational harvest remains open in federal waters. This would increase access for participants in the recreational Atlantic cobia portion of the CMP fishery in South Carolina and Georgia creating beneficial effects on the social environment.

Preferred Alternative 2 is expected to have negligible social effect because, as shown in **Table 4.1.1.2**, most of the recreational and commercial landings of Atlantic cobia occur in state waters. However, as discussed above, in the absence of federal management and possible in-season closures of federal waters, recreational participants in South Carolina and Georgia could experience consistent access to the Atlantic cobia resource.

Alternative 3 would retain Atlantic cobia in the CMP FMP but would update the FMP to acknowledge the role of the ASMFC. This would allow the South Atlantic Council to provide consistency with regulatory changes on a case-by-case basis. Any changes made to the CMP FMP to be consistent with ASMFC regulations would need to go through the full amendment process, which may prevent inconsistencies from being addressed in a timely manner. **Alternative 4** would create a cooperative framework procedure for implementing ASMFC regulations in federal waters through NMFS rulemaking. Development of a framework procedure would create positive social effects as management can react to changes in the stock status or fishery in a timelier manner. However, framework actions that are done rapidly do not always provide for as much public input and comment on the actions as other regulatory processes. While public input and participation by advisory panels can be beneficial, it is time

consuming and can slow the process. Yet, that participation can provide a more acceptable regulation which may lead to better compliance.

There is no clear ranking of alternatives, as many cause positive and negative social effects to different coastal communities. **Alternative 1 (No Action)** could generate negative social effects for South Carolina and Georgia if recreational harvest of Atlantic cobia continues to exceed the ACL, resulting in harvest closures in federal waters. **Preferred Alternative 2** would decrease management complexity, but long-term social effects would be largely dependent on the future management choices made by ASMFC. **Alternatives 3** and **4** would help ensure regulatory consistency between state and federal waters but could still result in negative social effects if harvest of Atlantic cobia continues to exceed the ACL. **Alternative 3** would allow for more public participation than **Alternative 4** but is time consuming. **Alternative 4** would allow managers to react to changes quickly but may result in less time for public participation.

4.1.4 Administrative Effects

Alternative 1 (No Action) would have neutral or increased administrative impacts depending on the effectiveness of the Interstate FMP in constraining recreational harvest. Under this alternative, if the Interstate FMP is not effective at constraining harvest, the recreational sector would be likely to trigger the AM, resulting in shortened fishing seasons and potential future management measures to further constrain catch in federal waters. Administrative impacts are associated with monitoring Atlantic cobia landings, rulemaking, enforcement, and outreach. If more management measures are needed in the future to constrain harvest, administrative impacts would increase.

Preferred Alternative 2 would have the least administrative impacts. The South Atlantic Council would remove Atlantic cobia from the CMP FMP and would have no management authority over the species. Under this alternative, there would no longer be administrative impacts associated with Atlantic cobia for NMFS or the South Atlantic Council.

Under **Preferred Alternative 2** management of Atlantic cobia in federal waters would fall to the individual states and ASMFC. Virginia's cobia regulations are written such that when landing in Virginia, commercial and recreational fishermen targeting Atlantic cobia must follow possession, vessel, and size limits "at any time." This language encompasses federal waters (4VAC20-510-20). North Carolina requires commercial and recreational fishermen abide by North Carolina size, bag and trip limits, when in state waters regardless of whether Atlantic cobia were caught in federal waters off North Carolina or in the waters of adjacent states. Similarly, Georgia has a landing requirement stating that commercial and recreational fishermen must abide by state regulations when landing cobia in Georgia regardless of the jurisdiction from which the fish were harvested (see GADNR 391-2-4-.04(a.1)). In South Carolina, state regulations in the South Carolina State Code are set to mirror federal regulations (see SC Code of Laws 50-5-2730(A)). Under **Preferred Alternative 2** the South Carolina General Assembly would need to establish in the South Carolina State Code authority for the South Carolina Department of Natural Resources to adjust seasonal management measures for cobia. Moreover,

the Magnuson-Stevens Act provides that, in the absence of federal regulations, states have the authority to regulate state registered vessels into the EEZ (MSA 306(a)(3)(A)).

Other species have been removed from federal management by the South Atlantic Council. Octocorals were removed from the FMP for Coral, Coral Reefs, and Live/Hardbottom Habitats of the South Atlantic Region in 2010 as the Florida Fish and Wildlife Conservation Commission (FWC) was already responsible for majority of management, implementation, and enforcement of regulations because harvest occurs primarily in state waters (Comprehensive Ecosystem-Based Amendment 2). A number of snapper grouper species (black margate, bluestriped grunt, crevalle jack, French grunt, grass porgy, porkfish, puddingwife, queen triggerfish, sheepshead, smallmouth grunt, Spanish grunt, tiger grouper, and yellow jack) were removed from the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) in 2012 because analyses determined the species predominantly occurred in state waters and were effectively managed by the states (Comprehensive ACL Amendment). Blue runner was removed from the Snapper Grouper FMP in 2014 because landings predominantly occurred in state waters of Florida where it was subject to management. Additionally, FWC indicated that they would assume management of blue runner in federal waters off Florida (Amendment 27 to the Snapper Grouper FMP, SAFMC 2003). Through Amendment 35 to the Snapper Grouper FMP (SAFMC 2015), the South Atlantic Council chose to remove black snapper, mahogany snapper, dog snapper, and schoolmaster from the snapper grouper FMP because these species see relatively low landings in federal waters and were more effectively managed by the state of Florida. Regulations for those species were extended into federal waters by the state of Florida.

Atlantic red drum was removed from federal management by the South Atlantic Council and is now subject to management by the ASMFC. In 2005, the South Atlantic Council repealed their FMP for Red Drum of the Atlantic Coast and sole management responsibility of the species fell to ASMFC who had also established a Fishery Management for Red Drum (1984). Atlantic red drum was removed from the federal management because ASMFC and federal regulations for red drum were identical, and primary harvest of red drum takes place in state waters. Proper management of the juvenile stock of red drum in state waters was necessary for improving stock status. Removing Atlantic red drum from the federal FMP reduced management cost and duplication of management efforts. A 2017 stock assessment conducted by ASMFC indicated that Atlantic red drum were not experiencing overfishing (ASMFC 2017).

In addition to state management measures, under **Preferred Alternative 2**, the ASMFC could establish regulations in federal waters, similar to how red drum is managed through the FMP for Red Drum of the Atlantic Coast (Red Drum FMP). Furthermore, the Atlantic Coastal Fisheries Cooperative Management Act (1993) provides for the Secretary of Commerce to establish regulations for commission-managed species in the EEZ, with input from ASMFC (ACFCMA Sec. 5103(b)).

Alternative 3 would establish the ASMFC Interstate FMP as the management structure for Atlantic group cobia but would require the South Atlantic Council and NMFS to implement federal regulations that mirror those in the ASMFC's Interstate FMP. Administratively, this could be burdensome, especially if the ASFMC plans to make changes to these regulations on a regular basis. Administrative impacts of this alternative are associated with CMP FMP

amendment development, rule-making, outreach and enforcement. **Alternative 4** would establish a framework process in which NMFS could modify the amendment and regulations as they are established through the ASFMC Interstate FMP. Administrative impacts of **Alternative 3** and **Alternative 4** would be generally the same for NMFS. However, **Alternative 4** would not require formal action by the South Atlantic Council for changes to the regulations and CMP FMP.

Chapter 5. Councils' Choice for the Preferred Alternatives

Action: Revise the management system for Atlantic cobia

Alternative 1 (No Action): Continue the current management of Atlantic cobia via the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Preferred Alternative 2: Remove Atlantic cobia from the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region.

Alternative 3: Establish a policy in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for complementary management of Atlantic cobia with the Atlantic States Marine Fisheries Commission.

Alternative 4: Establish a framework procedure in the Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region for an enhanced cooperative management system with the Atlantic States Marine Fisheries Commission that allows changes to Atlantic cobia management through National Marine Fisheries Service rulemaking.

5.1.1 Public Comments and Recommendations

Majority of commenters supported removing Atlantic cobia from federal management and felt action on Amendment 31 should be taken as soon as possible. There were several commenters that felt the Council should retain Atlantic cobia in the management unit until after the stock ID workshop/benchmark assessment.

Overall:

- Many commenter's requested removal of Atlantic cobia from federal management as soon as possible felt it was necessary for the stability of the fishery.
- Some commenters felt that Atlantic cobia management should be left up to the states entirely until the 2018 stock assessment could be completed and ASMFC could make proper allocations.
- Concerns were expressed regarding the validity of the MRIP data used for tracking recreational landings of Atlantic cobia.
- There was concern regarding the current stock boundary (GA/FL line) set in Amendment 20B after SEDAR 28 and the resulting annual catch limits (ACLs).
    - Additionally, there was concern about the data used in SEDAR 28 and representation of the Mid-Atlantic states.

- Some commenters felt that Atlantic cobia management measures varied too much from year to year and there were too many entities involved making it hard to follow regulations and know where to comment.
- There was concern that more information needed to be provided to Florida fishermen who may be affected by this amendment if the upcoming stock ID workshop indicates a southward shift in the boundary between Gulf and Atlantic migratory groups.

5.1.2 Councils' Choice for Preferred Alternatives

Chapter 6. Cumulative Effects

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct effects, but cumulative effects of actions as well. NEPA defines cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

"Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect occurs when the combined effects are greater than the sum of the individual effects. The following are some past, present, and future actions that could impact the environment in the area where the Coastal Migratory Pelagic (CMP) fishery is prosecuted.

1. Affected Area

The South Atlantic Fishery Management Council (South Atlantic Council) in cooperation with the Gulf of Mexico Fishery Management Council (Gulf Council) is responsible for the CMP Resources in the Gulf of Mexico (Gulf) and the Atlantic Region. The immediate impact area for this amendment, which includes actions only for Atlantic cobia, is the federal 200-mile exclusive economic zone (EEZ) of the Atlantic off the coasts of New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, and Georgia. **Section 3.1** describes the essential fish habitat designation and requirements for CMP species. The range of the affected stock is described in **Section 3.2.**

2. Past, Present, and Reasonably Foreseeable Actions Impacting the Affected Area

For this action, the cumulative effects analysis (CEA) includes an analysis of actions and events dating back to when the original Fishery Management Plan (FMP) for CMP Resources of the Gulf of Mexico and Atlantic Region (CMP FMP) was implemented, and through what is expected to take place approximately before or within 2017-2018. Refer to **Appendix E** for a comprehensive list of past regulatory activity for the CMP FMP. For the purposes of this discussion the past, present and foreseeable actions listed below are those related to data collection in the CMP fishery.

Past Actions

CMP Fishery

The following amendments to the CMP FMP contained actions that pertained to the Atlantic cobia sector of the CMP Fishery:

- The CMP FMP (1982) established the management unit for cobia, specified biological parameters and harvest limits.
- Amendment 1 (1985) specified the minimum size limit as 33 inches fork length or 37 inches total length for cobia.

- Amendment 2 (1987) to the CMP FMP (implemented in 1987) required that charter vessels and headboats fishing in the EEZ of the Gulf of Mexico or Atlantic for CMP species have permits.
- Amendment 3 (1990) prohibited drift gillnets for CMP species.
- Amendment 5 (1990) modified the biological parameters, provided guidance on assessments and review, and specified that the possession limit was a 1-day possession limit.
- Amendment 8 (1998) extended management through the Mid-Atlantic region, established allowable gear, revised the biological parameters, and modified the framework procedure.
- Amendment 11 (1999) modified the biological parameters for the CMP fishery as a whole.
- Amendment 13 (2002) established prohibitions on CMP harvest in the Dry Tortugas.
- Amendment 18 (2012) established the Gulf and Atlantic stocks of cobia, established the biological parameters, annual catch limits, and accountability measures for each stock.
- Amendment 22 (SAFMC 2013) required electronic logbook reporting for headboat vessels fishing for snapper grouper, dolphin wahoo, and CMP species.
- Amendment 20B (2014) revised the framework procedure for the FMP to allow modification to management measures under the standard documentation process of the open framework procedure, including accountability measures; created a Florida East Coast Subzone for cobia to adjust for a difference between the Councils' jurisdictional areas and modified management of the portion of the Gulf migratory group annual catch limit attributable to the Florida East Coast Subzone was assigned to the South Atlantic Council.
- Framework Amendment 4 (2016) revised the recreational harvest limits for Atlantic cobia to be 1/person and 6/vessel, whichever is more restrictive, and a minimum size limit of 36" fork length (FL). Additionally, the commercial limits were specified at 2/person or 6/vessel, whichever is more restrictive. The amendment also modified the recreational accountability measures to remove the use of the 3-year moving average to evaluate an overage; and specified that if there is an overage, the vessel limit of the following fishing year will be reduced to no fewer than 2/vessel, and then the recreational season may be also shortened if the reduced vessel limit is not sufficient.

Present Actions

Framework Amendment 6 (under development) would modify the trip limits for king mackerel in the Atlantic.

Reasonably Foreseeable Actions

SEDAR will be conducting a Stock ID Workshop for cobia, as well as a benchmark stock assessment. Stock ID Workshop results are anticipated late-2018, assessment results are anticipated early 2020.

The Joint Commercial Logbook Reporting Amendment would require electronic reporting of landings information by federally permitted commercial vessels, which would increase the timeliness and accuracy of landings data. Currently, fishermen report using paper logbooks.

With the implementation of the ASFMC plans, states will need to implement regulations to ensure they remain within the soft targets. The State of South Carolina has relied on federal consistency for management of cobia and will need to work through their legislative process to implement regulations to replace those that are lost if cobia is removed from the CMP FMP.

3. Consideration of Climate Change and Other Non-Fishery Related Issues

Climate Change

Global climate changes could have significant effects on 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 (Link et al., 2015).

It is unclear how climate change would affect fish species in the 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 species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts will occur.

The National Marine Fisheries Service (NMFS) the Southeast Fisheries Science Center and the Southeast Regional Office are developing a Climate Change Regional Action Plan for the South Atlantic, Gulf, and Caribbean to identify action items that can be undertaken to better understand the impacts climate change will have on the Southeast region.

Weather Variables

Hurricane season is from June 1 to November 30, and accounts for 97% of all tropical activity affecting the Atlantic basin. These storms, although unpredictable in their annual occurrence, can devastate areas when they occur. Although these effects may be temporary, those fishing-related businesses whose profitability is marginal may go out of business if a hurricane strikes.

Deepwater-Horizon Oil Spill

On April 20, 2010, an explosion occurred on the Deepwater Horizon MC252 oilrig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for several years. The oil

spill affected more than one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the Deepwater Horizon MC252 oil spill on the physical environment are expected to be significant and may be long-term.

Oil is dispersed on the surface, and because of the heavy use of dispersants, oil is also documented as being suspended within the water column, some even deeper than the location of the broken wellhead. Floating and suspended oil washed onto shore in several areas of the Gulf, as well as non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are more persistent in the environment and can be transported hundreds of miles. Oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column. In addition, microbes in the water that break down oil and dispersant also consume oxygen; this could lead to further oxygen depletion. Zooplankton that feed on algae could also be negatively impacted, thus allowing more of the hypoxia-fueling algae to grow.

The highest concern is that the oil spill may have impacted spawning success of species that spawn in the summer months, either by reducing spawning activity or by reducing survival of the eggs and larvae. Effects on the physical environment, such as low oxygen, could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encounter oil. In addition, effects of oil exposure may create sub-lethal effects on the eggs, larva, and early life stages. The stressors could potentially be additive, and each stressor may increase the susceptibility to the harmful effects of the other.

The oil from the spill site was not detected in the South Atlantic region and does not likely pose a threat to the South Atlantic species addressed in this amendment. However, the effects of the oil spill on fish species would be taken into consideration in future Southeast Data Assessment and Review assessments. Indirect and inter-related effects on the biological and ecological environment of the fisheries in concert with the Deepwater Horizon MC252 oil spill are not well understood. Changes in the population size structure could result from shifting fishing effort to specific geographic segments of populations, combined with any anthropogenically induced natural mortality that may occur from the impacts of the oil spill. The impacts on the food web from phytoplankton, to zooplankton, to mollusks, to top predators may be significant in the future.

4. Overall Impacts Expected from Past, Present, and Future Actions

This amendment proposes management measures for the Atlantic cobia sector of the CMP fishery in the form of revisions to the management system with the intent of allowing for more equitable distribution of harvest and facilitating better coordination between management in state and federal waters. **Chapters 2** and **4** of this document describe in detail the magnitude and significance of effects of the alternatives for these actions for the recreational and commercial Atlantic cobia sectors, and none of the impacts have been determined to be significant.

The cumulative effects of the proposed action in combination with the effects of other past, present, and future actions, are not expected to affect the magnitude of bycatch, diversity, and the

ecosystem structure of fish communities, or safety at sea of fishermen. The actions in this amendment combined with past, present and foreseeable actions would not cause significant impacts to the resource or to the fishery participants.

This action is not likely to result in direct, indirect, or cumulative effects to unique areas, such as significant scientific cultural or historical resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas as the proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort within the Atlantic region. The Stellwagen Bank off the Northeastern U.S., USS Monitor, Gray's Reef, and Florida Keys National Marine Sanctuaries are within the boundaries of the Atlantic EEZ.

5. Monitoring and Mitigation

The effects of the proposed action is, and will continue to be, monitored through collection of landings data by NMFS, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. The proposed action does not itself introduce non-indigenous species such as lionfish and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, the action in the amendment does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on nonindigenous species.

None of the beneficial or adverse impacts from the proposed management action (as summarized in **Chapter 2** of this document) has been determined to be significant. See **Chapter 4** for the detailed discussions of the magnitude of the impacts of the preferred alternatives on the human environment. The action in Amendment 31 would not have significant adverse biological, social, or economic effects because the action would allow for more equitable distribution of harvest and increased federal and state coordination. None of the alternatives are expected to have negative biological or ecological impacts and in fact would benefit the species. Therefore, the cumulative effects of the action proposed in the Amendment 31 are not expected to affect the magnitude of bycatch, diversity, and the ecosystem structure of fish communities, or safety at sea of fishermen targeting cobia. Based on the cumulative effects analysis presented herein, the proposed action would not have any significant adverse cumulative impacts compared to, or combined with, other past, present, and foreseeable future actions.

Chapter 7. List of Interdisciplinary Plan Team (IPT) Members

Name	Agency/Division	Title
Christina Wiegand	SAFMC	IPT Lead/Fishery Social Scientist
Karla Gore	SERO /SF	IPT Lead/Fishery Biologist
Ryan Rindone	GMFMC	IPT Lead/Fishery Biologist
Brian Cheuvront	SAFMC	Deputy Executive Director for Management
Cynthia Cooksey	SERO/HC	Fishery Biologist
Kevin Craig	SEFSC	Stock Assessment Analyst
David Dale	SERO/HC	Essential Fish Habitat Coordinator
Rick DeVictor	SERO/SF	South Atlantic Branch Chief
Susan Gerhart	SERO/SF	Gulf Branch Chief
Shepherd Grimes	NOAA GC	Attorney-Advisor
John Hadley	SAFMC	Fishery Economist
Michael Jepson	SERO/SF	Fishery Social Scientist
Mike Larkin	SERO/LAPP	Biologist
David Records	SERO/SF	Economist
Ken Riley	SERO/HC	Fishery Biologist
Scott Sandorf	SERO	Technical Writer
Noah Silverman	SERO	NEPA Specialist

NMFS = National Marine Fisheries Service, GMFMC = Gulf of Mexico Fishery Management Council, 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, OLE= Office of Law Enforcement

Chapter 8. Agencies Consulted

Responsible Agencies
South Atlantic Fishery Management Council (Administrative Lead)
4055 Faber Place Drive, Suite 201
N. Charleston, South Carolina 29405
843-571-4366/ 866-SAFMC-10 (TEL)
843-769-4520 (FAX)
www.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
Gulf of Mexico Fishery Management Council
Gulf of Mexico Marine Fisheries Commission
SAFMC Scientific and Statistical Committee
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
Virginia Marine Resources Commission
Mid-Atlantic Fishery Management Council
Atlantic States Marine Fisheries Commission
National Marine Fisheries Service
- Washington Office
- Office of Ecology and Conservation
- Southeast Regional Office
- Southeast Fisheries Science Center

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Appendix A. 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.

Atlantic States Marine Fisheries Commission (ASMFC): Management authority of Atlantic states from Maine through Florida that manages shared migratory fishery resources in state waters.

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.

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

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

Discards: Fish captured, but released at sea.

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).

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 the federal 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.

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

Framework: An established procedure within a fishery management plan that has been approved and implemented by NMFS, which allows specific management measures to be modified via regulatory amendment.

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

Gulf of Mexico Fishery Management Council (GMFMC): 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 GMFMC 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.

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

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: Agency within the Department of Commerce responsible for ocean and coastal management.

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: % or annual amount of fish that can be harvested.

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

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.

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

Appendix B. Alternatives Considered but Rejected

Alternative 5. Remove Atlantic cobia from the CMP FMP after the stock assessment is complete.

The South Atlantic Council removed this alternative in December 2017. The Council felt that a discussion of waiting until after the stock assessment was more appropriate as part of the discussion of **Alternative 2**. Should the Council decide to wait until after the stock assessment, they could postpone taking Final Action.

Appendix C. ASMFC IFMP for Atlantic Cobia

Atlantic States Marine Fisheries Commission

Interstate Fishery Management Plan for Atlantic Migratory Group Cobia

ASMFC Vision:
Sustainably Managing Atlantic Coastal Fisheries

November 2017

Interstate Fishery Management Plan for Atlantic Migratory Group Cobia

Prepared by
Atlantic States Marine Fisheries Commission
Cobia Plan Development Team

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This Plan was prepared under the guidance of the Atlantic States Marine Fisheries Commission's South Atlantic State/Federal Fisheries Management Board, Chaired by Jim Estes of Florida and Advisory assistance was provided by the South Atlantic Species Advisory Panel Chaired by Tom Powers of Virginia.

This is a report of the Atlantic States Marine Fisheries Commission pursuant to U.S. Department of Commerce, National Oceanic and Atmospheric Administration Award No. NA15NMF4740069.

EXECUTIVE SUMMARY

INTRODUCTION: The Atlantic States Marine Fisheries Commission (Commission) has developed an Interstate Fishery Management Plan (FMP) for Cobia, under the authority of the Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA). Management authority for this species is from zero to three nautical miles offshore, including internal state waters, and lies with the Commission. Regulations are promulgated by the Atlantic coastal states. Responsibility for compatible management action in the exclusive economic zone (EEZ) from 3-200 miles from shore lies with the South Atlantic Fishery Management Council (SAFMC) and NOAA Fisheries under their Coastal Migratory Pelagics Fishery Management Plan (CMP FMP) under the authority of the Magnuson-Stevens Fisheries Conservation and Management Act.

STATEMENT OF THE PROBLEM: Cobia management has historically been considered precautionary through the Gulf of Mexico and Atlantic Coastal Migratory Pelagics FMP. Both sectors of the fishery have been managed with a 2 fish possession limit and 33" fork length (FL) minimum size since formal management began in Amendment 6 to the Coastal Migratory Pelagics FMP in 1990. The Annual Catch Limits (ACL) and Accountability Measures were established through Amendment 18 (GMFMC/SAFMC 2012). The 2013 stock assessment conducted through the Southeast Data Assessment and Review (SEDAR) process indicated overfishing was not occurring and that the stock was not overfished although trending steadily downward over the previous two decades. Additionally, the stock assessment used a different stock boundary that was implemented into the FMP along with the updated ACLs in Amendment 20B (GMFMC/SAFMC 2014). The current ACL is a precautionary approach to prevent the stock from reaching an overfished status. The recent overage in 2015 exceeded the SAFMC's defined Overfishing Limit. Further quota overages could lead to the stock becoming overfished.

Efforts to more closely monitor state specific harvest to ensure that quotas are not exceeded and that overfishing is averted is the Commission's primary focus. Further, by developing a Commission plan, the impacts of a single, federal closure may be mitigated through state specific measures designed to maintain traditional seasons at reduced harvest rates. The proposed interstate FMP considers potential management measures to maintain a healthy resource while minimizing the socio-economic impacts of seasonal closures.

IMPLEMENTATION BENEFITS: Implementation of the FMP and effective management of cobia will produce ecological, cultural and economic benefits. Ecologically, cobia are a moderately lived species and can contribute to the population if allowed to reach older ages through regulatory protections across the range of the population and age classes. Cobia support a valuable recreational and for-hire fishery and primarily bycatch fishery in the south and mid-Atlantic regions. The implementation of a management program will maintain social and economic benefits to the fishing communities involved by ensuring a fishery for the future generations.

DESCRIPTION OF THE RESOURCE AND MANAGEMENT UNIT: Cobia are the only representative of the family Rachycentridae that occurs off the US east coast. While cobia occur throughout the temperate oceans of the Gulf and Caribbean, genetic information indicates a distinct population segment that occurs from the Georgia-Florida line though New York.

Consequently, the management units for cobia under this FMP is defined as the range of the species within U.S. waters of the northwest Atlantic Ocean from the estuaries eastward to the offshore boundaries of the Exclusive Economic Zone (EEZ) from the Georgia-Florida line through New York.

LIFE HISTORY AND HABITAT REQUIREMENTS: Cobia are fast growing, moderately lived fish that occur throughout state and federal waters along the Atlantic coast. As adults, cobia have a protracted spawning season that begins in May. Habitats used by cobia are not well-known during early life stages. Larvae and juveniles may be found in coastal or estuarine waters; however, large concentrations are seldom encountered. Adult cobia travel widely and encounters from locations up coastal rivers to natural and artificial reefs offshore are common.

GOALS AND OBJECTIVES:

Goal: The goal of the Cobia FMP is to provide for an efficient management structure to implement coastwide management measures in a timely manner and complement cobia management in federal waters, which uses Allowable Catch Limits (ACL) established by the SAFMC.

Objectives:

1. Provide a management plan that achieves the long-term sustainability of the resource and strives, to the extent practicable, to implement and maintain consistent coast wide measures, while allowing the states the flexibility to implement alternative strategies to accomplish the objectives of the FMP
2. Provide for sustainable recreational and commercial fisheries.
3. Maximize cost effectiveness of current information gathering and prioritize state obligations in order to minimize costs of monitoring and management.
4. Adopt a long-term management regime which minimizes or eliminates the need to make annual changes or modifications to management measures.
5. Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.

OVERFISHING DEFINITION: The most recent, 2012, cobia stock assessment (SEDAR 28) indicates a decline in population biomass estimates but does not indicate that the stock is overfished or that overfishing is occurring. A new stock assessment is scheduled for 2019, which will be preceded by a stock identification workshop in 2018.

MONITORING PROGRAM SPECIFICATIONS: The Cobia Technical Committee will meet annually, or as necessary, to review state management program changes, developments in the fishery, or other changes or challenges in the fishery. The Cobia Technical Committee will work closely with the SAFMC's Science and Statistics Committee to review and update or perform benchmark stock assessments on the cobia stock. This schedule may be modified as needed to incorporate new information and consideration of the cobia's biology.
The Cobia Plan Review Team (PRT) will annually review implementation of the management plan and any subsequent adjustments (addenda), and report to the Management Board on any

compliance issues that may arise. The PRT will also prepare the annual Cobia FMP Review and coordinate the annual update and prioritization of research needs (see Section 6.2).

BYCATCH MONITORING AND REDUCTION: Currently, the cobia recreational fishery tends to be a targeted fishery and cobia catches in the commercial have historically been a bycatch in other directed fisheries. Current effort indicates more directed fisheries, even at low vessel limits, are increasing. While this FMP does not specify any measures to specifically reduce cobia bycatch and subsequent discard mortality, the FMP provides a summary of actions states may consider to address these issues in their respective jurisdictions.

REGULATORY PROGRAM: States and jurisdictions must implement the regulatory program requirements as per Section 7. The Management Board has the ultimate authority to determine the approval of a regulatory program. States and jurisdictions must also submit proposals to change their required regulatory programs as per Section 7.1.2. The Management Board will determine final approval for changes to required regulatory programs.

RECREATIONAL FISHERIES MANAGEMENT MEASURES: All states must establish a 1 fish bag limit, 36 inch FL minimum size limits (or equivalent TL measurement), and a maximum vessel limit by April 1, 2018. A coastwide recreational harvest limit will be allocated to non-*de minimis* states as state-specific recreational harvest targets. States will establish season and vessel limits to restrict harvest to the harvest target, and adherence to harvest targets will be evaluated as average annual harvest over a 3-year timeframe.

COMMERCIAL FISHERIES MANAGEMENT MEASURES: All states must establish a 33 inch FL minimum size limit and a 2 fish per person possession limit with up to a 6 fish vessel limit.

THREATS TO COBIA HABITAT: Threats to Cobia habitats may include the following: loss of estuarine habitats; coastal development; nutrient enrichment of estuarine waters; poor water quality; beach re-nourishment.

ALTERNATIVE STATE MANAGEMENT REGIMES: Once initial management programs are approved by the South Atlantic State/Federal Fisheries Management Board, states are required to obtain prior approval from the Management Board of any changes to their management program for which a compliance requirement is in effect. Changes to non-compliance measures must be reported to the Management Board but may be implemented without prior Management Board approval. A state can request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Management Board's satisfaction that its alternative proposal will have the same conservation value as the measure contained in this amendment or any addenda prepared under Adaptive Management (***Section 4.5***). States submitting alternative proposals must demonstrate that the proposed action will not contribute to overfishing of the resource. All changes to state plans must be submitted in writing to the Board and to the Commission either as part of the annual FMP Review process or the Annual Compliance Reports.

De minimis Fishery Guidelines

The Interstate Fisheries Management Program Charter defines *de minimis* as "a situation in which, under the existing condition of the stock and scope of the fishery, conservation, and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment" (ASMFC 2001b).

States may petition the South Atlantic State/Federal Fisheries Management Board at any time for *de minimis* status. Once *de minimis* status is granted, designated states must submit annual reports including commercial and recreational landings to the Management Board justifying the continuance of *de minimis* status. States must include *de minimis* requests as part of their annual compliance reports. States may apply for *de minimis* status if recreational landings for 2 of the previous 3 years are less than 1% of the coastwide recreational landings for the same time period.

ADAPTIVE MANAGEMENT: The South Atlantic State/Federal Fisheries Management Board may vary the requirements specified in this amendment as a part of adaptive management in order to conserve the Cobia resources and/or maintain complementary actions established by the SAFMC. Specifically, the Management Board may change target fishing mortality rates and harvest specifications, or other measures designed to prevent overfishing of the stock complex or any spawning component. Such changes will be instituted to be effective on the first fishing day of the following year, but may be put in place at an alternative time when deemed necessary by the Management Board.

COMPLIANCE: Full implementation of the provisions in this management plan is necessary for the management program to be equitable, efficient, and effective. States are expected to implement these measures faithfully under state laws.

MANDATORY COMPLIANCE ELEMENTS FOR STATES: A state or jurisdiction will be determined out of compliance with the provision of this fishery management plan according to the terms of Section 7 of the ISFMP Charter if:

- Its regulatory and management programs to implement *Section 4* have not been approved by the South Atlantic State-Federal Fisheries Management Board; or
- It fails to meet any schedule required by *Section 5.1.2*, or any addendum prepared under adaptive management (*Section 4.6*); or
- It has failed to implement a change to its program when determined necessary by the South Atlantic State-Federal Fisheries Management Board; or
- It makes a change to its regulations required under *Section 4* or any addendum prepared under adaptive management (*Section 4.6*), without prior approval of the South Atlantic State-Federal Fisheries Management Board.

COMPLIANCE SCHEDULE

States must implement the FMP according to the following schedule:

January 1, 2018:	States must submit programs to implement the FMP for approval by the South Atlantic State-Federal Fisheries Management Board. Programs must be implemented upon approval by the Management Board.
April 1, 2018:	States with approved management programs must implement FMP requirements. States may begin implementing management programs prior to this deadline if approved by the Management Board.

Reports on compliance must be submitted to the Commission by each jurisdiction annually, no later than July 1st, beginning in 2019.

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1. INTRODUCTION

1.1. BACKGROUND INFORMATION

At the August 2016 meeting of the Interstate Fishery Management Program (ISFMP) Policy Board, Commissioners expressed an interest in developing an Interstate Fishery Management Plan (FMP) complementary to the South Atlantic Fishery Management Council (SAFMC) Coastal Migratory Pelagics (CMP) FMP for cobia (*Rachycentron canadum*). Concerns were raised because the Annual Catch Limits (ACL) established by the SAFMC were being exceeded and fishery closures were resulting in disproportionate impacts to member states. A concern with future stock status due to ACL overages and the need for state specific involvement in management precipitated the development of an interstate FMP. Based on current genetic data, the management unit for this FMP are the Atlantic Migratory Group cobia that range from Georgia through New York. After a review of the available information developed by staff, the South Atlantic State/Federal Fisheries Management Board recommended initiation of an FMP. Upon review of the report, the ISFMP Policy Board voted to initiate the FMP and assigned its development and administration to the South Atlantic State/Federal Management Board (Management Board), which administers the FMPs for Atlantic croaker, black drum, red drum, Spanish mackerel, spot, and spotted seatrout.

The Management Board initiated development of an FMP for Atlantic Migratory Group (Atlantic) cobia in August 2016 and approved the Public Information Document for public comment in November 2016. Public comment was received and hearings held in December 2016, and the Management Board tasked the Plan Development Team (PDT) with developing a Draft FMP for Atlantic cobia in February 2017. A progress report was provided to the Management Board in May 2017. The Management Board discussed future management options and approved a letter to the SAFMC and GMFMC requesting a full transfer of management authority to the ASMFC. At their June, 2017, meeting in Ponte Vedra, FL, the SAFMC voted to begin developing an amendment to the CMP FMP to consider the transfer. At the same meeting, an emergency action to restore the Atlantic cobia stock boundary to include the east coast of Florida was not approved, leaving the current stock boundary from Georgia through New York.

1.1.1. Statement of the Problem

Cobia management has historically been considered precautionary through the CMP FMP. Both sectors of the fishery have been managed with a 2 fish possession limit and 33” fork length (FL) minimum size since formal management began with the federal CMP FMP in 1982, with Gulf and Atlantic cobia managed as one stock. CMP Amendment 5 (GMFMC/SAFMC 1990) provided a metric for designating a stock as overfished (spawning stock biomass), and the specified that overfishing would be designating when the rate of harvest would prevent rebuilding (if overfished), or would lead to overfished status. Through CMP Amendment 8 (GMFMC/SAFMC 1996) and Amendment 11 (GMFMC/SAFMC 1998), the GMFMC and SAFMC refined the overfishing definition, so that overfishing is occurring when fishing mortality (F) exceeds the maximum fishing mortality threshold (MFMT), which is based on 30% Static Spawning Potential Ratio (SPR). This overfishing definition is maintained in the CMP FMP and is determined only through a stock assessment.

Amendment 8 (GMFMC/SAFMC 1996) extended cobia management into the Mid-Atlantic region, but Gulf and Atlantic cobia were managed as one stock until Amendment 18 (GMFMC/SAFMC 2012). This amendment set the stock boundary at the boundary between the GMFMC and SAFMC, and also established the ACLs and Accountability Measures. Additionally, Amendment 18 specified that because there was no Overfishing Level (OFL) recommendation available at that time, overfishing was defined as landings exceeding the ACL. The Councils specified that OFL would be revisited after the stock assessment (SEDAR 28) was complete.

The 2013 stock assessment conducted through the Southeast Data Assessment and Review (SEDAR) process indicated overfishing was not occurring (i.e., F<MFMT) and that the stock was not overfished, although biomass has been trending steadily downward over the previous two decades. Following completion of the assessment, the SAFMC's Scientific and Statistical Committee (SSC) recommended the OFL and the acceptable biological catch (ABC) for Atlantic cobia.

The stock assessment used a new stock boundary (Georgia through New York), which was implemented into the FMP along with the updated ACLs in Amendment 20B (GMFMC/SAFMC 2014). The current ACL is a precautionary approach to prevent the stock from reaching an overfished status. The recent overages of the ACL in 2015 and 2016 significantly exceeded the ACL as well as the OFL recommended by the SAFMC's SSC. Further quota overages could result in overfishing and lead to the stock becoming overfished.

Most recently, the SAFMC implemented revised harvest limits for Atlantic cobia in federal waters through CMP Framework Amendment 4 (SAFMC 2016), and these will become effective on September 5, 2017. The new recreational limits are 1/person or 6/vessel, whichever is more restrictive, with a minimum size limit of 36" FL. Commercial limits are 2/person or 6/vessel, whichever is more restrictive, but the commercial minimum size limit does not change from 33" FL. The SAFMC also modified the recreational accountability measures so that if landings exceed the ACL, first there will be a reduced vessel limit for the following fishing season. If this does not mitigate the overage, then the following fishing season will be shortened.

Efforts to more closely monitor state specific harvest to ensure that the federal ACL is not exceeded and avoid overfishing is the Commission's primary focus. Further, by developing a Commission plan, the impacts of a single, federal closure may be mitigated through statespecific measures designed to maintain traditional seasons at reduced harvest rates. The proposed interstate FMP considers potential management measures to maintain a healthy resource while minimizing the socio-economic impacts of seasonal closures.

1.1.2. Benefits of Implementation

1.1.2.1. Social and Economic Benefits

Sustainable management practices and policies for a moderately-lived species such as cobia can increase economic benefits and provide social stability in the fishing community while ensuring

a fishery for future generations. Greater cooperation and uniform management measures among the states ensure that the conservation efforts of one state or group will not be undermined or that one state is not disadvantaged over another.

Historically, the commercial market has been a bycatch fishery due to low possession limits of 2 fish per person. Directed harvest, even at these low limits, appears to be increasing. Cobia are primarily caught as bycatch in nearshore to offshore trolling and hook and line commercial fisheries that target snapper/grouper and king mackerel. Cobia are considered excellent table fare and command a high price for the fishermen and fish houses when they are seasonally available.

The recreational fishing season primarily occurs from May through August, but may begin as early as April and typically extends into September in the Mid-Atlantic region. Atlantic cobia support a significant for-hire fishery and lure manufacturing businesses.

The recreational fishery and landings far exceed the commercial fishery and management has deemed the recreational fishery as the primary goal in management.

1.1.2.2. Ecological Benefits

Consistent management goals across jurisdictions can provide greater protections to a migratory stock. Cobia are moderately lived and can have multiple opportunities to contribute to the population if allowed to reach older ages, which can be afforded by regulatory protections across the range of the population and age classes.

Concern that the peak fishery occurs during the spawning season has resulted in at least one state (South Carolina) implementing a closure during that time.

1.2. DESCRIPTION OF THE RESOURCE

1.2.1. Species Life History

Cobia are a member of the family Rachycentridae and has historically been managed in the federal CMP FMP because of its migratory behavior. Cobia are distributed worldwide in tropical, subtropical and warm-temperate waters. In the western Atlantic it occurs from Nova Scotia, Canada, south to Argentina, including the Caribbean Sea. They are abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico (Gulf). Cobia prefer water temperatures between 68-86°F. As a pelagic fish, cobia are found over the continental shelf as well as around offshore natural and artificial reefs. Cobia frequently reside near any structure that interrupts the open water such as pilings, buoys, platforms, anchored boats, and flotsam, and are often seen under or accompanying rays, large coastal sharks, and sea turtles. Cobia are also found inshore inhabiting bays, inlets, and mangroves.

Cobia form large aggregations, spawning during daylight hours between June and August in the Atlantic Ocean near the Chesapeake Bay and off North Carolina in May and June, and in the Gulf during April through September. Spawning frequency is once every 9-12 days, spawning 15-20 times during the season. During spawning, cobia undergo changes in body coloration from

brown to a light horizontal-striped pattern, releasing eggs and sperm into offshore open water. Cobia have also been observed spawning in estuaries and shallow bays with the young heading offshore soon after hatching. Cobia eggs are spherical, averaging 1.24 mm in diameter. Larvae are released approximately 24-36 hours after fertilization.

Newly hatched larvae are 2.5 mm (1 inch) long and lack pigmentation. Five days after hatching, the mouth and eyes develop, allowing for active feeding. A pale yellow streak is visible, extending the length of the body. By day 30, juveniles take on the appearance of adult cobia with two color bands running from the head to the posterior end.

Weighing up to a record 61 kg (135 pounds whole weight [lbs ww]), cobia are more common at weights of up to 23 kg (50 lbs ww). They reach lengths of 50-120 cm (20-47 inches), with a maximum of 200 cm (79 inches). Cobia grow quickly and have a moderately long life span. Maximum ages observed for cobia in the Gulf were 9 and 11 years for males and females, respectively, while off North Carolina maximum ages were 14 and 13 years, respectively. Females reach sexual maturity at 3 years of age and males at 2 years in the Chesapeake Bay region. During autumn and winter months, cobia presumably migrate south and offshore to warmer waters. In early spring, migration occurs northward along the Atlantic coast. Significant efforts are currently underway using various tagging methods to better understand the migratory behavior of cobia.

1.2.2. Stock Assessment Summary

1.2.2.1. Stock Identification and Management Unit

Microsatellite-based analyses demonstrated that tissue samples collected from North Carolina, South Carolina, east coast Florida (near St. Lucie), Mississippi, and Texas showed disparate allele frequency distributions, and subsequent analysis of molecular variance showed population structuring occurring between the states (Darden et al. 2014). Results showed that the Gulf of Mexico stock appeared to be genetically homogeneous and that a segment of the population continued around the Florida peninsula to St. Lucie, FL, with a genetic break somewhere between St. Lucie, FL, and Port Royal Sound, SC. However, no samples were available from Cape Canaveral, FL, to Hilton Head Island, SC. Tag-recapture data using conventional dart tags also suggested two stocks of fish that overlap at Brevard County, FL, corroborating the genetic findings.

The Atlantic and Gulf stocks were separated at the Florida-Georgia line during SEDAR 28 because genetic data suggested that the split is north of the Brevard/Indian River County line and tagging data did not dispute this split. The FL-GA line was selected as the stock boundary based on recommendations from the commercial and recreational work groups and comments that this boundary would allow easier management and did not conflict with the life history information available. However, there was not enough resolution in the genetic or tagging data to suggest that a biological stock boundary exists specifically at the FL-GA line, only that a mixing zone occurs around Brevard County, FL, and potentially to the north. The Atlantic stock was determined to extend northward, as far as New York.

Several ongoing research projects are expanding sample collection throughout coastal Georgia and northern Florida, which may help provide better resolution for where the genetic break (or mixing zone) between the Gulf of Mexico population and the Atlantic population occurs. In addition, a few hundred cobia have been tagged with acoustic tags in South Carolina, Georgia, and the east coast of Florida to evaluate movement patterns along the South Atlantic (FL-NC) coast of the United States. This may also help determine where the stock boundary/mixing zone occurs.

1.2.2.2. SEDAR 28

The Gulf and Atlantic migratory groups of cobia were assessed by SEDAR 28 in 2013. The SEDAR 28 stock assessment for Atlantic migratory group cobia (Atlantic cobia) determined that the stock is not overfished or experiencing overfishing. The Gulf of Mexico Fishery Management Council (GMFMC) Scientific and Statistical Committee's (SSC) review of the SEDAR 28 stock assessment of Gulf migratory group cobia (Gulf cobia) determined that the stock was not overfished or experiencing overfishing.

1.2.3. Abundance and Present Condition

No coastwide index of abundance is available for cobia and no reliable regional indices of abundance can be generated due to lack of targeted monitoring programs and low incidental catch of cobia in most existing surveys. In particular, few surveys consistently encounter and sample adult fish due to their size and gear avoidance in primary survey methods such as trawls.

1.3. DESCRIPTION OF THE FISHERY

1.3.1. Commercial Fishery

Prior to 2015, the SAFMC's management area for Atlantic cobia extended from the east coast of Florida through New York. As implemented through Amendment 20B (GMFMC/SAFMC 2014) and effective in 2015, the harvests of cobia off the east coast of Florida have been considered part of the Gulf migratory group, thus the current management area for Atlantic cobia extends from Georgia through New York. The tables presented below include cobia landings and revenues from Georgia through New York, and thus exclude those from Florida. In this way, reported landings and revenues for 2010 through 2014 are consistent with those for 2015 under the new geographic designation of Atlantic cobia.

Three important issues should be recognized regarding the commercial landings data for Atlantic cobia presented in Tables 1 and 2. First, Table 1 shows 2015 landings in landed weight, while Table 2 shows 2010-2015 landings in whole weight. The Atlantic cobia ACL is specified and monitored in terms of landed weight ("as reported"), which is generally a combination of gutted and whole weight. This means landings in gutted weight are not converted to whole weight, or vice-versa, but landings in whole or gutted weight are simply added together to track landings against the ACL. The Atlantic Coastal Cooperative Statistics Program (ACCSP), which is a major data source for cobia (and other Atlantic species) landings, reports commercial landings in whole weight but may be converted to gutted weight using a conversion factor. However, the ACCSP is not currently able to provide landed weight. Second, the 2015 data shown in the tables is preliminary, but a more recent update has been made by the Southeast Fisheries Science

Center (SEFSC). The updated 2015 Atlantic cobia commercial landings were 71,790 lbs landed weight (Table 1). This number is lower than that shown in the tables and is also in landed weight, not whole weight. Third, landings prior to 2015 cannot be directly converted to landed weight. However, the commercial ACL (quota) prior to 2015 was monitored in terms of whole weight. Also, commercial quotas were not instituted until 2011.

Table 1. Updated 2015 commercial landings (pounds landed weight [lw]) and revenues (2014 $).

States				
	GA/SC	**NC**	**VA**	**Total**
Pounds (lw)	3,219	42,338	26,233	71,790
Revenues (2014 $)	$28,755	$113,052	$75,394	$217,200

Source: D. Gloeckner (pers. comm., 2016) for 2015 data.

From 2010 through 2015, annual commercial landings of Atlantic cobia ranged from approximately 33,000 to 83,000 lbs ww (Table 2). Dockside revenues from those landings ranged from approximately $79,000 to $233,000 (2014 $) (Table 2). The average dockside price for those six years was $2.43 per lb ww (2014 $). The highest landings and revenues occurred in 2015, whereas the lowest for both landings and revenues occurred in 2011. When the Florida east coast zone was still part of the management area for Atlantic cobia, commercial harvest reached the sector's quota of 125,712 lbs ww in 2014 and closed on December 11, 2014. Under the modified management area, excluding the Florida east coast zone, the quota for Atlantic cobia was revised to 60,000 lbs landed weight (lw) in 2015 and 50,000 lbs lw in 2016 and thereafter. Although landings exceeded the 2015 quota, no quota closure was imposed. Preliminary commercial landings for 2016 are 48,690 lbs lw (SEFSC Quota Monitoring Program; July, 2017). The federal commercial fishery closed on December 6, 2016.

Commercial landings of Atlantic cobia have predominantly come from North Carolina, followed by Virginia and South Carolina/Georgia (Table 2). Georgia and South Carolina landings are combined for confidentiality purposes because of the relatively small amount of cobia landings in Georgia. Cobia landings north of Virginia are relatively rare and sporadic, thus, Virginia is considered the northernmost major contributor to the commercial Atlantic cobia fishery. One notable feature for Virginia is the surge in landings in 2014 and 2015, although they were still lower than landings in North Carolina.

Table 2. Commercial Atlantic cobia landings (lbs ww) and revenues (2014 $) by state/area, 2010-2015 (preliminary). GA landings are very small, so they are combined with those of SC.

	GA/SC	NC	VA	Total
	Pounds (ww)			
2010	3,174	43,737	9,364	56,275
2011	4,610	19,950	9,233	33,793
2012	3,642	32,008	6,309	41,959
2013	4,041	35,496	13,095	52,632
2014	4,180	41,848	23,111	69,139
2015	3,555	52,315	27,277	83,148
Average	3,867	37,559	14,732	56,158
	Dockside Revenues (2014 $)			
2010	$11,377	$70,377	$19,976	$101,730
2011	$19,666	$37,893	$21,666	$79,224
2012	$15,554	$66,887	$14,597	$97,038
2013	$15,639	$79,397	$35,792	$130,828
2014	$13,320	$95,462	$67,972	$176,754
2015	$11,151	$147,160	$75,360	$233,672
Average	$14,451	$82,863	$39,227	$136,541

Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data.

Commercial fishermen harvest cobia using various gear types. Table 3 shows commercial Atlantic cobia landings and revenues by gear type. In Table 3, "Hook and Line" includes handline, longline, power-assisted line, and troll line while "Others" includes traps, other net gear, dredges/gigs/spears, and unclassified gear. Handline has been the foremost gear type used in harvesting cobia for most years (Table 3), followed closely by gillnets. Within the "Others" category, the largest landings were assigned to "unclassified gear." Although not shown in the table, handline accounted for the biggest share of the hook and line landings. Longline has been a minor gear type in the commercial harvest of cobia.

Table 3. Commercial Atlantic cobia landings (lb ww) and revenues (2014$) by gear, 2010-2015 (preliminary).

	Hook and Line	Gillnets	Others	Total
	Pounds (ww)			
2010	26,758	23,495	6,022	56,275
2011	18,322	9,177	6,294	33,793
2012	12,962	21,091	7,906	41,959
2013	28,356	13,343	10,933	52,632
2014	37,082	23,540	8,517	69,139
2015	37,702	36,417	9,030	83,148
Average	26,864	21,177	8,117	56,158
	Dockside Revenues (2014 $)			
2010	$49,095	$38,605	$14,030	$101,730
2011	$39,265	$18,242	$21,717	$79,224
2012	$29,677	$43,875	$23,486	$97,038
2013	$69,433	$30,206	$31,189	$130,828
2014	$99,959	$55,275	$21,520	$176,754
2015	$108,165	$100,130	$25,377	$233,672
Average	$65,932	$47,722	$22,886	$136,541

Source: SEFSC Commercial ACL Dataset (December 2015) for 2010-2014 data; D. Gloeckner (pers. comm., 2016) for 2015 data.

1.3.1.1. State-specific Commercial Fishery

Georgia

There is no directed commercial fishery for cobia in Georgia. Commercial landings may occur but they are typically the result of bycatch in other targeted fisheries. Some illegal sale of recreationally-caught cobia may occur; however, the total amount and value is relatively small. The greatest recorded landings in Georgia (since annual landings became available in 1979) occurred in 1993 when 2,730 pounds of cobia were landed resulting in a market value of $4,728.

South Carolina

There is a limited commercial fishery for cobia in South Carolina. Cobia are a state-designated Gamefish, and as such, cobia landed in state waters may not be sold commercially. However, cobia landed in Federal waters can be sold commercially under current regulations. Commercial cobia landings have ranged from 2,000-4,300 lbs per year with an annual mean of 3,207 lbs per year for 2005-2016 and dollar values ranging from $4,731-$17,795 annually.

North Carolina:
Commercial landings of cobia in North Carolina are available from 1950 to the present. However, monthly landings are not available until 1974. North Carolina instituted mandatory reporting of commercial landings through their Trip Ticket Program, starting in 1994. Landings information collected since 1994 are considered the most reliable. The primary fisheries associated with cobia in North Carolina are the snapper-grouper, coastal pelagic troll, and the large mesh estuarine gill net fisheries. Cobia landings from 1950 – 2016 have ranged from a low of 600 pounds (1951; 1955) to a high of 52,684 pounds (2015) with average landings of 16,611 pounds over the 66-year time series (Table 3). Recently, landings have ranged from 19,004 pounds (2007) to 52,684 pounds (2015), averaging 34,674 pounds over the last ten years.

The primary commercial gear used to harvest cobia has changed over time. This is most likely due to changing fisheries and the fact that it is mostly considered a marketable bycatch fishery, especially after North Carolina adopted the CMP FMP measures of 33-inches minimum FL and two-per person possession limit in 1991. From 1950 to the late 1970s, cobia were mostly landed out of the haul seine fishery. Most landings that occurred during the 1980s came from the pelagic troll and hand line fishery with modest landings from the haul seine and anchored gill net fishery. From 1994-2016, the majority of landings have occurred from the anchored gill net and pelagic troll and hand line fishery with gill nets being the top gear during most of those years.

Virginia
Similar to the situation for the recreational sector, commercial hook-and-line fishermen have come to depend more on cobia as the quality of other fisheries in Virginia has deteriorated. In fact, it has become an actively targeted species for many such commercial fishermen, even though cobia has often been considered a bycatch species in other states and for other gears.

Virginia has had variable commercial landings of cobia since the Virginia Marine Resources Commission instituted mandatory reporting in 1993, with landings being high in the mid-1990s, lower in the mid-2000s, and peaking in the past three years (2014-2016; Appendix II, Table VA1). There is a small, but directed hook-and-line fishery, with mainly bycatch landings from gillnets and pound nets, although these landings can be sizable (Appendix II, Table VA2). The "Other" category is predominantly gillnet landings, but they were combined with other gears for confidentiality purposes. Hook-and-line landings have been the largest, by gear, since 2007.

1.3.2. Recreational Fishery

The recreational sector is comprised of a private component and a for-hire component. The private component includes anglers fishing from shore (including all land-based structures) and private/rental boats. The for-hire component is composed of charter boats and headboats (also called partyboats). Although charter boats tend to be smaller, on average, than headboats, the key distinction between the two types of operations is how the fee is typically determined. On a charter boat trip, the fee charged is for the entire vessel, regardless of how many passengers are carried, whereas the fee charged for a headboat trip is paid per individual angler.

1.3.2.1. Permits

A federal charter/headboat (for-hire) vessel permit is required for harvesting CMP species, including cobia, when fishing on for-hire vessels in the south Atlantic and mid-Atlantic waters. The federal for-hire permit is an open access system. As of May 16, 2016, there were 1,494 valid (non-expired) or renewable Atlantic charter/headboat CMP permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat and does not restrict operation as either a headboat or charter boat, thus, vessels may operate in both capacities. However, only selected headboats are required to submit harvest and effort information to the National Marine Fisheries Service (NMFS) Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the SEFSC that the vessel primarily operates as a headboat. There were 73 South Atlantic vessels registered in the SRHS as of February 22, 2016 (K. Fitzpatrick, NMFS SEFSC, pers. comm.).

Information on South Atlantic charter boat and headboat operating characteristics, including average fees and net operating revenues, as reported in Holland et al. (2012), and financial and economic impact information on Southeast (FL-NC) for-hire vessels, as reported in Steinback and Brinson (2013), is incorporated herein by reference.

There are no specific federal permitting requirements for recreational anglers to fish for or harvest cobia. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed FMP.

Recently, the states of North Carolina and Virginia have developed programs to survey recreational cobia fishermen. These programs may provide information in the future that would help characterize the cobia fisheries in these states.

1.3.2.2. Harvest

On average, from 2010 through 2015, the recreational sector landed approximately 793,000 lbs ww of Atlantic cobia (Table 4). North Carolina has been the dominant state in recreational landings of cobia, followed by Virginia, South Carolina, and Georgia. Cobia landings north of Virginia are relatively rare and sporadic, thus, Virginia is considered the northernmost major contributor to the recreational Atlantic cobia fishery. Noticeable in the table is the surge in the recreational landings of cobia for all states in 2015, resulting in 2015 landings that were more than double the recreational ACL. Preliminary landings (1,289,993 lbs ww, GA-VA; Pers. com. National Marine Fisheries Service [NMFS] [July 21, 2017]) indicate that a similar circumstance occurred in 2016.

The private/rental mode has been the most dominant fishing mode for harvesting cobia (Table 5). Headboats have provided the lowest contribution to recreational landings of cobia. Information reported in Table 5 indicates that the 2015 surge in recreational landings can be attributed to substantial landings increases by the charter and private/rental fishing modes.
Charter boat landings more than doubled while private/rental mode landings more than tripled in 2015. In the particular case of the South Carolina charter boat sector, increasing landings of cobia caught from offshore waters (greater than 3 miles) partly compensated for the declining landings from estuarine and nearshore waters (0-3 miles) that have occurred since about 2007 (South Carolina Cobia Management Needs PowerPoint Presentation, SC DNR, 2016).

Table 4. Annual recreational landings (lbs ww) of Atlantic cobia, by state, 2010-2015 (preliminary).

	Georgia	South Carolina	North Carolina	Virginia	Total
2010	77,064	63,678	559,476	237,528	937,746
2011	88,049	1,554	119,678	137,931	347,213
2012	102,996	222,353	66,645	103,995	495,989
2013	28,427	19,159	492,998	354,463	895,048
2014	19,768	32,010	277,846	214,426	544,050
2015	67,250	124,057	631,024	718,647	1,540,978
Average	63,926	77,135	357,945	294,498	793,504

Source: SEFSC MRIPACLspec_rec81_15wv6_17Mar16.

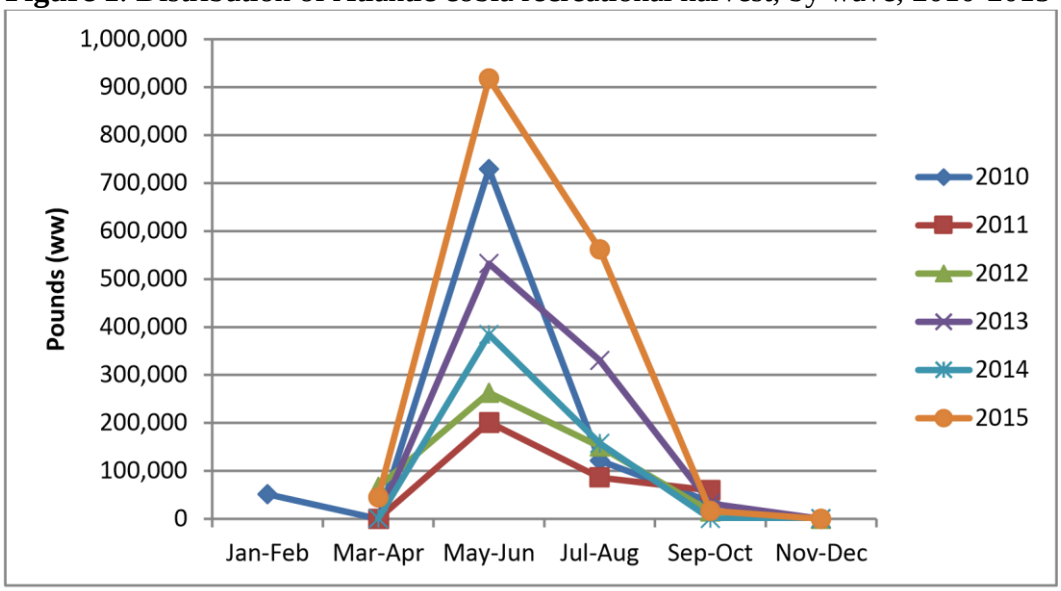
Table 5. Annual recreational landings (lbs ww) of Atlantic cobia, by fishing mode, 2010-2015 (preliminary).

	Charter	Headboat	Private/Rental	Shore	Total
2010	133,110	2,747	789,996	11,893	937,746
2011	23,608	1,886	282,728	38,990	347,213
2012	39,729	1,671	385,777	68,811	495,989
2013	73,623	5,485	815,940	0	895,048
2014	46,528	5,701	453,871	37,950	544,050
2015	102,941	1,741	1,400,338	35,957	1,540,978
Average	69,923	3,205	688,108	32,267	793,504

Source: SEFSC MRIPACLspec_rec81_15wv6_17Mar16.

Peak recreational landings of cobia occurred in the May-June wave each year from 2010 through 2015 (Figure 1). Recreational landings steeply increased from the March-April wave to their peak and also steeply declined after the peak wave. Landings are concentrated around the May-June and July-August waves.

Figure 1. Distribution of Atlantic cobia recreational harvest, by wave, 2010-2015 (preliminary).



Source: SEFSC MRIPACLspec_rec81_15wv6_17Mar16.

1.3.2.3. Effort

Recreational effort derived from the Marine Recreational Statistics Survey/Marine Recreational Information Program (Marine Recreational Fisheries Statistical Survey [MRFSS]/Marine Recreational Information Program [MRIP]) database can be characterized in terms of the number of trips as follows:

Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or second primary target for the trip. The species did not have to be caught.

Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.

Total recreational trips - The total estimated number of recreational trips in the Atlantic, regardless of target intent or catch success.

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), but the three measures of effort listed above are used in this assessment.

Estimates of annual Atlantic cobia effort (in terms of individual angler trips) for 2010-2015 are provided in Table 6 for target trips and Table 7 for catch trips. Target and catch trips are shown by fishing mode (charter, private/rental, shore) for Georgia, South Carolina, North Carolina, and Virginia. These are trips for cobia in state or federal waters off of these states. Estimates of cobia

target and catch trips for additional years, and other measures of directed effort, are available at http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-dataquery/queries/index.

Cobia is one of the few species where target trips generally exceed catch trips. The 2010-2015 average target trips were 4,519 for the charter mode, 130,360 for the private/rental mode, and 28,293 for the shore mode (Table 6). In contrast, the average catch trips were 3,114 for the charter mode, 33,329 for the private/rental mode, and 6,840 for the shore mode (Table 7). This is suggestive of a relatively strong interest in fishing for cobia among recreational anglers across all fishing modes. For each state, the private/rental mode has been the most dominant fishing mode both in target and catch effort.

Table 6. Target trips for Atlantic cobia, by fishing mode and state, 2010-2015 (preliminary).

Year	Charter				
	Georgia	S. Carolina	N. Carolina	Virginia	Total
2010	0	3,349	3,029	358	6,736
2011	22	2,940	1,416	525	4,903
2012	0	1,025	345	156	1,526
2013	160	0	2,446	24	2,630
2014	0	1,452	1,703	295	3,450
2015	792	1,290	2,765	3,022	7,869
Average	162	1,676	1,951	730	4,519
	Private/Rental				
2010	5,453	14,228	49,358	67,730	136,769
2011	4,030	24,554	26,400	49,180	104,164
2012	2,495	57,543	23,320	37,706	121,064
2013	12,235	22,373	50,883	53,981	139,472
2014	1,322	23,365	50,112	49,075	123,874
2015	12,236	9,684	58,658	76,241	156,819
Average	6,295	25,291	43,122	55,652	130,360
	Shore				
2010	0	2,030	14,950	9,838	26,818
2011	0	0	10,090	2,366	12,456
2012	0	914	12,444	14,939	28,297
2013	0	627	15,977	5,693	22,297
2014	0	2,395	17,085	18,565	38,045

2015	0	363	21,925	19,554	41,842
Average	0	1,055	15,412	11,826	28,293

Source: http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index.

Table 7. Catch trips for Atlantic cobia, by fishing mode and state, 2010-2015 (preliminary).

Year	Charter				
	Georgia	South Car.	North Car.	Virginia	Total
2010	97	1,301	4,398	237	6,033
2011	400	0	1,655	135	2,190
2012	140	372	472	156	1,140
2013	160	48	2,798	24	3,030
2014	55	110	1,559	72	1,796
2015	0	879	2,652	963	4,494
Average	142	452	2,256	265	3,114
	Private/Rental				
2010	3,320	2,939	18,433	13,600	38,292
2011	4,145	606	8,156	9,291	22,198
2012	3,296	5,134	4,869	6,658	19,957
2013	1,157	3,699	21,047	14,256	40,159
2014	1,436	2,957	10,561	14,803	29,757
2015	2,351	4,396	18,740	24,121	49,608
Average	2,618	3,289	13,634	13,788	33,329
	Shore				
2010	0	0	6,192	0	6,192

2011	0	0	6,528	0	6,528
2012	0	0	7,983	2,055	10,038
2013	0	0	2,673	0	2,673
2014	0	3,268	6,128	0	9,396
2015	0	2,697	3,514	0	6,211
Average	0	994	5,503	343	6,840

Source: http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index

Headboat data in the Southeast do not support the estimation of target or catch effort because target intent is not collected and the harvest data (the data reflects only harvest information and not total catch) are collected on a vessel basis and not by individual angler. **Table 8** contains estimates of the number of headboat angler days for the South Atlantic states for 2010-2015. Georgia and South Carolina data are combined for confidentiality purposes. Virginia information was not available because only South Atlantic headboats are included in the SRHS.

Table 8. South Atlantic headboat angler days, by state, 2010-2015.

Year	GA/SC	NC	TOTAL
2010	46,908	21,071	67,979
2011	46,210	18,457	64,667
2012	42,064	20,766	62,830
2013	42,853	20,547	63,400
2014	44,092	22,691	66,783
2015	41,479	22,716	64,195
Average	43,934	21,041	64,976

Source: NMFS Southeast Region Headboat Survey (SRHS).

1.3.2.4. State Specific Recreational Fisheries

Georgia

A large recreational fishery exists for cobia in Georgia. The majority of this fishery occurs in nearshore waters around natural and artificial reefs. While there are some instances of cobia being caught inshore and on beach front piers in Georgia, most landings come from outside state

waters. Anglers begin targeting cobia in late April-early May with the peak of the season typically occurring in June. Late season catches often occur on nearshore reefs through October depending on water temperatures. However, these fall runs of fish are sporadic and are often missed by anglers.

South Carolina

The recreational fishery accounts for the majority of cobia landings in South Carolina. The fishery occurs in both nearshore waters and around natural and artificial reefs offshore. Historically, the majority of cobia landings have occurred in state waters in and around spawning aggregations from April through May. However, due to intense fishing pressure in the inshore zone, annual landings of cobia have fallen drastically since 2009, such that the majority of recreationally caught cobia in South Carolina now come from offshore (federal) waters. Anglers begin targeting cobia in late April-early May with the peak of the season typically occurring May into early June. Late season catches can occur on nearshore reefs through October depending on water temperatures. However, these fall catches are sporadic. South Carolina has accounted for an average of 1.3% of total landings in state jurisdictional waters along the Atlantic coast for 2010-2016.

North Carolina

Historically, recreational fisherman targeted cobia from a vessel by anchoring and fishing with dead, live, or a mixture of both bait types near inlets and deep water sloughs inshore (Manooch 1984). Fish were also harvested from shore or off of piers using dead or live bait, most commonly menhaden. In the early 2000s, fisherman began outfitting their vessels with towers to gain a higher vantage point to spot and target free swimming cobia along tidelines and around bait aggregations. This method of fishing actively targets cobia in the nearshore coastal zone and has become the primary mode of fishing in most parts of the state.

Recreational harvests of cobia in North Carolina from 1981-2016 have ranged from a low of 0 pounds (1983) to a high of 631,024 pounds (2015). Landings during the 1980s and 1990s remained relatively constant from year to year. Landings began to increase and become more variable beginning in the mid-2000s. From 2010-2015, recreational cobia landings in North Carolina ranged from 66,645 to 631,024 pounds (avg. = 357,945 pounds). Seasonally, cobia are landed mostly in the spring and summer months corresponding with their spring spawning migration (Smith 1995). Peak landings occur during the latter part of May into June and quickly diminish thereafter. However, recreational landings of cobia can occur through the month of October. By fishing mode, the majority of recreational landings of cobia in North Carolina occur form private vessels (73 %) with charter vessels (14 %) and shore based modes (13 %) accounting for the rest.

Virginia

According to the MRFSS/MRIP, Virginia's estimated recreational landings of cobia have been highly variable since 2000, with the lowest estimate being 26,537 pounds in 2012 and 898,542 pounds in 2006 (Appendix II, Table VA3). Although still preliminary, the estimate for 2016 is 919,992 pounds. It is believed the recreational fishery has grown in recent years, both in the number of participants, and the effectiveness of fishing due to the advent of sight-casting—especially when aided by "cobia towers." Traditionally, cobia had been targeted using live-bait

bottom-fishing, but these new techniques are causing a shift in preference among anglers. However, the extent of this change is not clear for Virginia's recreational fishery.

In addition to a large private recreational industry, there is a small, dedicated group of for-hire participants. Many of these captains/fishing guides utilize cobia towers and prefer sight-casting, although some still chum and fish using live bait.

1.3.3. Subsistence Fishery

There is no known subsistence fishery for cobia.

1.3.4. Non-Consumptive Factors

No non-consumptive factors were identified that were of significance to the cobia resource.

1.3.5. Interactions with Other Fisheries, Species, or Users

The recreational cobia fishery tends to be a targeted fishery. Various small and large coastal sharks and various ray species are the most common bycatch. Cobia are encountered as bycatch in the troll and live bait fisheries for king and Spanish mackerel, dolphin, and other pelagic species. Additionally, cobia are taken incidental to offshore bottom fishing activities for snapper/grouper species.

The commercial cobia fishery is primarily bycatch in the same troll fisheries and taken incidental to snapper/grouper fisheries. Some directed harvest does occur; however, low limits preclude a large scale fishery.

1.4. HABITAT CONSIDERATIONS

1.4.1. Habitat Important to the Stocks

1.4.1.1. Description of the Habitat

1.4.1.1.1. Spawning Habitat

The SAFMC has management jurisdiction of the federal waters (3-200 nautical miles) offshore of North Carolina, South Carolina, Georgia, and Florida. Under the CMP FMP, the SAFMC manages Atlantic cobia through the Mid-Atlantic region (VA-NY).

Cobia spawn in nearshore waters along the South Atlantic coast from April through June. Nearby states (South Carolina) have documented the presence of inshore spawning aggregations of cobia (Lefebvre and Denson, 2012). However, there have been no such aggregations identified in Georgia. Eggs and larvae are typically found in nearshore waters and juveniles most often occur inshore or in protected nearshore waters.

Cobia enter nearshore waters along the south Atlantic Coast when water temperatures reach 20-21 °C, usually late April and aggregate to spawn through June. Histological evaluation of gonads from these nearshore collections suggest cobia are mature and spawning in inshore waters of

high salinity estuaries (Callibogue, Port Royal Sound and St. Helena Sound in SC)(Lefebvre and Denson, 2012). The inshore spawning aggregations in South Carolina have been determined to be genetically distinct from the Atlantic stock of cobia (Darden et al. 2014). These findings are corroborated by conventional tag-recapture information and show estuarine fidelity for spawning fish and natal homing annually into estuaries. Eggs and larvae are typically found in nearshore waters where there is significant retention time of estuarine waters; however, juveniles (< 2yrs of age) are only occasionally caught inshore or in protected nearshore waters making it unclear what habitat the majority of this life stage utilizes until they mature and join spawning aggregations (Lefebvre and Denson, 2012).

1.4.1.1.2. Larval Habitat

Little is known about the larval stages of cobia. Larvae have been collected in pelagic waters of the Gulf of Mexico (65-134 m isobaths), within a meter of the water column (Ditty and Shaw 1992).

1.4.1.1.3. Juvenile Habitat

Juveniles, like larvae, have also been found in pelagic waters of the Gulf of Mexico, and are believed to utilize floating *Sargassum* as habitat in such areas (Ditty and Shaw 1992). Early juveniles then move to high-salinity, inshore areas along beaches, river mouths, barrier islands, and bays/inlets (Benson 1982, Hoese and Moore 1977, McClane 1974, Swingle 1971).

1.4.1.1.4. Adult Habitat

Adults enter estuaries on a seasonal basis but otherwise inhabit coastal waters and the continental shelf (Benson 1982, Collette 1978, Robins and Ray 1986). Although generally considered pelagic, adult cobia are found at various depths throughout the water column (Freeman and Walford 1976). They do not appear to be substratum-specific, but extensive tagging research is currently being conducted by various states along the U.S. Atlantic coast to better determine movement and habitat usage.

1.4.1.1.4.1. South Atlantic Region

The continental shelf off the southeastern U.S., extending from the Dry Tortugas, FL, to Cape Hatteras, NC, encompasses an area in excess of 100,000 square km (Menzel 1993). Based on physical oceanography and geomorphology, this environment can be divided into two regions: Dry Tortugas, FL, to Cape Canaveral, FL, and Cape Canaveral, FL, to Cape Hatteras, NC. The continental shelf from the Dry Tortugas, FL, to Miami, FL, is approximately 25 km wide and narrows to approximately 5 km off Palm Beach, FL. The shelf then broadens to approximately 120 km off Georgia and South Carolina before narrowing to 30 km off Cape Hatteras, NC. The Florida Current/Gulf Stream flows along the shelf edge throughout the region. In the southern region, this boundary current dominates the physics of the entire shelf (Lee et al. 1994).

In the northern region, additional physical processes are important and the shelf environment can be subdivided into three oceanographic zones (Atkinson et al. 1985, Menzel 1993), the outer

shelf, mid-shelf, and inner shelf. The outer shelf (40-75 meters (m)) is influenced primarily by the Gulf Stream and secondarily by winds and tides. On the mid-shelf (20-40 m), the water column is almost equally affected by the Gulf Stream, winds, and tides. Inner shelf waters (0-20 m) are influenced by freshwater runoff, winds, tides, and bottom friction. Water masses present from the Dry Tortugas, FL, to Cape Canaveral, FL, include Florida Current water, waters originating in Florida Bay, and shelf water.

Spatial and temporal variation in the position of the western boundary current has dramatic effects on water column habitats. Variation in the path of the Florida Current near the Dry Tortugas induces formation of the Tortugas Gyre (Lee et al. 1992, 1994). This cyclonic eddy has horizontal dimensions of approximately 100 km and may persist near the Florida Keys for several months. The Pourtales Gyre, which has been found to the east, is formed when the Tortugas Gyres moves eastward along the shelf. Upwelling occurs in the center of these gyres, thereby adding nutrients to the near surface (<100 m) water column. Wind and input of Florida Bay water also influence the water column structure on the shelf off the Florida Keys (Smith 1994, Wang et al. 1994). Further downstream, the Gulf Stream encounters the "Charleston Bump", a topographic rise on the upper Blake Ridge where the current is often deflected offshore resulting in the formation of a cold, quasi-permanent cyclonic gyre and associated upwelling (Brooks and Bane 1978). On the continental shelf, offshore projecting shoals at Cape Fear, Cape Lookout, and Cape Hatteras, NC, affect longshore coastal currents and interact with Gulf Stream intrusions to produce local upwelling (Blanton et al. 1981, Janowitz and Pietrafesa 1982). Shoreward of the Gulf Stream, seasonal horizontal temperature and salinity gradients define the mid-shelf and inner-shelf fronts. In coastal waters, river discharge and estuarine tidal plumes contribute to the water column structure.

The water column from Dry Tortugas, FL, to Cape Hatteras, NC, serves as habitat for many marine fish and shellfish. Most marine fish and shellfish release pelagic eggs when spawning and thus, most species utilize the water column during some portion of their early life history (Leis 1991, Yeung and McGowan 1991). Many fish inhabit the water column as adults. Pelagic fishes include numerous clupeoids, flying fish, jacks, cobia, bluefish, dolphin, barracuda, and the mackerels (Schwartz 1989). Some pelagic species are associated with particular benthic habitats, while other species are truly pelagic.

1.4.1.1.4.2. Mid-Atlantic Region

Information about the physical environment of the Mid-Atlantic region was provided by the Mid-Atlantic Fishery Management Council (MAFMC) and adapted from the 2016 Mackerel, Squid, and Butterfish Specifications Environmental Assessment, available at: http://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specspr.html.

Climate, physiographic, and hydrographic differences separate the Atlantic Ocean from Maine to Florida into the New England-Middle Atlantic Area and the South Atlantic Area (division/mixing at Cape Hatteras, NC). The inshore New England-Middle Atlantic area is fairly uniform physically and is influenced by many large coastal rivers and estuarine areas. The continental shelf (characterized by water less than 650 ft. in depth) extends seaward approximately 120 miles off Cape Cod, narrows gradually to 70 miles off New Jersey, and is 20

miles wide at Cape Hatteras. Surface circulation is generally southwesterly on the continental shelf during all seasons of the year, although this may be interrupted by coastal indrafting and some reversal of flow at the northern and southern extremities of the area. Water temperatures range from less than 33°F from the New York Bight north in the winter to over 80°F off Cape Hatteras in summer.

Within the New England-Middle Atlantic Area, the Northeast U.S. Continental Shelf Large Marine Ecosystem includes the area from the Gulf of Maine to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream. The Northeast U.S. Continental Shelf Large Marine Ecosystem is a dynamic, highly productive, and intensively studied system providing a broad spectrum of ecosystem goods and services. This region, encompassing the continental shelf area between Cape Hatteras and the Gulf of Maine, spans approximately 250,000 km^2 and supports some of the highest revenue fisheries in the U.S. The system historically underwent profound changes due to very heavy exploitation by distant-water and domestic fishing fleets. Further, the region is experiencing changes in climate and physical forcing that have contributed to large-scale alteration in ecosystem structure and function. Projections indicate continued future climate change related to both short and medium-term cyclic trends as well as non-cyclic climate change.

A number of distinct subsystems comprise the region. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2006).

1.4.2. Identification and Distribution of Habitat and Habitat Areas of Particular Concern

Habitat information for Atlantic cobia is sparse. Few, if any, fishery independent surveys consistently interact with cobia in numbers adequate to develop any trends or conclusions. Much of the habitat data presented is generic for the coastal migratory pelagic fishes that include king and Spanish mackerel. Species-specific habitat information is a data and research need.

A description of the Habitat Areas of Particular Concern (HAPC) for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC/ SAFMC 2011), and is incorporated herein by reference. Areas which meet the criteria for HAPCs include sandy shoals of Cape 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

Estuarine Living Marine Resources Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River (North Carolina), for cobia, Broad River (South Carolina).

1.4.2.1. Essential Fish Habitat for Coastal Migratory Pelagics

A description of the Essential Fish Habitat (EFH) for CMP species is provided in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011), and is incorporated herein by reference. EFH for CMPs include coastal estuaries from the U.S./Mexico border to the boundary between the areas covered by the GMFMC and SAFMC from estuarine waters out to depths of 100 fathoms (GMFMC 2004). In the South Atlantic, EFH for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets, all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all primary nursery areas and all secondary nursery areas).

For cobia, EFH also includes high salinity bays, estuaries, and seagrass habitat. In addition, the Gulf Stream is an EFH because it provides a mechanism to disperse CMP larvae. For king and Spanish mackerel and cobia, EFH occurs in the South Atlantic and Mid-Atlantic Bights.

1.4.3. Present Condition of Habitats and Habitat Areas of Particular Concern

1.4.3.1. Coastal Spawning Habitat: Condition and Threats Coastal Spawning

It is reasonable to assume that areas where coastal development is taking place rapidly, habitat quality may be compromised. Coastal development is a continuous process in all states and all coastal areas in the nation are experiencing significant growth. The following section describes particular threats to the nearshore habitats in the South Atlantic that meet the characteristics of suitable spawning habitat for cobia.

One threat to the spawning habitat for cobia is navigation and related activities such as dredging and hazards associated with ports and marinas (ASMFC, 2013). According to the SAFMC (1998), impacts from navigation related activities on habitat include direct removal/burial of organisms from dredging and disposal of dredged material, effects due to turbidity and siltation; release of contaminants and uptake of nutrients, metals, and organics; release of oxygen-consuming substances, noise disturbance, and alteration of the hydrodynamic regime and physical characteristics of the habitat. All of these impacts have the potential to substantially decrease the quality and extent of cobia spawning habitat.

Besides creating the need for dredging operations that directly and indirectly affect spawning habitat for cobia, ports also present the potential for spills of hazardous materials. The cargo that arrives and departs from ports includes highly toxic chemicals and petroleum products. Although spills are rare, constant concern exists since huge expanses of productive estuarine and nearshore habitat are at stake. Additional concerns related to navigation and port utilization are discharge of marine debris, garbage, and organic waste into coastal waters.

Maintenance and stabilization of coastal inlets is of concern in certain areas of the southeastern U.S. Studies have implicated jetty construction to alterations in hydrodynamic regimes, thus, affecting the transport of estuarine-dependent organisms' larvae through inlets (Miller *et al*. 1984, Miller 1988).

1.4.3.2. Estuarine Nursery, Juvenile and Subadult Habitat: Condition and threats

Coastal wetlands and their adjacent estuarine waters likely constitute primary nursery, juvenile, and sub-adult habitat for cobia along the coast. Between 1986 and 1997, estuarine and marine wetlands nationwide experienced an estimated net loss of 10,400 acres. However, the rate of loss was reduced over 82% since the previous decade (Dahl 2000). Most of the wetland loss resulted from urban and rural activities and the conversion of wetlands for other uses. Along the southeast Atlantic coast, the state of Florida experienced the greatest loss of coastal wetlands due to urban or rural development (Dahl 2000). However, the loss of estuarine wetlands in the southeast has been relatively low over the past decade, although there is some evidence that invasion by exotic species, such as Brazilian pepper (*Schinus terebinthifolius*), in some areas could pose potential threats to fish and wildlife populations in the future (T. Dahl, pers. comm.).

Throughout the coast, the condition of estuarine habitat varies according to location and the level of urbanization. In general, it can be expected that estuarine habitat adjacent to highly developed areas will exhibit poorer environmental quality than more distant areas. Hence, environmental quality concerns are best summarized on a watershed level.

Threats to estuarine habitats of the southeast were described in Amendment 2 to the Red Drum FMP (ASMFC 2002). Due to the cobia's similar dependence on estuarine habitats throughout its early life history, these same threats are likely to impact cobia as well.

Nutrient enrichment of estuarine waters throughout the southeast is a major threat to the quality of estuarine habitat. Forestry practices contribute significantly to nutrient enrichment in the southeast. Areas involved are extensive and many are in proximity to estuaries. Urban and suburban developments are perhaps the most immediate threat to cobia habitat in the southeast. The almost continuous expansion of ports and marinas in the South Atlantic poses a threat to aquatic and upland habitats. Certain navigation-related activities are not as conspicuous as port terminal construction but have the potential to significantly impact the estuarine habitat upon which cobia depend. Activities related to watercraft operation and support pose numerous threats including discharge of pollutants from boats and runoff from impervious surfaces, contaminants generated in the course of boat maintenance, intensification of existing poor water quality conditions, and the alteration or destruction of wetlands, shellfish and other bottom communities for the construction of marinas and other related infrastructure.

Estuarine habitats of the southeast can be negatively impacted by hydrologic modifications. The latter include activities related to aquaculture, mosquito control, wildlife management, flood control, agriculture and silviculture. Also, ditching, diking, draining, and impounding activities associated with industrial, urban, and suburban development qualify as hydrologic modifications that may impact the estuarine habitat. Alteration of freshwater flows into estuarine areas may change temperature, salinity, and nutrient regimes as well as alter wetland coverage. Studies

have demonstrated that changes in salinity and temperature can have profound effects in estuarine fishes (Serafy *et al*. 1997) and that salinity partly dictates the distribution and abundance of estuarine organisms (Holland *et al*. 1996). Cobia may be similarly susceptible to such changes in the physical regime of their environment.

1.4.3.3. Adult Habitat: Condition and Threats

Threats to the cobia's adult habitat are not as numerous as those faced by postlarvae, juveniles, and subadults in the estuary and coastal waters. Current threats to the nearshore and offshore habitats that adult cobia utilize in the South Atlantic include navigation and related activities, dumping of dredged material, mining for sand and minerals, oil and gas exploration, offshore wind facilities, and commercial and industrial activities (SAFMC 1998).

An immediate threat is the sand mining for beach nourishment projects. Associated threats include burial of bottoms near the mine site or near disposal sites, release of contaminants directly or indirectly associated with mining (i.e. mining equipment and materials), increases in turbidity to harmful levels, and hydrologic alterations that could result in diminished desirable habitat.

Offshore mining for minerals may pose a threat to cobia habitat in the future. Currently, no mineral mining activities are taking place in the South Atlantic. However, various proposals to open additional areas off the Atlantic coast to seabed mining have been introduced by the Federal Executive and Legislative branches.

Offshore wind farms may also pose a threat to cobia habitat throughout different life stages in the future (ASMFC 2012). Currently, no offshore wind farms are established in the United States. However, the Atlantic coast is a potential candidate for future wind farm sites.

1.5. IMPACTS OF THE FISHERY MANAGEMENT

1.5.1. Biological and Environmental Impacts

Significant recreational fishery overages of the ACL in 2015 and 2016 raise concerns over the future status of the stock and potential of the stock becoming overfished. Adoption of coastwide management measures can provide flexibility to states while maintaining harvest within the ACL and protecting a portion of the spawning stock. Limits on catch can provide additional protection throughout cobia's geographic range to support a sustained population and fishery.

1.5.2. Social Impacts

Information on fishermen, fishing-dependent businesses, or communities that depend on the cobia fisheries Is available in CMP Amendment Framework 4 (SAFMC 2016). In order to understand the impact that any new rules and regulations may have on participants in any fishery, in-depth community profiles need to be developed that will aid in the description of communities involved, both present and historical. Limited social science research has been conducted in communities in the U.S. South Atlantic, and adequate descriptions of the potential effects on communities are not available at this time.

While not an in-depth ethnographic study, a project employing rapid assessment was completed to document the location, type, and history of fishing communities in the South Atlantic region. SAFMC staff worked collaboratively with the University of Florida to describe fishing communities in a broad manner (for example, whether the community is characterized mostly by commercial fishing, for-hire, recreational or some combination of all sectors), and link on-the-ground fieldwork with the collection of as much secondary data as possible. The secondary data included U.S. Census records, landings, permits, and state information. All of this information is used to form a baseline dataset to assist in the measurement of social and economic impacts (Jepson et al. 2006).

1.5.2.1. Recreational Fishery

The recreational sector of the cobia fishery is much larger than the commercial sector, and cobia is an important species for recreational anglers and the for-hire sector. Landings estimates indicate that the private recreational sector is the dominant component of the cobia recreational fishery (Table 5), and most landings are associated with Virginia and North Carolina (Table 4).

Implementation of the cobia FMP is expected to impact the recreational sector. Specifically it is likely that social impacts would be most significant for recreational fishermen and for-hire businesses in Virginia and North Carolina. However, the FMP will also allow management to maintain stock health and recreational participation, in addition to consistency in regulations among states.

1.5.2.2. Commercial Fishery

The commercial sector has operated primarily as a bycatch fishery for decades. The current ACL for the commercial fishery is 50,000 pounds from Georgia-New York. Current measures and those proposed in this document essentially maintain status quo for the commercial fishery. In accordance with federal policy, should the coastwide ACL be met, a closure would occur. Depending on the timing of any closure, social impacts would vary.

1.5.3. Other Resource Management Efforts

1.5.3.1. Artificial Reef Development/Management

Approximately 120,000 acres (155 nm^2) of ocean and estuarine bottom along the south Atlantic coast have been permitted for the development of artificial reefs (ASMFC 2002). The Georgia Department of Natural Resources is responsible for the development and maintenance of a network of man-made reefs both in estuarine waters and in the open Atlantic Ocean. Funding for the artificial reef program is provided by Federal Aid in Sport Fish Restoration, fishing license revenues, and private contributions. To date, there are 15 reefs within the estuary proper, which are constructed of a variety of materials including concrete rubble, metal cages, and manufactured reef units. These provide habitat for juvenile cobia and other species of recreationally important fishes. In 2001, three "beach" reefs were constructed in locations within Georgia's territorial waters just off the barrier island beaches. These are experimental in nature, but should provide some habitat for juvenile and adult cobia. There are 19 man-made reefs in the U.S. Exclusive Economic Zone (EEZ) ranging from depths of 40 to 130 feet. These reefs are

constructed of a variety of materials including surplus vessels, concrete rubble, barges, bridge spans, and manufactured reef units. Both juvenile and adult cobia are known to use these reefs.

The Florida Fish and Wildlife Conservation Commission's (FWC) Division of Marine Fisheries Management administers a state artificial reef program that provides financial and technical assistance to coastal local governments, nonprofit corporations and state universities to develop artificial reefs and to monitor and evaluate these reefs. To date, there are 919 artificial reefs located in the Atlantic off Florida with 38 of these reefs being located within estuarine waters. The estuarine reefs are located in two Florida counties one being Dade County which has 32 and Palm Beach County which has six. Artificial habitats off Florida range in depth from six feet to 420 feet of water and consist of a variety of materials, i.e., concrete culverts, bridge spans, barges, and decommissioned military ships such as the ex-U.S.S. Hoyt Vandenberg which has become a very popular dive destination. Oyster shells are also used to create artificial habitat in Florida waters, but the FWC does not keep track of these reefs. These artificial habitats should provide habitat for juvenile and adult cobia off Florida's Atlantic coast.

New Jersey has also developed and invested in an artificial reef program, with the state agency involved since 1984. Similarly, Delaware has invested in an artificial reef program, with 14 reef sites within Delaware Bay. Artificial reef construction is especially important in the Mid-Atlantic region, where near shore bottom is usually featureless sand or mud.

States should continue support for habitat restoration projects, including oyster shell recycling and oyster hatchery programs as well as seagrass restoration, to provide areas of enhanced or restored bottom habitat.

1.5.3.2. Bycatch

Cobia are uncommon bycatch components in most U.S. South and Mid-Atlantic fisheries. Mortalities resulting from cobia released from varying depths in the hook and line fisheries and regulatory discards from the large mesh gill fisheries in North Carolina and Virginia are unknown.

1.6. LOCATION OF TECHNICAL DOCUMENTATION FOR FMP

1.6.1. Review of Resource Life History and Biological Relationships

The PDT has compiled available life history data on cobia, much of which is contained in this document. Readers may review the documents developed for the Coastal Migratory Pelagics FMP by the SAFMC for historical perspective (SAFMC 2016).

1.6.2. Stock Assessment Document

The most recent cobia stock assessment (SEDAR 28) was completed in 2013. The stock assessment utilized the Beaufort Assessment Model with data through 2011 (SEDAR 2013). An updated stock assessment and review of stock structure information from genetic and tagging studies is scheduled for completion in 2019.

1.6.3. Economic Assessment Document

No economic assessment has been performed.

1.6.4. Law Enforcement Assessment Document

ASMFC's Law Enforcement Committee has prepared a document titled "Guidelines for Resource Managers on the Enforceability of Fishery Management Measures' (July 2009), which can be used to evaluate the effectiveness of future measures.

2. GOALS AND OBJECTIVES

2.1. HISTORY AND PURPOSE OF THE PLAN

2.1.1. History of Prior Management Actions

No interstate fisheries management program currently exists for Atlantic cobia. At present, four states have implemented harvest regulations for cobia (Table 9).

Table 9. 2017 State Recreational Regulations for Atlantic Cobia.

State	Size Limit	Bag Limit	Vessel Limit	Season	Notes
Georgia					
South Carolina	33" FL	1	3 south of Jeremy Inlet, 2 all other areas	See notes	May closure south of Jeremy Inlet
North Carolina	36" FL	1	4	May 1 – September 1	
Virginia	40" TL	1	3	June 1 – September 15	1 fish > 50" TL, No gaffing
Maryland	none	none	none	none	
Delaware	none	none	none	none	Implement federal regulations
New Jersey	37" TL	2	none	none	
New York	37" TL	2	none	none	

Commercial regulations are consistent throughout the management unit with a 33 inch FL minimum size limit (Virginia employs a 37 inch TL size limit) and 2 fish per license holder, with up to 6 fish allowed per trip, whichever is more restrictive. The one exception is Virginia, which allows 6 fish per trip regardless of the number of license holders on board.

2.1.2. Purpose and Need for Action

Currently there is no interstate management for cobia, but four main reasons have been identified as to why/how interstate management would benefit the fishery:

1) A majority of the coastwide catch occurs in state waters;

2) Need to maintain catches within the federal ACL;

3) Lack of consistent regulations and goals;

4) An Interstate FMP establishes a framework to provide greater flexibility to states and address future concerns or changes in the fishery or population.

2.2. GOAL

The goal of the Cobia FMP shall be to provide for an efficient management structure to implement coastwide management measures in a timely manner.

2.3. OBJECTIVES

1) Provide a flexible management system to address future changes in resource abundance, scientific information, and fishing patterns among user groups or area.

2) Promote cooperative collection of biological, economic, and social data required to effectively monitor and assess the status of the cobia resource and evaluate management efforts.

3) Manage the cobia fishery to protect both young individuals and established breeding stock.

4) Develop research priorities that will further refine the cobia management program to maximize the biological, social, and economic benefits derived from the cobia population.

2.4. SPECIFICATION OF MANAGEMENT UNIT

The proposed management unit is defined as the cobia (*Rachycentron canadum*) resource from Georgia through New York within U.S. waters of the northwest Atlantic Ocean, from the U.S. Atlantic coastal estuaries eastward to the offshore boundaries of the EEZ. The selection of this management unit is based on genetic analysis and tag-recapture data described in this document.

2.4.1. Management Areas

The proposed management area is the Atlantic coast distribution of the resource from Georgia through New York.

2.5. DEFINITION OF OVERFISHING

The federal The CMP FMP, as amended, specifies that overfishing is occurring when fishing mortality (F) exceeds the maximum fishing mortality threshold (MFMT), which is based on 30% Static Spawning Potential Ratio (SPR). This is determined only through a stock assessment.

Amendment 18 (GMFMC/SAFMC 2014) specified that because there was no Overfishing Level (OFL) recommendation available at that time, overfishing was defined as landings exceeding the ACL. The Councils specified that OFL would be revisited after the stock assessment (SEDAR 28) was complete. Following completion of SEDAR 28, the SAFMC's SSC recommended an OFL based on the stock assessment.

2.6. STOCK REBUILDING PROGRAM

The NMFS lists the status of the cobia population as not overfished and that overfishing is not occurring; therefore, a stock rebuilding program is not required.

3. MONITORING PROGRAM SPECIFICATIONS/ELEMENTS

Upon approval of the FMP, the South Atlantic Species Advisory Panel (AP) will meet as necessary to review stock assessments for cobia (when available) and all other relevant data pertaining to stock status. Based on this information, the AP will prepare and submit a report of recommendations to the Management Board.

The Cobia Technical Committee (TC) will meet annually, or as necessary, to review state management program changes, developments in the fishery, or other changes or challenges in the fishery.

The Cobia Stock Assessment Subcommittee (SAS), in cooperation with the SAFMC SSC, will generally meet every five years to review and update or perform a benchmark stock assessment on Atlantic cobia. This schedule may be modified as needed to incorporate new information and consideration of the Atlantic cobia stock. A new cobia stock assessment through the SEDAR process is scheduled for completion in 2019.

The Cobia Plan Review Team (PRT) will annually review implementation of the management plan and any subsequent adjustments (addenda), and report to the Management Board on any compliance issues that may arise. The PRT will also prepare the annual Cobia FMP Review and coordinate the annual update and prioritization of research needs (see Section 6.2).

3.1. ASSESSMENT OF ANNUAL RECRUITMENT

No programs currently collect data necessary to assess annual recruitment of cobia.

The FMP recommends examination of possible surveys from which Atlantic cobia abundance indices could be developed. These indices would be valuable for informing future stock assessments.

3.2. ASSESSMENT OF SPAWNING STOCK BIOMASS

SEDAR 28 (2013) provides the most current information on spawning stock biomass. While the stock is not currently considered overfished, the 2013 stock assessment does indicate declines in biomass over the last few years of the assessment (terminal year: 2010). New information should be revealed by the stock assessment scheduled for completion in 2019.

3.3. ASSESSMENT OF FISHING MORTALITY TARGET AND MEASUREMENT

SEDAR 28 (2013) provides the most current information on fishing mortality. The stock is not currently considered to be undergoing overfishing. While no definition currently exists for overfishing the cobia resource, recent overages of the ACL raises concerns. New information should be revealed by the stock assessment scheduled for completion in 2019.

3.4. SUMMARY OF MONITORING PROGRAMS

The proposed FMP includes no requirements regarding fishery-dependent monitoring programs, but all state fishery management agencies are encouraged to pursue full implementation of the standards of the Atlantic Coastal Cooperative Statistics Program (ACCSP). The Management Board recommends a transitional or phased-in approach be adopted to allow for full implementation of the ACCSP standards. Until the ACCSP standards are implemented, the Management Board encourages state fishery management agencies to initiate implementation of specific ACCSP modules and/or pursue pilot and evaluation studies to assist in development of reporting programs to meet the ACCSP standards. The ACCSP partners are the 15 Atlantic coast states from Maine through Florida, the District of Columbia, the Potomac River Fisheries Commission, NOAA Fisheries, the U.S. Fish and Wildlife Service, the three federal Fishery Management Councils, and the Atlantic States Marine Fisheries
Commission. Participation by program partners in the ACCSP does not relieve states from their responsibilities in collating and submitting harvest/monitoring reports to the Commission as required under the proposed FMP.

3.4.1. Catch, Landings, and Effort Information

3.4.1.1. Commercial Catch and Effort Data

The ACCSP's standard for commercial catch and effort statistics is mandatory, trip-level reporting of all commercially harvested marine species, with fishermen and/or dealers required to report standardized data elements for each trip by the tenth of the following month. Refer to the ACCSP Program Design document for more details on standardized data elements.

3.4.1.2. Recreational Catch and Effort Data

The ACCSP has selected the MRIP as the base program for recreational fishing data collection for shore and private boat fishing. The MRIP provides statistics for finfish, but does not cover shellfish fisheries, which will require development of new surveys. The MRIP combines data from two independent surveys to produce estimates of fishing effort, catch, and participation.

3.4.1.2.1. Household Telephone Survey for Effort Data

For private/rental boats and shore, fishing effort data is collected through a random digit-dialed telephone survey of recreational marine fishing license holders. A "wave" is a two-month sampling period, such as January through February (Wave 1) or March through April (Wave 2). The random-digit dialing survey for effort data is conducted in two-week periods that begin the last week of each wave and continue through the first week of the next wave.

3.4.1.2.2. Intercept Survey for Catch Data

Catch data for private/rental boats and shore fishing is collected through an access-site intercept survey. State partners are encouraged to increase their involvement in conducting the intercept survey. The ACCSP is addressing transition of conduct of the intercept survey for catch from a contractor to a cooperative agreement involving states at varying levels.

3.4.1.2.3. For-Hire Catch and Effort Data

The ACCSP has selected the NOAA Fisheries For-Hire Survey as the preferred methodology for collecting data from charterboats and headboats (partyboats), also called the "for-hire" sector. The For-Hire Survey is similar to the MRIP with two major improvements; it uses: 1) a telephone survey to collect fishing effort data from vessel representatives and 2) a validation process for the self-reported data. Catch data are collected in conjunction with the MRIP with the addition of on-board samplers for headboats.

The independent survey components of the For-Hire Survey include: 1) a vessel effort survey; 2) an effort validation survey; 3) an access-site intercept survey for catch data; and 4) at-sea samplers on headboats for catch data. Using the data collected through these surveys, NOAA Fisheries generates catch and effort estimates for for-hire fisheries.

Catch and effort for federally permitted headboats operating in the South Atlantic (North Carolina – Georgia) is monitored through the Southeast Region Headboat Survey conducted by the Southeast Fisheries Science Center. Vessel operators are required to file weekly electronic reports for all trips to report catch and effort. Dockside samplers collect biological samples from the catches, and at-sea observers as mentioned above also sample South Atlantic headboats.

3.4.1.2.4. Vessel Telephone Survey for Effort Data

The vessel effort survey is a mandatory survey for for-hire vessels that uses a coastwide directory of such vessels as the sampling frame for for-hire fishing effort. The directory is continually updated as intercept and telephone interviewers identify changes in the fleet. Optimal sampling levels will be determined following evaluation of the Atlantic coast For-Hire Survey results from the first three years. Until the optimal sampling level is determined, a minimum of 10% of for-hire vessels or three charterboats and three headboats (whichever is greater), will be randomly sampled each week in each state. A vessel representative, usually the captain, is called and asked to provide information on the fishing effort associated with that vessel during the

previous week. Vessel representatives are notified in advance that they have been selected for sampling and an example form is provided. To be included in the sample frame for particular wave, a vessel record must include: 1) at least one vessel representative's telephone number; 2) the name of the vessel or a vessel registration number issued by a state or the U.S. Coast Guard; 3) the county the boat operates from during that wave, and 4) designation as either a charter or guide boat (both called "charter") or headboat.

3.4.1.2.5. Validation Survey for Effort Data

To validate the self-reported effort data collected through the vessel telephone survey, field samplers periodically check access sites used by for-hire vessels to observe vessel effort. Interviewers record the presence or absence of a for-hire vessel from its dock or slip, and if the vessel is absent, they try to ascertain the purpose of the trip. Those observations are compared to telephone data for accuracy and to make any necessary corrections.

3.4.1.2.6. Catch Data

Vessels that meet the ACCSP definition of a charterboat, "typically hired on a per trip basis," are sampled for catch data through an intercept site survey of anglers at access points, similar to the MRIP. The intercept survey has been in progress since 1981.

Some Partners collect for-hire effort data using Vessel Trip Reports (VTR), which are mandatory for some vessels and contain all minimum data elements collected by the For-Hire Survey. In areas where the survey runs concurrently with VTR programs, captains selected for the weekly telephone survey are permitted to fax their VTRs in lieu to being interviewed by phone.

3.4.1.2.7. At-Sea Sampling of Headboats

At-sea samplers collect catch data aboard headboats, defined by the ACCSP as "any vessel-forhire engaged in recreational fishing that typically is hired on a per person basis." Samples collected at-sea are supplemented by dockside sampling.

3.4.2. Biological Information

The ACCSP has set standards for how biological data should be collected and managed for commercial, recreational, and for-hire fisheries. Trained field personnel, known as port agents or field samplers, should obtain biological samples. Information should be collected through direct observation or through interviews with fishermen. Detailed fishery statistics and/or biological samples should be collected at docks, unloading sites, and fish houses. Biological sampling includes species identification of fish and shellfish; extraction of hard parts including spines and otoliths; and tissue samples such as gonads, stomachs, and scales.

3.4.3. Social and Economic Information

3.4.3.1. Commercial Fisheries

The ACCSP is testing its sociological and economic data collection standards for commercial harvesters. Standards for these types of data for dealers and fishing communities are in development with the Committee on Economics and Social Sciences. The ACCSP should collect baseline social and economic data on commercial harvesters using the following voluntary surveys:

- An annual fixed cost survey directed at the owner/operator,
- A trip cost survey to evaluate variable costs associated with a particular vessel's most recent commercial fishing trip to be directed at the vessel captain, and
- An annual owner/captain/crew/survey to gather sociological information.

Surveys may also be conducted using permit and registration data and vessel trip reports or sampling frames.

3.4.3.2. Recreational and For-hire Fisheries

The ACCSP's sociological and economic data for recreational and for-hire fisheries should come from periodic add-ons to existing telephone and intercept surveys. The standard is voluntary surveys of finfish fisheries conducted at least every three years.

3.4.4. Observer Programs

No specific observer programs are in place to monitor the cobia fishery. Observer programs already in place, whether state or federal, may observe capture of cobia in other monitored fisheries or specific gear types. A review of these programs should take place.

3.5. STOCKING PROGRAM

The Virginia Institute of Marine Science (VIMS) began an experimental stocking program in the Chesapeake Bay in 2003 to explore stock enhancement and study juvenile movement and habitat utilization (VIMS 2017). Juvenile cobia were tagged and released into the Chesapeake Bay in 2003, 2006, 2007, and 2008, with more than 300 tagged releases occurring in those first two years. Recapture information indicated habitats ranged from 1-4 m in depth and consisting of sandy and grass-bed bottoms. It is unclear whether this program had any effect on the population of cobia in Virginia, although it is assumed to have had minimal impact due to the small number of releases.

South Carolina has an experimental stock enhancement program designed to evaluate the methodology necessary for augmenting wild populations. To date experiments have been designed to determine best size and time of year to stock cobia in coastal rivers focused on augmentation of the distinct population segment of cobia in SC. Locally-caught brood stock have been conditioned to spawn in recirculating seawater systems using temperature and photoperiod

conditioning and hormone implantations to facilitate final oocyte maturation. To date multiple years of spawning and growout have occurred, and more than 50,000 (60-350 mm TL) cobia have been stocked in the Colleton and Broad Rivers of Port Royal Sound. All fish are genetically identifiable to broodstock group and can be identified in the catch and distinguished genetically from wild-spawned fish. Cobia tissue samples collected from charterboat captains and from carcasses collected at tournaments and cooperating recreational anglers show that as much as 50% of the catch from the 2007 year-class were from hatchery releases and that these animals have persisted in the catch each year since release. This research has demonstrated the application of stock enhancement as an additional management tool for cobia. In addition to research on production of animals, the SCDNR has developed predictive individual-based genetic models to determine the appropriate number of cobia that should be produced and stocked each year in order to grow the population while minimizing any negative impact on the genetic health of the wild population.

3.6. BYCATCH REDUCTION PROGRAM

Bycatch is defined as "portion of a non-targeted species catch taken in addition to the targeted species. It may include non-directed, threatened, endangered, or protected species, as well as individuals of the target species below a desired or regulatory size" (ASMFC 2009a). Bycatch can be divided into two components: incidental catch and discarded catch. Incidental catch refers to retained or marketable catch of non-targeted species, while discarded catch is the portion of the catch returned to the sea because of regulatory, economic, or personal considerations.

The ACCSP's bycatch standards include both quantitative and qualitative components. The quantitative components include at-sea sampling programs and collection of bycatch data through fisherman reporting systems. The qualitative components include sea turtle and marine mammal entanglement and stranding networks, beach bird surveys, and add-ons to existing recreational and for-hire intercept and telephone surveys. Specific fisheries priorities will be determined annually by the Bycatch Prioritization Committee.

The recreational cobia fishery is largely a directed fishery with bycatch occurring in fisheries directed towards other species. Mortality associated with regulatory discards of undersized cobia or fish taken after the bag limit is reached is largely unknown but likely varies based on depth caught and methods used to boat the catch.

The commercial cobia fishery tends to be a bycatch fishery in the hook and line and large mesh gill net fisheries. Juvenile cobia have been documented as bycatch in shrimp trawls off the Atlantic coast, although this is not a frequent occurrence. All shrimp trawlers in the South Atlantic are required to use bycatch reduction devices, as of the 1996 Amendment 2 to the Federal Shrimp Fishery Management Plan.

3.7. HABITAT PROGRAM

Particular attention should be directed toward cobia habitat utilization and habitat condition (environmental parameters). A list of existing state and federal programs generating environmental data such as sediment characterization, contaminant analysis, and habitat

coverage (marsh grass, oyster beds, submerged aquatic vegetation) should also be produced and updated as new information arises. Habitats utilized by cobia range from the middle portions of estuaries and coastal rivers out to and likely beyond, the shelf break. Thus, virtually any study generating environmental data from estuarine or coastal ocean systems could be of value.

4. MANAGEMENT PROGRAM IMPLEMENTATION

The primary intent of the management program is to complement management actions taken by the SAFMC by maintaining harvest within the coastwide, Atlantic Migratory Group ACL (currently set at 670,000 pounds, with allocations of 620,000 pounds to the recreational fishery and 50,000 pounds to the commercial fishery), while providing the states the flexibility to adjust management to suit their specific state needs. Specific management measures that accomplish this are described in the following sections.

4.1. RECREATIONAL FISHERIES MANAGEMENT MEASURES

In order to complement the current federal FMP and achieve the goals of the proposed ASMFC FMP, this document establishes the following recreational measures.

4.1.1. Size Limits

All states shall establish a minimum size limit of 36 inches FL by April 1, 2018. A total length equivalent may be considered by the TC and Management Board.

4.1.2. Bag Limit Options

All states shall establish a 1 fish per person bag limit by April 1, 2018.

4.1.3. Vessel Limit Options

All states shall establish a daily vessel limit not to exceed 6 fish per vessel by April 1, 2018.

4.1.4. Season and Allocation Options

Management of the recreational harvest limit shall be accomplished by state-specific seasons and allocations of a recreational harvest limit (RHL) set equivalent to 99% of and monitored concurrently with the recreational allocation of the federal ACL (initially 620,000 pounds, resulting in an initial allocated RHL of 613,800 pounds). One percent of the amount of the recreational allocation of the federal ACL (initially 6,200 pounds) shall be set aside to account for harvests in *de minimis* states.

State-defined seasons must adhere to soft state-by-state recreational quota shares (harvest targets) of the coastwide RHL. Percentage allocations are based on states' percentages of the coastwide historical landings in numbers of fish, derived as 50% of the 10-year average landings from 2006-2015 and 50% of the 5-year average landings from 2011-2015 (Table 10 shows percentage derivations). Numbers of fish are used for allocation percentages to eliminate confusion from discrepancies in average weights applied to numbers data by the MRIP and SEFSC. Although numbers of fish are used to derive allocation percentages, harvest targets and annual landings will be evaluated in pounds (Table 11 shows state poundage allocations for the

initial RHL). The coastwide RHL is only to be divided among states that do not qualify for *de minimis* status. Non-*de minimis* states shall develop harvest control measures to limit catches to their assigned soft harvest target. Proposed state measures must be reviewed and approved by the TC and Management Board for initial implementation by April 1, 2018. Measures approved by the Management Board will remain in place for 3 years.

After 3 years, if a state's average annual landings over the 3-year time period are greater than their annual soft harvest target, that state shall adjust their season length or vessel limits for the following 3 years, as necessary, to prevent exceeding their share in the future.

States reporting an under-harvest over a 3-year period may present a plan to extend seasons or increase vessel limits, if desired, to allow increased harvests that will not exceed the harvest target. Changes to management measures for states with overages or states that wish to liberalize management measures must be reviewed and approved by the TC and Management Board prior to implementation. Determination of state-by-state harvest targets may be reevaluated by the Management Board if a *de minimis* state exceeds the *de minimis* threshold.

Table 10. Average AMG Cobia recreational landings in numbers (n) and percentages of recreational landings from Georgia through Virginia for establishing hard recreational quotas for Options 1 and soft recreational harvest targets for Option 2. Averages are calculated by state for 3-year (2013-2015; Sub-option a), 5-year (2011-2015; Sub-Option b), and 10-year (2006-2015; Sub-Option c) time periods, as well as an average of the 5-year and 10-year time periods (5-yr/10-yr Average; Sub-Option d).

State	a. 3-yr Average (2013-2015)	b. 5-yr Average (2011-2015)	c. 10-yr Average (2006-2015)	d. 5-yr/10-yr Average
Georgia	n = 1,421 4.5%	n = 2,150 9.0%	n = 2,445 10.0%	n = 2,298 9.5%
South Carolina	n = 1,984 6.3%	n = 2,558 10.8%	n = 3,312 13.6%	n = 2,935 12.2%
North Carolina	n = 15,065 48.2%	n = 10,344 43.5%	n = 8,203 33.6%	n = 9,273 38.5%
Virginia	n = 12,799 40.9%	n = 8,714 36.7%	n = 10,465 42.9%	n = 9,589 39.8%
Total	N = 31,269 100%	N = 23,766 100%	N = 24,425 100%	n = 24,095 100%

Data source: SEFSC w/ headboat.

Table 11. Division of the coastwide recreational harvest limit of 613,800 pounds (equivalent to the federal ACL, which is currently 620,000 pounds, as reduced by a 1% set aside for *de minimis* states) for cobia by state based on percentages derived from Table 10.

State	a. 3-yr Average (2013-2015) (lbs.)	b. 5-yr Average (2011-2015) (lbs.)	c. 10-yr Average (2006-2015) (lbs.)	d. 5-yr/10-yr Average (lbs.)
GA	27,621	55,242	61,380	58,311
SC	38,669	66,290	83,477	74,885
NC	295,852	267,003	206,237	236,313
VA	251,044	225265	263,320	244,292

Data source: SEFSC w/ headboat.

4.2. COMMERCIAL FISHERIES MANAGEMENT OPTIONS

This document establishes commercial fishery management measures for cobia that complement the existing commercial regulations contained in CMP Amendment 20 (with a 50,000 pound commercial allocation of the coastwide ACL). In accordance with federal policy, should the coastwide ACL be met, a coastwide commercial closure will occur.

4.2.1. Size Limit Options

All states shall establish a 33-inch FL minimum size limit for commercial cobia fisheries by April 1, 2018. An equivalent total length may be considered by the TC and Management Board.

4.2.2. Possession Limit Options

All states shall establish a maximum commercial possession limit of 2 cobia per person, not to exceed 6 cobia per vessel, by April 1, 2018.

4.3. HABITAT CONSERVATION AND RESTORATION

4.3.1. Threats to Cobia Habitat

Threats to Cobia habitats include the following: loss of estuarine and marine wetlands, coastal development, nutrient enrichment of estuarine waters, poor water quality, hydrologic modifications, and alteration of freshwater flows into estuarine waters.

4.3.2. Recommendations

1. Where sufficient knowledge is available, states should designate cobia habitat areas of particular concern for special protection. These locations should be accompanied by requirements that limit degradation of habitat, including minimization of non-point source and specifically storm water runoff, prevention of significant increases in contaminant loadings, and prevention of the introduction of any new categories of contaminants into the area.

2. Where habitat areas have already been identified and protected, states should ensure continued protection of these areas by notifying and working with other federal, state, and local agencies. States should advise these agencies of potential threats to cobia and recommend measures that should be employed to avoid, minimize, or eliminate any threat to current habitat quality or quantity.
3. States should minimize loss of wetlands to shoreline stabilization by using the best available information, incorporating erosion rates, and promoting incentives for use of alternatives to vertical shoreline stabilization measures, commonly referred to as living shorelines projects.
4. All state and federal agencies responsible for reviewing impact statements and permit applications for projects or facilities proposed for cobia spawning and nursery areas should ensure that those projects will have no or only minimal impact on local stocks. Any project that would result in the elimination of essential habitat should be avoided, if possible, or at a minimum, adequately mitigated.
5. Each state should establish windows of compatibility for activities known or suspected to adversely affect cobia life stages and their habitats. Activities may include, but are not limited to, navigational dredging, bridge construction, and dredged material disposal, and notify the appropriate construction or regulatory agencies in writing.
6. Each state should develop water use and flow regime guidelines, where applicable, to ensure that appropriate water levels and salinity levels are maintained for the long-term protection and sustainability of the stocks. Projects involving water withdrawal or interruption of water flow should be evaluated to ensure that any impacts are minimized, and that any modifications to water flow or salinity regimes maintain levels within cobia tolerance limits.
7. The use of any fishing gear that is determined by management agencies to have a negative impact on cobia habitat should be prohibited within habitat areas of particular concern. Further, states should protect vulnerable habitat from other types of nonfishing disturbance as well.
8. States should conduct research to evaluate the role of submerged aquatic vegetation (SAV) and other submersed structures in the spawning success, survival, growth and abundance of cobia. This research could include regular mapping of the bottom habitat in identified areas of concern, as well as systematic mapping of this habitat where it occurs in estuarine and marine waters of the states.
9. States should continue support for habitat restoration projects, including oyster shell recycling and oyster hatchery programs as well as seagrass restoration, to provide areas of enhanced or restored bottom habitat.
10. Water quality criteria for cobia spawning and nursery areas should be established, or existing criteria should be upgraded, to ensure successful reproduction of these species. Any action taken should be consistent with Federal Clean Water Act guidelines and specifications.
11. State fishery regulatory agencies, in collaboration with state water quality agencies, should monitor water quality in known habitat for cobia, including turbidity, nutrient levels, and dissolved oxygen.

12. States should work to reduce point-source pollution from wastewater through such methods as improved inspections of wastewater treatment facilities and improved maintenance of collection infrastructure.
13. States should develop protocols and schedules for providing input on water quality regulations and on Federal permits and licenses required by the Clean Water Act, Federal Power Act, and other appropriate vehicles, to ensure that cobia habitats are protected and water quality needs are met.

4.4. ALTERNATIVE STATE MANAGEMENT REGIMES

States shall obtain prior approval from the Management Board for any changes to their management program for which a compliance requirement is in effect. Changes to noncompliance measures shall be reported to the Management Board but may be implemented without prior Management Board approval. A state may request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Management Board's satisfaction that its alternative proposal would have the same conservation value as the measures contained in this FMP or subsequent amendments or addenda. States submitting alternative proposals shall demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans shall be submitted
in writing to the Management Board either as part of the annual FMP Review process or in the Annual Compliance Reports.

4.4.1. General Procedures

A state may submit a proposal to change its regulatory program or any mandatory compliance measure under the Cobia Fishery Management Plan to the Management Board, including a proposal for *de minimis* status. Such proposals shall be submitted to the Chair of the PRT, who will distribute the proposal to the Management Board, PRT, TC, SAS, and AP.

The PRT shall be responsible for gathering the comments of the TC, SAS, and AP and presenting these comments as soon as possible to the Management Board for decision.

The Management Board shall decide whether to approve the state proposal for an alternative management program if it determines that it is consistent with the goals and objectives of this FMP.

4.4.2. Management Program Equivalency

The TC, under the direction of the PRT, shall review any alternative state proposals under this section and provide to the Management Board its evaluation of the adequacy of such proposals.

Following the first full year of implementation of an alternate management program, the PRT shall be responsible for evaluating the effects of the program to determine if the measures were equivalent with the standards of the FMP and subsequent amendments or addenda. The PRT will report to the Management Board on the performance of the alternate program.

4.4.3. *De minimis* Fishery Guidelines

The ASMFC ISFMP Charter defines *de minimis* as "a situation in which, under the existing condition of the stock and scope of the fishery, conservation, and enforcement actions taken by an individual state would be expected to contribute insignificantly to a coastwide conservation program required by a Fishery Management Plan or amendment" (ASMFC 2009b).

States may petition the Management Board at any time for *de minimis* status. Once *de minimis* status is granted, designated states must submit annual reports including commercial and recreational landings to the Management Board, justifying the continuance of *de minimis* status. States must include *de minimis* requests as part of their annual compliance reports.

One percent (1%) of the amount of the recreational allocation of the federal ACL (initially 6,200 pounds) shall be set aside to account for harvests in *de minimis* states. To qualify for *de minimis*, a state's recreational landings for 2 of the previous 3 years must be less than 1% of the coastwide recreational landings for the same time period. If a state qualifies for *de minimis*, the state may choose to match the recreational management measures implemented by an adjacent non-*de minimis* state (or the nearest non-*de minimis* state if none are adjacent) or the state may choose to limit its recreational fishery to 1 fish per vessel per trip with a minimum size of 29 inches FL. A total length equivalent may be considered by the TC and Management Board. Should a *de minimis* state choose to match an adjacent (or the nearest) non-*de minimis* state, the *de minimis* state shall be subject to all recreational cobia regulations, including bag, size, vessel, and season restrictions, of their adjacent (or nearest) non-*de minimis* state. *De minimis* states that choose to limit their recreational fisheries to 1 fish per vessel per trip will not be subject to recreational restrictions in fishing season.

Commercial fisheries in *de minimis* states will be subject to coastwide measures outlined in Section 4.2.

4.5. ADAPTIVE MANAGEMENT

The Management Board may vary the requirements specified in this FMP as a part of adaptive management in order to conserve the cobia resource. Specifically, the Management Board may change target fishing mortality rates, harvest specifications, or other measures designed to prevent overfishing of the stock complex or any spawning component. Such changes shall be instituted to become effective on the first fishing day of the following year, but may be put in place at an alternative time when deemed necessary by the Management Board.

4.5.1. General Procedures

The PRT shall monitor the status of the fisheries and the resources and report on that status to the Management Board annually or when directed to do so by the Management Board. The PRT shall consult with the TC, SAS, and AP in making such review and report. The report will contain recommendations concerning proposed adaptive management revisions to the management program.

The Management Board shall review the report of the PRT, and may consult further with the TC, SAS, or AP. The Management Board may, based on the PRT Report or on its own discretion,

direct the PDT to prepare an addendum to make any changes it deems necessary. An addendum shall contain a schedule for the states to implement its provisions.

The PDT will prepare a draft addendum, as directed by the Management Board, and distribute to the board for approval for public comment. The document will be released for public comment for a minimum of 30 days. A public hearing will be held in any state that requests one. After the comment period, the PDT will summarize the comments and present them to the Board along with the recommendations of the TC, SAS, LEC, and AP, when applicable. The Management Board will choose a management program and approve a final document.

Upon adoption of an addendum implementing adaptive management by the Management Board, states will prepare plans to carry out the addendum and submit them to the Management Board for approval, according to the schedule contained in the addendum.

4.5.2. Measures Subject to Change

The following measures are subject to change under adaptive management upon approval by the Management Board:

(1) Fishing year and/or seasons;
(2) Area closures;
(3) Overfishing definition, MSY and OY;
(4) Rebuilding targets and schedules;
(5) Fishery Specifications
(6) Catch controls, including bag and size limits;
(7) Effort controls;
(8) Bycatch allowance
(9) Reporting requirements;
(10) Gear limitations;
(11) Measures to reduce or monitor bycatch;
(12) Observer requirements;
(13) Management areas;
(14) Recommendations to the Secretaries for complementary actions in federal jurisdictions;
(15) Research or monitoring requirements;
(16) Frequency of stock assessments;
(17) De minimis specifications;
(18) Management unit;
(19) Maintenance of stock structure;
(20) Catch allocation; and
(21) Any other management measures currently included in the FMP.

4.6. EMERGENCY PROCEDURES

Emergency procedures are able to be used by the Management Board to require any emergency action that is not covered by or is an exception or change to any provision in the FMP. Procedures for implementation are addressed in the ISFMP Program Charter, Section Six (c) (11) (ASMFC 2009b).

4.7. MANAGEMENT INSTITUTIONS

The management institution for cobia will be subject to the provisions of the ISFMP Charter (ASMFC 2009b). The following are not intended to replace any or all of the provisions of the ISFMP Charter. All committee roles and responsibilities are included in detail in the ISFMP Charter and are only summarized here.

4.7.1. ASMFC and the ISFMP Policy Board

The ASMFC and the ISFMP Policy Board are generally responsible for the oversight and management of the Commission's fisheries management activities. The Commission must approve all fishery management plans and amendments, and must make all final determinations concerning state compliance or non-compliance. The ISFMP Policy Board reviews any non-compliance recommendations of the various Management Boards and Sections and, if it concurs, forwards them on to the Commission for action.

4.7.2. South Atlantic State/Federal Fisheries Management Board

The South Atlantic State/Federal Fisheries Management Board (Management Board) was established under the provisions of the Commission's ISFMP Charter (Section Four; ASMFC 2009b) and will be generally responsible for carrying out all activities under this FMP.

The Management Board establishes and oversees the activities of the Cobia FMP's PDT, PRT, TC, and SAS, as well as the South Atlantic Species AP. Among other things, the Management Board makes changes to the management program under adaptive management and approves state programs implementing the amendment and alternative state programs under Sections 4.4 and 4.5. The Management Board reviews the status of state compliance with the management program, at least annually, and if it determines that a state is out of compliance, reports that determination to the ISFMP Policy Board under the terms of the ISFMP Charter.

4.7.3. Cobia Plan Development Team / Plan Review Team

The Cobia Plan Development Team (PDT) and Cobia Plan Review Team (PRT) will be composed of a small group of scientists and/or managers whose responsibility is to provide all of the technical support necessary to carry out and document the decisions of the Management Board. An ASMFC FMP Coordinator chairs the PDT and PRT. The PDT and PRT will be directly responsible to the Management Board for providing information and documentation concerning the implementation, review, monitoring and enforcement of the species management plan. The PDT and PRT will be comprised of personnel from state and federal agencies who have scientific and management ability and knowledge of the relevant species. The Cobia PDT is responsible for preparing all documentation necessary for the development of the FMP, using the best scientific information available and the most current stock assessment information. The

PDT will either disband or assume inactive status upon completion of the FMP. Alternatively, the Board may elect to retain PDT members as members of the species-specific PRT or appoint new members. The PRT provide annual advice concerning the implementation, review, monitoring, and enforcement of the FMP once it has been adopted by the Commission.

4.7.4. Technical Committee

The Cobia Technical Committee (TC) will consist of representatives from state and/or federal agencies, Regional Fishery Management Councils, Commission, university or other specialized personnel with scientific and technical expertise and knowledge of the relevant species. The Management Board will appoint the members of a TC and may authorize additional seats as it sees fit. Its role is to act as a liaison to the individual state and federal agencies, provide information to the management process, and review and develop options concerning the management program. The TC will provide scientific and technical advice to the Management Board, PDT, and PRT in the development and monitoring of a fishery management plan or amendment.

4.7.5. Stock Assessment Subcommittee

The Cobia Stock Assessment Subcommittee (SAS) will be appointed and approved by the Management Board, with consultation from the TC, and will consist of scientists with expertise in the assessment of the relevant population. Its role is to assess the species population and provide scientific advice concerning the implications of proposed or potential management alternatives, or to respond to other scientific questions from the Management Board, TC, PDT or PRT. The SAS will report to the TC and work closely with the Southeast Fishery Science Center and SAFMC SSC in developing upcoming stock assessments.

4.7.6. Advisory Panel

The South Atlantic Species Advisory Panel (AP) was established according to the Commission's Advisory Committee Charter. Members of the AP are citizens who represent a cross-section of commercial and recreational fishing interests and others who are concerned about the conservation and management of cobia, as well as Spanish mackerel, spot, black drum, red drum, and spotted seatrout, and Atlantic croaker. The AP provides the Management Board with advice directly concerning the Commission's management program for these six species.

4.7.7. Federal Agencies

4.7.7.1. Management in the Exclusive Economic Zone (EEZ)

Management of cobia in the EEZ is within the jurisdiction of the SAFMC under the MagnusonStevens Fishery Conservation and Management Act, as amended (16 U.S.C. 1801 et seq.). In the absence of a Council Fishery Management Plan for cobia, management of this species is the responsibility of the NOAA National Marine Fisheries Service (NOAA Fisheries) as mandated by the Atlantic Coastal Fisheries Cooperative Management Act (16 U.S.C. 5105 et seq.).

4.7.7.2. Federal Agency Participation in the Management Process

The Commission has accorded the United States Fish and Wildlife Service (USFWS) and NMFS NOAA Fisheries voting status on the ISFMP Policy Board and the South Atlantic State/Federal Fisheries Management Board in accordance with the Commission's ISFMP Charter. NOAA Fisheries and the USFWS may also participate on the Management Board's supporting committees described in *Sections 4.7.3-4.7.6*.

4.7.7.3. Consultation with Fishery Management Councils

In carrying out the provisions of this FMP, the states, as members of the South Atlantic State/Federal Fisheries Management Board, will closely coordinate with the SAFMC to cooperatively manage the Atlantic Migratory Group of cobia. In accordance with the Commission's ISFMP Charter, a representative of the SAFMC shall be invited to participate as a full member of the Management Board.

4.8. RECOMMENDATIONS TO THE SECRETARIES FOR COMPLEMENTARY ACTIONS IN FEDERAL JURISDICTIONS

The SAFMC manages cobia in the EEZ through bag, size limits, trip limits and seasons. It is in the interest of the Interstate FMP to achieve consistency in management efforts in state waters and the EEZ. At present, NOAA fisheries has closed the EEZ to cobia harvest in the recreational fishery to maintain harvest within the prescribed ACL. Because reliance on the EEZ for cobia harvest varies by state, closure impacts vary from south to north. The majority of the recreational harvest off Georgia occurs in the EEZ, while little harvest occurs in the EEZ off Virginia. A primary consideration for the Interstate cobia FMP may be to recommend consistent measures in state and federal waters to avoid in season closures.

4.9. COOPERATION WITH OTHER MANAGEMENT INSTITUTIONS

At this time, no other management institutions have been identified that will be involved with management of cobia on the Atlantic coast. Nothing in the FMP precludes the coordination of future management collaborations with other management institutions, should the need arise.

5. COMPLIANCE

Full implementation of the provisions of this FMP will be necessary for the management program to be equitable, efficient, and effective. States will be expected to implement these measures faithfully under state laws. Although the ASMFC does not have authority to directly compel state implementation of these measures, it will continually monitor the effectiveness of state implementation and determine whether states are in compliance with the provisions of this fishery management plan. This section sets forth the specific elements states will be required to implement in order to be in compliance with this FMP, and the procedures that will govern the evaluation of compliance. Additional details of the procedures are found in the ASMFC ISFMP Charter (ASMFC 2009b).

5.1. MANDATORY COMPLIANCE ELEMENTS FOR STATES

A state will be determined to be out of compliance with the provisions of this fishery management plan, according to the terms of Section Seven of the ISFMP Charter if:

- Its regulatory and management programs to implement *Section 4* have not been approved by the Management Board; or

- It fails to meet any schedule required by *Section 5.1.2*, or any addendum prepared under Adaptive Management (*Section 4.5*); or

- It has failed to implement a change to its program when determined necessary by the South Atlantic State-Federal Fisheries Management Board; or
- It makes a change to its regulations required under *Section 4* or any addendum prepared under Adaptive Management (*Section 4.5*), without prior approval of the Management Board.

5.1.1. Mandatory Elements of State Programs

To be considered in compliance with this FMP, all state programs will include harvest controls on cobia fisheries consistent with the requirements of *Sections 4.1, 4.2, 4.3*; except that a state may propose an alternative management program under *Section 4.5*, which, if approved by the Management Board, may be implemented as an alternative regulatory requirement for compliance.

5.1.1.1. Regulatory Requirements

Each state will be required to submit its cobia regulatory program to the Commission through the ASMFC staff for approval by the Management Board. During the period from submission until the Board makes a decision on a state's program, a state may not adopt a less protective management program than contained in this amendment or contained in current state law. The following lists the specific compliance criteria that a state/jurisdiction will be required to implement in order to be in compliance with this FMP:

1. All states will establish a maximum possession limit of 1 fish per person and a minimum size limit of 36 inches FL, or an equivalent measure in TL, for their recreational fisheries by April 1, 2018.

2. All states will establish a maximum vessel limit not to exceed 6 fish for all recreational and commercial fisheries by April 1, 2018.

3. States will establish a recreational fishing season to correspond with specific harvest goals for the individual state by April 1, 2018.

4. States will be able to apply for *de minimis* status if for the preceding three years for which data are available, their averaged combined commercial and recreational landings

(by weight) constitute less than 1% of the average coastwide combined, commercial and recreational landings for the same period.

Once approved by the Management Board, states will be required to obtain prior approval from the Board for any changes to their management program for which a compliance requirement is in effect. Other measures will be required to be reported to the Board but may be implemented without prior Board approval. A state will be able to request permission to implement an alternative to any mandatory compliance measure only if that state can show to the Board's satisfaction that its alternative proposal would have the same conservation value as the measure contained in this FMP or any subsequent amendments or addenda. States submitting alternative proposals will be required to demonstrate that the proposed action will not contribute to overfishing of the resource. All changes in state plans will need to be submitted in writing to the Board and to the Commission either as part of the annual FMP Review process or the Annual Compliance reports.

5.1.1.2. Monitoring Requirements

There are currently no requirements for additional monitoring. Monitoring may be implemented in the future through the Commission's addendum process.

5.1.1.3. Research Requirements

The PDT has prioritized the research needs for cobia (*Section 6.2*). Appropriate programs for meeting these needs may be implemented under Adaptive Management (*Section 4.5*) in the future.

5.1.1.4. Law Enforcement Requirements

All state programs will be required to include law enforcement capabilities adequate for successfully implementing that state's cobia regulations. The adequacy of a state's enforcement activity will be monitored annually by reports of the ASMFC Law Enforcement Committee to the PRT. The first reporting period will cover the period from January 1, 2018 to December 31, 2018.

5.1.1.5. Habitat Requirements

There are no mandatory habitat requirements in the FMP, although requirements may be added under Adaptive Management (*Section 4.5*). See *Section 4.3* for Habitat Recommendations.

5.1.2. Compliance Schedule

States will be required to implement the FMP according to the following schedule:

January 1, 2018:	States must submit programs to implement the FMP for approval by the South Atlantic State-Federal Fisheries Management Board. Programs must be implemented upon approval by the Management Board.

April 1, 2018:	States with approved management programs must implement FMP requirements. States may begin implementing management programs prior to this deadline, if approved by the Management Board.

Reports on compliance will be submitted to the Commission by each jurisdiction annually, no later than July 1st, beginning in 2019.

5.1.3. Compliance Reporting Content

Each state will be required to submit an annual report concerning its cobia fisheries and management program for the previous calendar year on July 1. A standard compliance report format has been prepared and adopted by the ISFMP Policy Board. States should follow this format in completing the annual compliance report.

5.2. PROCEDURES FOR DETERMING COMPLIANCE

Detailed procedures regarding compliance determinations are contained in the ISFMP Charter, Section Seven (ASMFC 2009b). Future revisions to the ISFMP Charter may take precedence over the language contained in this FMP, specifically in regards to the roles and responsibilities of the various groups contained in this section. The following summary is not meant in any way to replace the language found in the ISFMP Charter.

In brief, all states are responsible for the full and effective implementation and enforcement of fishery management plans in areas subject to their jurisdiction. Written compliance reports as specified in the FMP (or subsequent amendments and/or addenda) must be submitted annually by each state with a declared interest. Compliance with the FMP will be reviewed at least annually. The Management Board, ISFMP Policy Board or the Commission, may request that the PRT conduct a review of plan implementation and compliance at any time.

The Management Board will review the written findings of the PRT within 60 days of receipt of a state's compliance report. Should the Management Board recommend to the Policy Board that a state be determined to be out of compliance, a rationale for the recommended noncompliance finding will be included addressing specifically the required measures of the FMP that the state has not implemented or enforced, a statement of how failure to implement or enforce the required measures jeopardizes cobia conservation, and the actions a state must take in order to comply with the FMP requirements.

The ISFMP Policy Board shall, within thirty days of receiving a recommendation of noncompliance from the Management Board, review that recommendation of non-compliance. If it concurs in the recommendation, it shall recommend to the Commission that a state be found out of compliance.

The Commission shall consider any FMP non-compliance recommendation from the Policy Board within 30 days. Any state which is the subject of a recommendation for a non-compliance finding is given an opportunity to present written and/or oral testimony concerning whether it should be found out of compliance. If the Commission agrees with the recommendation of the

Policy Board, it may determine that a state is not in compliance with the FMP, and specify the actions the state must take to come into compliance.

Any state that has been determined to be out of compliance may request that the Commission rescind its non-compliance findings, provided the state has revised its cobia conservation measures or shown to the Management Board and/or Commission's satisfaction that actions taken by the state provide for conservation equivalency.

5.3. RECOMMENDED (NON-MANDATORY) MANAGEMENT MEASURES

The Management Board through this FMP requests that those states outside the management unit (New York through Maine, and Pennsylvania) implement complementary regulations to protect the cobia spawning stock.

5.4. ANALYSIS OF ENFORCEABILITY OF PROPOSED MEASURES

The ASMFC Law Enforcement Committee will, during the implementation of this FMP, analyze the enforceability of new conservation and management measures as they are proposed.

6. MANAGEMENT AND RESEARCH NEEDS

Characterized as High (H), Medium (M), or Low (L) priority, these management and research needs will be reviewed annually as part of the Commission's FMP Review process. The annual Cobia FMP Review will contain an updated list for future reference.

6.1. STOCK ASSESSMENT AND POPULATION DYNAMICS

An updated stock assessment for the Atlantic Migratory Group cobia has been scheduled for completion in 2019, led by SEFSC Beaufort Lab. The assessment will provide updated status information since the terminal year of the last assessment (2012). Anticipated results will include updated stock status and reference points and contribute to recommendations for additional management needs, if any.

6.2. RESEARCH AND DATA NEEDS

6.2.1. Biological

- Conduct studies to estimate catch and release mortality estimates.
- Obtain better estimates of harvest from the cobia recreational fishery (especially in the for hire sector).
- Increase spatial and temporal coverage of age samples collected regularly in fishery dependent and independent sources. Prioritize collection of age data from fishery dependent and independent sources in all states.
- Collect genetic material to continue to assess the stock identification and any Distinct Population Segments that may exist within the management unit.

- Conduct a high reward tagging program to obtain improved return rate estimates. Continue and expand current tagging programs to obtain mortality and growth information and movement at size data.
- Continue to collect and analyze current life history data from fishery independent and dependent programs, including full size, age, maturity, histology workups and information on spawning season timing and duration. Any additional data that can be collected on any life stages of cobia would be highly beneficial.
- Conduct studies to estimate fecundity-at-age coastwide and to estimate batch fecundity.
- Obtain better estimates of bycatch and mortality of cobia in other fisheries, especially juvenile fish in South Atlantic states.
- Obtain estimates of selectivity-at-age for cobia through observer programs or tagging studies.
- Define, develop, and monitor adult abundance estimates

6.2.2. Social

- Obtain better coverage of shore and nighttime anglers.

6.2.3. Economic

- Obtain better data on the economic impacts of recreational and commercial cobia fishing on coastal communities.

6.2.4. Habitat

- If possible, expand existing fishery independent surveys in time and space to better define and cover cobia habitats.

- Conduct otolith microchemistry studies to identify regional recruitment contributions.

- Conduct new and expand existing satellite tagging programs to help identify spawning and juvenile habitat use and regional recruitment sources.

6.2.5. State-specific

Georgia

Little is known regarding cobia stocks off Georgia. It is unclear if Georgia has a unique subpopulation of East-West migration cobia as seen in other nearby states (South Carolina). Furthermore, the range of habitat types (inshore vs. nearshore) utilized by cobia in Georgia remains unknown. It would be beneficial to better explain the range of habitat utilized by cobia in Georgia as well as identify overwintering locations for Georgia cobia. This could be easily done through a simple acoustic telemetry study. Identifying these basic life history characteristics for cobia in Georgia will aid in the management of the species both at a state and a regional level. Additionally, better socio-economic estimates of the impact of cobia

fishing in Georgia would aid in understanding how regulatory changes may impact the economic benefit cobia fishing has throughout Georgia.

7. PROTECTED SPECIES

In the fall of 1995, Commission member states, the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) began discussing ways to improve implementation of the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA) in state waters. Historically, these policies have been minimally enforced in state waters (0-3 miles). In November 1995, the Commission, through its Interstate Fisheries Management Program (ISFMP) Policy Board, approved amendment of its ISFMP Charter (Section Six (b)(2)) so that interactions between ASMFC-managed fisheries and species protected under the MMPA, ESA, and other legislation, including the Migratory Bird Treaty Act be addressed in the Commission's fisheries management planning process. Specifically, the Commission's fishery management plans describe impacts of state fisheries on certain marine mammals and endangered species (collectively termed "protected species"), and recommend ways to minimize these impacts. The following section outlines: (1) the federal legislation which guides protection of marine mammals, sea turtles, and marine birds; (2) the protected species with potential fishery interactions; (3) the specific type(s) of fishery interactions; (4) population status of the affected protected species; and (5) potential impacts to Atlantic coastal state and interstate fisheries.

7.1. Marine Mammal Protection Act (MMPA) Requirements

Since its passage in 1972, one of the primary goals of the MMPA has been to reduce the incidental mortality and serious injury of marine mammals permitted in the course of commercial fishing operations to insignificant levels approaching a zero mortality and serious injury rate. Under the 1994 Amendments, the MMPA requires the NMFS to develop and implement a take reduction plan to assist in the recovery or prevent the depletion of each strategic stock that interacts with a Category I or II fishery. Specifically, a strategic stock is defined as a stock: (1) for which the level of direct human caused mortality exceeds the potential biological removal (PBR) level; (2) which is declining and is likely to be listed under the Endangered Species Act (ESA) in the foreseeable future; or (3) which is listed as a threatened or endangered species under the ESA or as a depleted species under the MMPA. Category I and II fisheries are those that have frequent or occasional incidental mortality and serious injury of marine mammals, respectively, whereas Category III fisheries have a remote likelihood of incidental mortality and serious injury of marine mammals. Each year, NMFS publishes an annual List of Fisheries which classifies commercial fisheries into one of these three categories.

Under the 1994 mandates, the MMPA also requires fishermen participating in Category I and II fisheries to register under the Marine Mammal Authorization Program (MMAP), the purpose of which is to provide an exception for commercial fishermen from the general taking prohibitions of the MMPA for non-ESA listed marine mammals. All fishermen, regardless of the category of fishery they participate in, must report all incidental injuries and mortalities caused by commercial fishing operations within 48 hours.

Section 101(a)(5)(E) of the MMPA allows for the authorization of the incidental taking of individuals from marine mammal stocks listed as threatened or endangered under the ESA in the course of commercial fishing operations if it is determined that: (1) incidental mortality and serious injury will have a negligible impact on the affected species or stock; (2) a recovery plan has been developed or is being developed for such species or stock under the ESA; and (3) where required under Section 118 of the MMPA, a monitoring program has been established, vessels engaged in such fisheries are registered in accordance with Section 118 of the MMPA, and a take reduction plan has been developed or is being developed for such species or stock. Permits are not required for Category III fisheries; however, any mortality or serious injury of a marine mammal must be reported.

7.2. Endangered Species Act (ESA) Requirements

The taking of endangered sea turtles and marine mammals is prohibited and considered unlawful under Section 9(a)(1) of the ESA. In addition, NMFS or the USFWS may issue Section 4(d) protective regulations necessary and advisable to provide for the conservation of threatened species. There are several mechanisms established in the ESA to allow exceptions to the take prohibition in Section 9(a)(1). Section 10(a)(1)(A) of the ESA authorizes NMFS to allow the taking of listed species through the issuance of research permits for scientific purposes or to enhance the propagation or survival of the species. Section 10(a)(1)(B) authorizes NMFS to permit, under prescribed terms and conditions, any taking otherwise prohibited by Section 9(a)(1)(B) of the ESA, if the taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. Finally, Section 7(a)(2) requires federal agencies to consult with NMFS to ensure that any action that is authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat of such species. If, following completion of consultation, an action is found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent alternatives will be identified so that jeopardy or adverse modification to the species is removed and Section 7(a)(2) is met (see Section 7(b)(3)(A)). Alternatively, if, following completion of consultation, an action is not found to jeopardize the continued existence of any listed species or cause adverse modification to critical habitat of such species, reasonable and prudent measures will be identified that minimize the take of listed species or adverse modification of critical habitat of such species (see Section 7(b)(4)). Section (7)(o) provides the actual exemption from the take prohibitions established in Section 9(a)(1), which includes Incidental Take Statements that are provided at the end of consultation via the ESA Section 7 Biological Opinions.

7.3. Migratory Bird Treaty Act (MBTA) Requirements

Under the Migratory Bird Treaty Act it is unlawful “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory birds except as permitted by regulation (16 USC. 703). Section 50 CFR 21.11 prohibits the take of migratory birds except under a valid permit or as permitted in the regulations. Many migratory waterbirds occur within the boundaries of cobia fisheries. USFWS Policy on Waterbird Bycatch (October 2000) states: “It is the policy of the U.S. Fish and Wildlife Service that the Migratory Bird Treaty Act of 1918, as amended, legally mandates the protection and conservation of migratory birds. The USFWS seeks to actively expand partnerships with regional, national, and international organizations, States, tribes,

industry, and environmental groups to address seabird bycatch in fisheries, by promoting public awareness of waterbird bycatch issues, and facilitating the collection of scientific information to develop and provide guidelines for management, regulation, and compliance."

Birds of Management Concern are a subset of MBTA-protected species which pose special management challenges because of a variety of factors (e.g., too few, too many, conflicts with human interests, societal demands). These species are of concern because of: documented or apparent population declines; small or restricted populations; dependence on restricted or vulnerable habitats; or overabundant to the point of causing ecological and economic damage.

7.4. Protected Species with Potential Fishery Interactions

The management unit of the cobia Atlantic Migratory Group extends from the Georgia/Florida line through New York. There are numerous protected species that inhabit the range of the cobia management unit covered under this FMP. Listed below are ESA and MMPA protected species found in coastal and offshore waters of the Atlantic Ocean within the range of cobia fisheries. USFWS species of management concern that have the potential to interact with cobia fisheries are also listed. Species of management concern are protected under the MBTA, but lack the protections mandated by the ESA.

ESA – Endangered[12]

- Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus)*, NY Bight, Chesapeake Bay, Carolina, and South Atlantic Distinct Population Segments (DPSs)[13]
- Shorthnose sturgeon (*Acipenser brevirostrum*)
- Smalltooth sawfish (*Pristis pectinata*)
- Blue whale (Balaenoptera musculus)
- Fin whale (Balaenoptera physalus)
- Humpback whale (Megaptera novaeangliae)
- North Atlantic right whale (*Eubalaena glacialis)*
- Sei whale (Balaenoptera borealis)
- Sperm whale (Physeter microcephalus)
- Hawksbill sea turtle (Eretmochelys imbricata)
- Kemp's ridley sea turtle *(Lepidochelys kempii)*
- Leatherback sea turtle (*Dermochelys coriacea)*
- Bermuda petrel (*Pterodroma cahow*)

[12] http://www.nmfs.noaa.gov/pr/species/esa/listed.htm

[13] A distinct population segment (DPS) is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or DPS of vertebrate species.

- Roseate tern *(Sterna dougallii dougallii*), northeastern U.S. and Nova Scotia breeding population

ESA – Threatened[14]

- Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), Gulf of Maine DPS
- Nassau grouper (Epinephelus striatus)
- Green sea turtle (*Chelonia mydas)*, North Atlantic and South Atlantic DPSs
- Loggerhead sea turtle *(Caretta caretta)*, Northwest Atlantic Ocean DPS
- Roseate tern *(Sterna dougallii dougallii*), Southeastern U.S. and Caribbean breeding population (FL, GA, NC, SC, Puerto Rico, Virgin Islands)
- Piping plover (Charadrius melodus)

MMPA – Protected[15]

Includes all marine mammals above in addition to:

- Atlantic spotted dolphin *(Stenella frontalis)*
- Bottlenose dolphin (Tursiops truncatus)
- Atlantic white-sided dolphin *(Lagenorhynchus acutus)*
- Clymene dolphin (Stenella clymene)
- Pantropical spotted dolphin *(Stenella attenuata)*
- Risso's dolphin (Grampus griseus)
- Rough-toothed dolphin (Steno bredanensis)
- Short-beaked common dolphin *(Delphinus delphis)*
- Spinner dolphin (Stenella longirostris)
- Striped dolphin (Stenella coeruleoalba)
- Gray seal (Halichoerus grypus)
- Harbor porpoise (Phocoena phocoena)
- Harbor seal (Phoca vitulina)
- Minke whale (Balaenoptera acutorostrata)
- Cuvier's beaked whale (Ziphius cavirostris)
- Gervais' beaked whale (Mesoplodon europaeus)
- True's beaked whale *(Mesoplodon mirus)*
- Bryde's whale (Balaenoptera edeni)
- Dwarf sperm whale *(Kogia sima)*
- False killer whale (Pseudorca crassidens)

[14] http://www.nmfs.noaa.gov/pr/species/esa/listed.htm

[15] http://www.nmfs.noaa.gov/pr/species/mammals

- Killer whale (Orcinus orca)
- Long-finned pilot whale *(Globicephala melas)*
- Melon-headed whale (Peponocephala electra)
- Pygmy killer whale (Feresa attenuate)
- Pygmy sperm whale (Kogia breviceps)
- Short-finned pilot whale (Globicephala macrorhynchus)

ESA – Species of Concern[16]

- Alewife (Alosa pseudoharengus)
- Blueback herring (Alosa aestivalis)
- Dusky shark (Carcharhinus obscures)
- Porbeagle shark *(Lamna nasus)*
- Rainbow smelt (Osmerus mordax)
- Sand tiger shark (Carcharias taurus)
- Speckled hind (Epinephelus drummondhayi)
- Striped croaker (Bairdiella sanctaeluciae)
- Warsaw grouper (Epinephelus nigritus)

MBTA—USFWS Species of Management Concern

- Canvasback (Aythya valisineria)
- Redhead (Aythya americana)
- Greater scaup (*Aythya marila*)
- Lesser scaup (*Aythya affinis*)
- Surf scoter (Melanitta perspicillata)
- White-winged scoter (*Melanitta fusca*)
- Black scoter (Melanitta americana)
- Long-tailed duck (*Clangula hyemalis*)
- Common goldeneye (*Bucephala clangula*)
- Red-throated loon (*Gavia stellata)*
- Black-capped petrel (Pterodroma hasitata)
- Greater shearwater (*Puffinus gravis*)
- Audubon's shearwater (*Puffinus lherminieri*)
- Band-rumped storm-petrel (*Oceanodroma castro*)
- Masked booby (*Sula dactylaria*)
- Brown booby (Sula leucogaster)

[16] http://www.nmfs.noaa.gov/pr/species/concern/

- Pied-billed grebe (*Podilymbus podiceps*)
- Horned grebe (Podiceps auritus)
- Magnificent frigatebird (*Fregata magnificens*)
- Least tern (*Sternula antillarum*), non-listed Atlantic coast subspecies
- Gull-billed tern (Gelochelidon nilotica)

7.5. Protected Species Interactions with Existing Fisheries

7.5.1. Brief overview of the Cobia fishery and gears used

Recreational fisheries are prosecuted similarly along the coast. The directed cobia fishery is prosecuted in two distinct ways. Bottom fishing with live or dead baits, often while chumming, in estuarine waters or around inlets or offshore around structure, buoys, markers, natural and artificial reefs. More recently, an active method of searching for fish traveling alone or in small groups on the surface or associated with schools of Atlantic menhaden or other bait fishes has grown in popularity. This newer method has resulted in the further development of the for-hire sector for cobia, as well as the development of specific artificial baits and boat modifications (e.g., towers) to facilitate spotting and catching the fish. A third method primarily prosecuted in offshore waters is to target large rays, large sharks, sea turtles or floating debris around which cobia congregate. Additionally, the Atlantic coast of Florida is starting to see more directed spearfishing pressure on cobia. Specifically, spearfishers are chumming for bull shark and then diving/free-diving to spear cobia that associate with them. Spearfishing also occurs off North Carolina, along with a popular pier fishery.

The recreational fishery also takes cobia as bycatch in offshore bottom fisheries such as snapper/grouper, nearshore trolling for king mackerel, bluefish, and dolphin and any other fishery that employs live or dead bait fished on or near the bottom. While the directed fishery appears to focus more on the spring-summer spawning migration, bycatch, especially offshore, can yield cobia virtually year round. The average recreational cobia landings in Atlantic states north of Florida from 2010-2015 was almost 800,000lb.[17]

The commercial fishery has traditionally been a bycatch in other directed fisheries such as the snapper/grouper hook and line fishery and troll fisheries for various species (e.g., king mackerel, dolphin, wahoo, amberjack). Directed fisheries are generally precluded as a result of the low possession limits, but do occur, specifically Virginia's commercial hook and line fishery. Cobia from for-hire trips may also be sold commercially, depending on the state's permit requirements for selling fish. According to the 2015 biological opinion conducted for the Coastal Migratory Pelagic (CMP) resources in the Atlantic and Gulf of Mexico (GOM), in 2013, the predominant gear types used to capture cobia commercially were hook-and-line (78.2%), followed by diving (i.e., spearfishing; 10.4%), longline (7.5%), and gill net (2.5%); all other gears each accounted for less than 0.5% of the total catch (NMFS, 2015). The average commercial cobia landings in Atlantic states north of Florida from 2010-2015 was 56,158 lbs (ASMFC, 2016). In 2015, the

[17] SEFSC, recreational ACL dataset

predominant gear types that were used to capture cobia in the Atlantic north of Florida were hook-and-line (46%), gill net (44%), pound net (9%), and unknown gear type (1%)[18].

7.5.2. Marine Mammals

NMFS completed a biological opinion on June 18, 2015, evaluating the impacts of the CMP fishery on ESA-listed species. In the biological opinion, NMFS determined that the proposed continued authorization of the CMP Fishery, is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpback, or North Atlantic right whales). NMFS also determined that the CMP fishery will have no effect on designated critical habitat for North Atlantic right whale (NMFS, 2015).

The Gulf and South Atlantic CMP hook-and-line fishery (which includes fisheries that capture cobia) is classified in the 2017 MMPA List of Fisheries as a Category III fishery (82 FR 3655; January 12, 2017). This means the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of PBR, the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. In other words, there is a remote likelihood of or no known incidental mortality and serious injury of marine mammals resulting from these fisheries.

The Gulf and South Atlantic CMP gillnet fishery is classified as Category II fishery in the 2017 MMPA List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of PBR). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

7.5.3. Sea Turtles

7.5.3.1. Overview

As mentioned above, the NMFS completed a biological opinion on June 18, 2015, evaluating the impacts of the CMP fishery (including King mackerel, Spanish mackerel, and cobia) on ESA-listed species (NMFS, 2015). According to the biological opinion, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all likely to be adversely affected by the CMP fishery. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in area of the fishery. The biological opinion evaluated the potential for the following gears to interact with protected species: hook-and-line gear, cast net gear, and gill net gear. The biological opinion found that gill net gear is the only gear used in the CMP fisheries that may adversely affect sea turtles. Gill net gear is used to target both Spanish and king mackerel, but not cobia.

[18] http://www.st.nmfs.noaa.gov/commercial-fisheries/commercial-landings/landings-by-gear/index

7.5.3.2. Hook-and-line fishing

The 2015 biological opinion for CMP resources concluded that sea turtles (as well as smalltooth sawfish and Atlantic sturgeon) are not likely to be adversely affected by CMP hook-and-line fishing. The 2015 biological opinion stated: "*The hook-and-line gear used by both commercial and recreational fishers to target CMP species is limited to trolled or, to a much lesser degree (e.g., historically ~2% by landings for king mackerel), jigged handline, bandit, and rod-and-reel gear. Sea turtles, Atlantic sturgeon, and smalltooth sawfish are both vulnerable to capture on hook-and-line gear, but the techniques commonly used to target CMP species makes effects on these listed species extremely unlikely and, therefore, discountable. Sea turtles are unlikely to be caught during hook-and-line trolling because of the speed (4-10 kt) at which the lure is pulled through the water. As cedar plugs and spoons are generally used when trolling, it is unlikely that a sea turtle of any size would actively pursue the gear and get hooked. Likewise, we also believe sea turtles would be unlikely to be snagged by jigged gear as it is deployed at or near the surface and constantly reeled and jigged back to the boat. It is possible that a sea turtle could be incidentally snagged if it comes in contact with a trolled or jigged hook, but the chances of this occurring are extremely low… We believe that CMP species caught on bandit gear or standard rod-and-reel gear (i.e., baited and deployed as passive, vertical gear) are largely bycatch when targeting other species closer to the bottom (e.g., snapper and grouper); use of the gear in this method (i.e., mid-water placement) is not effective at catching mackerel based on available information (e.g., landings data). In summary, we believe effects from these gear types on Atlantic sturgeon, smalltooth sawfish, and sea turtles are extremely unlikely to occur, and are therefore discountable"* (NMFS, 2015).

There is limited information about protected species interactions within recreational fisheries. In 2015, The North Carolina Division of Marine Fisheries conducted a project funded under the ACCSP to examine potential protected species interactions and finfish discards and releases in the recreational cobia hook-and-line fishery. Observations were made via an alternative observer platform, where recreational fishing activity was monitored at close proximity from individuals on state owned vessels. From April 27, 2015, through October 29, 2015, 552 recreational hook-and-line observations (observed fishing trips) were completed over 138 observed fishing days with 16.2% of fishing trips targeting cobia. Observations occurred in inshore (estuarine) and near-shore waters (≤ 3 miles) of Carteret County. No protected species interactions were observed (Boyd 2016).

7.5.3.3. Gill net

Cobia are generally considered a bycatch species within gill net fisheries. The 2015 biological opinion for CMP resources concluded that gill net gear used in the federal CMP fisheries of the Atlantic and GOM have adversely affected sea turtles, smalltooth sawfish, and Atlantic sturgeon in the past via entanglement and, in the case of sea turtles, via forced submergence (NMFS, 2015).

7.5.3.4. Targeting of large animals

One known method used to prosecute cobia in offshore waters is to target large rays, large

sharks, sea turtles, or floating debris around which cobia congregate. Not much is known about this method or its impacts on protected species.

7.5.4. Sturgeon, smalltooth sawfish, Nassau grouper

The 2015 biological opinion for CMP resources concluded that gill net gear used in the federal CMP fisheries of the Atlantic and GOM have adversely affected smalltooth sawfish[19] and Atlantic sturgeon in the past via entanglement.

The biological opinion also concluded that smalltooth sawfish and Atlantic sturgeon are not likely to be adversely affected by CMP hook-and-line fishing. Fishers who capture smalltooth sawfish most commonly report that they were fishing for snook, redfish, or sharks (Simpfendorfer and Wiley 2004), not CMP species. Additionally, Atlantic sturgeon and smalltooth sawfish are largely bottom-dwelling species, whereas CMP lures and baits are typically fished near the surface of the water. This also greatly reduces the likelihood of Atlantic sturgeon and smalltooth sawfish interactions with trolling gear (NMFS, 2015).

On June 29, 2016, NMFS published a final rule listing Nassau grouper as threatened under the ESA. Reinitiation of Section 7 consultation on the CMP FMP is needed to address newly listed species. NMFS is currently prioritizing completion of the consultation along with other consultations required after recent listings.

7.5.5. Seabirds

The roseate tern, Bermuda petrel, and piping plover are the only ESA listed bird species within the mid-and south-Atlantic maritime regions. The roseate tern and Bermuda petrel are uncommon in inshore and coastal waters of the mid- and south-Atlantic and thus, have relatively low likelihoods of interacting with cobia fisheries. Nevertheless, exceptional efforts to avoid deleterious interactions with these species are warranted as they are rare and highly vulnerable to even minimal levels of mortality. The piping plover could be impacted by shorebased fishing activity if individuals were disturbed or killed by vehicles related to fishing efforts. However, during the nesting season, when plovers are highly vulnerable to beach disturbance, sensitive areas are posted and beach access is often restricted.

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 USFWS data). Interaction with fisheries has not been reported as a concern for either of these species. 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 CMP fishery. Framework Amendment 4 to the FMP for CMP resources in the Gulf of Mexico and Atlantic Region concluded that the CMP fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

[19] Although smalltooth sawfish are typically found in the peninsula of Florida, there have been recent interactions as far north as North Carolina.

7.6. Population Status Review of Relevant Protected Species

7.6.1. Marine Mammals

The status review of marine mammal populations inhabiting the Southwest Atlantic are discussed in detail in U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments. The most recent assessment was published in 2016 (Waring et al. 2016). The report presents information on stock definition, geographic range, population size, productivity rates, PBR, fishery specific mortality estimates, and compares the PBR to estimated human-caused mortality and serious injury for each stock.

7.6.2. Sea Turtles

All sea turtles that occur in U.S. waters are listed as either endangered or threatened under the ESA. The Kemp's ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*) are listed as endangered. The Northwest Atlantic Ocean DPS of loggerhead turtles (*Caretta caretta*) and the North Atlantic and South Atlantic DPSs of green turtle (*Chelonia mydas*) are listed as threatened. All five of these species inhabit the waters of the U.S. Atlantic and Gulf of Mexico.

Atlantic coastal waters provide important developmental, migration, and feeding habitat for sea turtles. The distribution and abundance of sea turtles along the Atlantic coast is related to geographic location, reproductive cycles, food availability, and seasonal variations in water temperatures. Water temperatures dictate how early northward migration begins each year and are a useful factor for assessing when turtles will be found in certain areas. Sea turtles can occur in offshore as well as inshore waters, including sounds and embayments. More information about sea turtles can be found here: http://www.nmfs.noaa.gov/pr/species/turtles/index.html.

7.6.3. Sturgeon, smalltooth sawfish, and Nassau grouper

No estimate of the historical population size of shortnose sturgeon is available. While the shortnose sturgeon was rarely the target of a commercial fishery, it often was taken incidentally in the commercial fishery for Atlantic sturgeon. In the 1950s, sturgeon fisheries declined on the east coast, which resulted in a lack of records of shortnose sturgeon. Shortnose sturgeon has been listed as endangered since 1967. A status assessement of shortnose sturgeon was last published in 2010 (SSSRT, 2010).[20]

In 2012, NOAA Fisheries listed four DPSs of Atlantic sturgeon *(Acipenser oxyrinchus oxyrinchus)* as endangered (NY Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs) and one as threatened (Gulf of Maine). More information about Atlantic sturgeon can be found here: http://www.fisheries.noaa.gov/pr/species/fish/atlantic-sturgeon.html#documents.
The U.S. DPS of smalltooth sawfish was listed as endangered in 2003. No accurate estimates of abundance trends over time are available, but available data, including museum records and anecdotal observations from fishers, indicate that the population has declined dramatically by about 95%. Smallooth sawfish were once common throughout their historic range, but they have

[20] http://www.fisheries.noaa.gov/pr/species/fish/shortnose-sturgeon.html

declined dramatically in U.S. waters over the last century. Still, there are few reliable data available, and no robust estimates of population size exist.[21]

In 2016, NOA Fisheries listed Nassau grouper as threatened under the ESA (81 FR 42268; June 29, 2016). While the species still occupies its historical range, overutilization through historical harvest has reduced the number of individuals which in turn has reduced the number and size of spawning aggregations. Although harvest of Nassau grouper has diminished due to management measures, the reduced number and size of spawning aggregations and the inadequacy of law enforcement continue to present extinction risk to Nassau grouper. The Nassau grouper's confirmed distribution currently includes Bermuda and Florida (U.S.A.), throughout the Bahamas and Caribbean Sea. Many earlier reports of Nassau grouper up the Atlantic coast to North Carolina have not been confirmed.

7.6.4. Seabirds

The overall population status of the Bermuda Petrel is unknown. The Bermuda Petrel is a pelagic seabird, and its range and distribution at sea make it very difficult to survey. It is known to nest only on five small islets in Bermuda. Surveys are limited to the breeding grounds. The total population of the Bermuda Petrel is estimated as 101 breeding pairs (USFWS, 2013).

The roseate tern is a federally protected and endangered seabird that is mainly found in the Northern Hemisphere on the northeastern coast of North America, extending from Nova Scotia to the southern tip of Florida, as well as several islands in the Caribbean Sea. Populations in the northeastern U.S. greatly declined in the late 19th century due to hunting for the millinery, or hat trade. In the 1930s, protected under the MBTA, the population reached a high of about 8,500, but since then, population numbers have declined and stayed in the low range of 2,500 to 3,300. The species was listed in 1987 as endangered in the northeastern U.S. Populations in Florida, Georgia, North Carolina, Puerto Rico, South Carolina and the Virgin Islands are listed as threatened.[22]

The piping plover breeds on coastal beaches from Newfoundland and southeastern Quebec to North Carolina. These birds winter primarily on the Atlantic Coast from North Carolina to Florida, although some migrate to the Bahamas and West Indies. Piping plovers were common along the Atlantic Coast during much of the 19th century, but nearly disappeared due to excessive hunting for the millinery trade. The current population decline is attributed to increased development and recreational use of beaches. The most recent surveys place the Atlantic population at less than 2000 pairs.[23]

[21] http://www.fisheries.noaa.gov/pr/species/fish/smalltooth-sawfish.html

[22] https://www.fws.gov/northeast/pdf/Roseatetern0511.pdf

[23] https://www.fws.gov/northeast/pipingplover/overview.html

7.7. Existing and Proposed Federal Regulations/Actions Pertaining to Relevant Protected Species

7.7.1. Marine Mammals

Species of large whales protected by the ESA that occur throughout the Atlantic Ocean include the blue whale, humpback whale, fin whale, North Atlantic right whale, sei whale, and the sperm whale. Additionally, the West Indian manatee also occurs in both the Gulf of Mexico and the Atlantic Ocean. These species are also considered depleted under the Marine Mammal Protection Act (MMPA). Depleted and endangered designations afford special protections from captures, and further measures to restore populations to recovery or the optimum sustainable population are identified through required recovery (ESA species) or conservation plans (MMPA depleted species). Numerous other species of marine mammals listed under the MMPA occur throughout the Atlantic Ocean.

The MMPA mandates NOAA's NMFS to develop and implement Take Reduction Plans for preventing the depletion and assisting in the recovery of certain marine mammal stocks that are seriously injured or killed in commercial fisheries. In the Atlantic, the following Take Reduction Plans have been developed, which address in part, gears that have been used to capture cobia (gillnet):

- The Atlantic Large Whale Take Reduction Plan is designed to reduce the risk of mortality and serious injury of large whales (right, fin, humpback) incindental to U.S. commercial trap/pot and gillnet fisheries, including Southeast Atlantic gillnet.

- The Bottlenose Dolphin Take Reduction Plan is designed to reduce the incidental mortality and serious injury of the western North Atlantic coastal bottlenose dolphin stock in several coastal fisheries, including the Southeast Atlantic gillnet fishery.

7.7.2. Sea turtles

Under the ESA, and its implementing regulations, taking sea turtles – even incidentally – is prohibited, with exceptions identified in 50 CFR 223.206. The incidental take of endangered species may only legally be authorized by an incidental take statement or an incidental take permit issued pursuant to Section 7 or 10 of the ESA, respectively. According to the 2015 biological opinion on CMP fisheries, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all likely to be adversely affected by the CMP fishery (NMFS, 2015). Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in the area of the fishery. The 2015 biological opinion for CMP established an incidental take statement with reasonable and prudent measures and terms and conditions for incidental take coverage in the federal CMP fisheries for sea turtles takes throughout the action area.

On April 6, 2016, NMFS published a final rule (81 FR 20058) listing 11 distinct population segments (DPSs) for green sea turtles. The listing of the DPSs of green turtles triggers reinitiation of consultation under Section 7 of the ESA because the previous opinion did not consider what effects the CMP fishery is likely to have on this species, therefore NMFS must

analyze the impacts of these potential interactions. NMFS is also in the process of identifying critical habitat, which will be proposed in a future rulemaking.

In 2013, the North Carolina Division of Marine Fisheries was issued a permit for the incidental take of listed sea turtles associated with the otherwise lawful large and small mesh gill net fishing in specified inshore estuarine areas. This permit requires North Carolina to close designated areas to avoid approaching the take limit.

Existing NMFS regulations specify procedures that NMFS may use to determine that unauthorized takings of sea turtles occur during fishing activities, and to impose additional restrictions to conserve sea turtles and to prevent unauthorized takings (50 CFR 223.206(d)(4)). Restrictions may be effective for a period of up to 30 days and may be renewed for additional periods of up to 30 days each. In 2007, NMFS issued a regulation (50 CFR 222.402) to establish procedures through which each year NMFS will identify, pursuant to specified criteria and after notice and opportunity for comment, those fisheries in which the agency intends to place observers (72 FR 43176, August 3, 2007). NMFS issues a notice or regulation each year maintaining or updating the fisheries listed on the annual determination. The most recent determination was in December 2016 (81 FR 90330, December 14, 2016). NMFS may place observers on U.S. fishing vessels, either recreational or commercial, operating in U.S. territorial waters, the U.S. exclusive economic zone (EEZ), or on the high seas, or on vessels that are otherwise subject to the jurisdiction of the U.S. Failure to comply with the requirements under this rule may result in civil or criminal penalties under the ESA.

7.7.3. Sturgeon, smalltooth sawfish, and Nassau grouper

Shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*A. oxyrinchus*) were listed under the ESA in 1967 and 2012, respectively. The Commission and federal government implemented a coastwide moratorium on sturgeon harvest in late 1997 and early 1998. Bycatch remains an important issue in the recovery of Atlantic sturgeon populations throughout their range (ASMFC 2007). The National Marine Fisheries Service established a recovery plan for shortnose sturgeon in 1998.[24]

In 2013, the Georgia Department of Natural Resources was issued a permit for the incidental take of shortnose and Atlantic sturgeon associated with the otherwise lawful commercial shad fishery in Georgia. In 2014, the North Carolina Division of Marine Fisheries was issued a permit for the incidental take of Atlantic sturgeon DPSs associated with the otherwise lawful commercial inshore gillnet fishery in North Carolina.

The 2015 biological opinion for the Federal CMP fisheries established an incidental take statement with reasonable and prudent measures and terms and conditions for incidental take of Atlantic sturgeon (as well as sea turtles and smalltooth sawfish) throughout the action area (NMFS, 2015). In June 2016, NOAA Fisheries published proposed rules to designate critical habitat for Atlantic sturgeon (81 FR 36077; 6/3/2016 and 81 FR 35701; 6/3/2016).

[24] http://www.nmfs.noaa.gov/pr/pdfs/recovery/sturgeon_shortnose.pdf

The U.S. DPS of smalltooth sawfish was listed as endangered in 2003. Critical habitat was designated for it in 2009 (74 FR 45353; 9/2/2009) and a recovery plan was finalized in 2009 as well.[25]

Harvest and possession of Nassau grouper is prohibited in the United States, Puerto Rico, and the U.S. Virgin Islands. NMFS is evaluating potential management actions, such as critical habitat or application of the 4(d) rule in the ESA. When NMFS listed Nassau grouper as threatened, it solicited information from the public that may be relevant to the designation of critical habitat for Nassau grouper. A 4(d) rule provides regulations necessary for the conservation of any threatened species

7.7.4. Seabirds

Under the ESA and its regulations, take of Bermuda petrels, roseate terns, and piping plovers, even incidentally, is prohibited. The incidental take of an ESA listed species may only be legally authorized by an incidental take statement or incidental take permit issued pursuant to Section 7 or 10 of the ESA. No incidental takes of ESA listed bird species is currently authorized for cobia fisheries.

Section 316(c) of the Magnuson-Stevens Fishery Conservation and Management Act authorizes the Interior and Commerce Departments to undertake projects, in cooperation with industry, to improve information and technology to reduce seabird-fisheries interactions. USFWS seeks to partner with State, regional, and Federal agencies; industry; tribes; and NGOs to facilitate outreach and improve information and technology to reduce seabird bycatch in fisheries within state and Federal waters. A Memorandum of Understanding between NMFS and the USFWS (July 2012) describes additional collaborative efforts recommended to better understand and reduce bird bycatch in fisheries.[26]

Most actions to understand and reduce marine bird bycatch in the U.S. have occurred in Pacific waters. However, in 2011, the USFWS issued a business plan for addressing and reducing marine bird bycatch in U.S. Atlantic fisheries. The plan identified priority goals and actions to target the following marine bird-fisheries interactions: greater shearwaters in the New England groundfish fishery, and red-throated loons in the mid-Atlantic gillnet fisheries.[27]

7.8. Potential Impacts to Atlantic Coastal State and Interstate Fisheries

Regulations under the take reduction plans for Atlantic large whales and bottlenose dolphins have the potential to impact gill net fisheries that capture cobia as bycatch.

[25] http://www.nmfs.noaa.gov/pr/pdfs/recovery/smalltoothsawfish.pdf

[26] https://www.fws.gov/migratorybirds/pdf/management/mounmfs.pdf

[27] https://www.fws.gov/migratorybirds/pdf/management/focal-species/GreaterShearwater.pdf

7.9. Identification of Current Data Gaps and Research Needs

7.9.1. General Bycatch Related Research Needs

The following activities would improve our understanding of bycatch of fish and protected species in the Southeast Region. These activities were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan[28]:

- In coordination with the Marine Recreational Information Program (MRIP), test and validate the use of on-board recording systems (e.g., electronic logbooks) for capturing information on discarded fishes and bycatch of protected species in the commercial and recreational fisheries including species, length, depth, location, and disposition; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snappergrouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Enhance existing tools (e.g., observers, logbook requirements, electronic technologies) to collect bycatch data that inform agency bycatch priorities; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Invest in new, innovative fishery monitoring techniques, such as electronic fishing logbooks and video monitoring, to provide a cost effective means of producing more information to effectively quantify bycatch; priority fisheries include shrimp (including assessing TED compliance), South Atlantic snapper-grouper, other Southeast Region recreational hook-and-line fisheries, and fisheries under take reduction teams.
- Improve the discard estimates needed for informing snapper-grouper, reef fish, dolphin wahoo, and coastal migratory pelagic SEDAR assessments in the next 3-5 years.

7.9.2. Marine Mammals

The following bycatch related research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan[29]:

- Characterize frequency, scope, and scale of bottlenose dolphin interactions with recreational rod/reel fishing gear.
- Enhance and increase observer coverage for gillnet fisheries under the bottlenose dolphin take reduction plans by focusing observer coverage in specific geographic areas and fisheries, improving observer data collection and quality, and measures of fishing effort, as well as coordinating with state observer programs.

[28] http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf

[29] http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf

- Experimentally investigate possible attractants/deterrents for pilot whale/Risso's dolphins to pelagic longline gear and gear modifications to decrease the likelihood of hooking and/or entanglement.

7.9.3. Sea Turtles

Observer coverage of recreational fisheries has been relatively limited (Boyd, 2016). Expansion of observer programs to recreational hook-and-line fisheries would help determine the level of protected species interactions in those fisheries.

The following bycatch related research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan[30]:

- Improved methods/models/techniques for estimating sea turtle bycatch in commercial fisheries including accounting for life stage and recovery unit (where applicable) impacts.
- Produce annual bycatch estimates for the shrimp trawl fisheries, pelagic longline, Gulf and South Atlantic reef fish, and Gulf and South Atlantic shark gillnet and bottom longline fisheries.
- Implement monitoring program to assess bycatch of sea turtles in recreational fisheries, including piers, jetties, head boats and FMP covered recreational fisheries.
- Develop tools to reduce recreational fishing bycatch including on piers/jetties.
- Develop and improve analytic methods for sea turtle bycatch estimation and sampling design to optimally allocate observer coverage and identify gaps and recommend improvements/changes to improve sea turtle bycatch information.
- Ensure sea turtle bycatch data collected across fisheries is standardized and contains all necessary elements to assess post interaction mortality and to inform conservation management.
- Conduct gear research and technology transfer to reduce sea turtle interactions and mortalities in both domestic and foreign trawl, longline, and gill net fisheries.
- Develop sea turtle observer programs for commercial fisheries not currently observed but for which data are needed.

7.9.4. Sturgeon

NOAA Fisheries Southeast Regional Office has identified the following research needs for Atlantic sturgeon[31]:

- Identification of spawning and nursery grounds and overwintering areas.
- Long-term population monitoring programs.
- Population genetics.

[30] http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf

[31] http://sero.nmfs.noaa.gov/protected_resources/sturgeon/documents/ats_research_priorities.pdf

- Toxic contaminant and biotoxin impacts and thresholds.
- Develop fish passage devices for sturgeon.
- Impacts of dredging.
- Reducing bycatch and bycatch mortality.

Regarding bycatch, very little information is available on current levels of bycatch and bycatch mortality occurring in fisheries in the Southeast. Research is needed to identify the spatial and temporal distribution of bycatch throughout the species range, and to identify measures that can be implemented to reduce bycatch and/or bycatch mortality.

NOAA Fisheries Southeast Regional Office has identified the following research needs for shorthnose sturgeon[32]:

- Genetic assessments.
- Surveys and presence/absence studies.
- Identification of spawning and nursery grounds and overwintering areas.
- Develop fish passage devices for sturgeon.
- Contaminant research.
- Impacts of dredging.

7.9.5. Sawfish

The following research needs were identified within NMFS' Southeast Regional Office's FY16-20 Strategic Plan[33]:

- Develop a functional assessment model of juvenile sawfish habitat use within the critical habitat units.
- Determine the post-release mortality of sawfish from various types of fishing gear.
- Investigate movements (short-term and seasonal) of adult sawfish to identify aggregation habitats and habitat use patterns.
- Develop habitat models to identify potential sawfish nursery habitats in areas unsurveyed or outside of the currently known habitat areas.
- Continue current sawfish surveys as these will be the basis of monitoring recovery.
- Conduct juvenile sawfish surveys beyond the boundaries of current surveys (e.g., east coast or north of Charlotte Harbor) to refine a baseline abundance estimates and monitor recovery.
- Conduct adult surveys throughout the range of smalltooth sawfish to determine a relative abundance estimate, the distribution of adults, and to identify sawfish mating and pupping habitats.

[32] http://sero.nmfs.noaa.gov/protected_resources/sturgeon/documents/sns_research_priorities.pdf

[33] http://sero.nmfs.noaa.gov/news_room/press_releases/2016/pdfs/noaa_fisheries_southeast_regional_office_science_needs_12052016.pdf

7.9.6. Seabirds

- Initiate and expand observer coverage/bycatch monitoring and collection and analysis of bird bycatch data to better understand extent of bird bycatch and identify bycaught bird species within the target fisheries (state waters).
- Collaborate with fishermen to develop and test gear and identify deployment practices that reduce bird bycatch within the target fisheries (state waters).
- Conduct outreach activities to facilitate sharing of bird bycatch information in the target fisheries among agencies, industry and the public.

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Appendix D. Enhanced Cooperative Management Procedure and Protocol

Proposed language for framework procedure in the CMP FMP for an enhanced cooperative management system with the ASMFC (**Alternative 4**):

Protocol (based on the proposed protocol for federal and State of Florida roles in the management of Spiny Lobster):

1. The South Atlantic Fishery Management Council (South Atlantic Council) and the National Marine Fisheries Service (NMFS) acknowledge that Atlantic cobia harvest occurs primarily in state waters and extends into the exclusive economic zone (EEZ), in terms of current participants in the directed fishery, fishing, and historical management of the species. As such, Atlantic cobia management requires cooperative state/federal efforts for effective management through the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region (CMP FMP).
2. The South Atlantic Council and NMFS acknowledge that the Atlantic States Marine Fisheries Commission (ASFMC) will manage the resource to protect and increase the long-term yields and prevent depletion of Atlantic cobia stocks and that the Atlantic Coastal Fisheries Cooperative Management Act (1993) and ASFMC Interstate Fishery Management Plan Charter, rule implementation procedures, including final approval of the rules by ASFMC's South Atlantic State/Federal Fisheries Management Board, provide ample and fair opportunity for all persons to participate in the rulemaking procedure.
3. ASFMC acknowledges that rules proposed for implementation under any fishery management plan amendment, regulatory or otherwise, must be consistent with the management objectives of the CMP FMP, the National Standards, the Magnuson-Stevens Fishery Conservation and Management Act, and other applicable law. Federal rules will be implemented in accordance with the Administrative Procedure Act.
4. The South Atlantic Council and NMFS agree that, for any rules falling within the scope of those identified in Paragraph 6 of the Procedure below, pertaining only to Atlantic cobia, ASFMC may propose the rule directly to NMFS, concurrently informing the South Atlantic Council of the nature of the rule, and that NMFS will implement the rule within the EEZ provided it is consistent under paragraph three. If the South Atlantic Council informs NMFS of their concern over the rule's inconsistency with paragraph three, NMFS may not implement the rule until the South Atlantic Council, ASFMC, and NMFS resolve the issue.
5. The ASMFC will have the responsibility for collecting and developing the information upon which to base the rules, including information provided by NMFS, and cooperatively share the responsibility for enforcement with federal agencies.
6. ASMFC will provide to NMFS and the South Atlantic Council written explanations of its decisions related to each of the rules; summaries of public comments; biological,

economic and social analysis of the impacts of the proposed rule and alternatives; and such other relevant information.

7. The rules will apply to the EEZ for the management area from the Georgia/Florida border to New York and will only apply to the Atlantic cobia stock, unless the Regional Administrator (RA) determines those rules may adversely impact other state and federal fisheries. In that event, the RA may limit the application of the rule, as necessary, to address the problem.
8. NMFS and the South Atlantic Council agree that their staffs will prepare the proposed and final rules and the associated National Environmental Policy Act documentation and other documents required to support the rule.

Procedure (based on language being drafted for Spiny Lobster Amendment 13):

1. This procedure will function under and be governed by the protocols for cooperative management agreed upon by the Atlantic States Marine Fisheries Commission (ASMFC) and NMFS.

2. Based on the best available scientific information, ASFMC may develop alternative proposed rules (within the categories identified in Paragraph 6) and socioeconomic analyses on the effects of these alternatives, hold public hearings, and at a final hearing the South Atlantic States/Federal Fisheries Management Board will select each preferred option and approve the final rule(s). After approval of the rule or rules ASFMC will advise the South Atlantic Fishery Management Council (South Atlantic Council) and Regional Administrator (RA) of the National Marine Fisheries Service (NMFS) of the recommended rule(s) and proposed implementation date, and will provide to the RA and to the South Atlantic Council the analyses of the effects and impacts of the recommended and alternative rules and summaries of public comment. For rules to be implemented by the start of the fishing season (currently January 1, ASFMC must complete these actions on or before July 1 of the preceding year. The South Atlantic Council will submit the rule and supporting analyses to the Scientific and Statistical Committee who will advise the RA, through the South Atlantic Council, of the scientific validity of the analyses. The South Atlantic Council will also submit the rule and supporting analyses to the advisory panels for comment.

3. The RA will review the recommended rule, analyses, and public record, and if the RA preliminarily determines that the rule is consistent with the objectives of the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and Atlantic Region (CMP FMP), the National Standards, and other applicable law, the RA will notify the South Atlantic Council and ASFMC of his intent to implement the rule in the EEZ. If in the judgment of the RA, the rule or its supporting record are not consistent with these statutory criteria or the CMP FMP objectives, the RA will immediately notify the South Atlantic Council and ASMFC of the deficiencies in the rule or supporting record. ASMFC may submit additional information or analyses to correct the deficiencies in the record.

4. When in the judgment of the South Atlantic Council the rule is not consistent with the Magnuson-Stevens Fishery Conservation and Management Act or the objectives of the FMP, the South Atlantic Council will inform the RA and ASFMC. In this case the RA will not proceed with implementation of the rule until this issue has been resolved.

5. When the RA has preliminarily concluded the rule is acceptable, the RA will draft and publish the proposed rule for implementation. Based on ASFMC analyses of impacts, the South Atlantic Council staff, with assistance from ASFMC staff, will prepare the supporting documentation (environmental assessment, regulatory impact review, etc.) that accompany the proposed rule. A period for public comment on the proposed rule shall be provided lasting no less than 15 days.

   After reviewing public comment if the RA has concluded the rule is not consistent with the CMP FMP objectives, the national standards, other applicable law, or the provisions of this procedure, the RA will notify the South Atlantic Council and ASFMC of that fact and/or the need for proceeding with implementation by CMP FMP amendment. If the supporting record is still deficient, the RA will delay taking action until the record has been supplemented by ASFMC and/or South Atlantic Council staff. If the RA has concluded the rule is consistent, the RA will publish the final rule. The effective date of rules promulgated under this procedure will be the starting date of the next fishing season following publication of the final rule, unless otherwise agreed upon by ASMFC, the South Atlantic Council, and the RA.

6. PART A (GEAR RESTRICTIONS) Appropriate rules or regulatory changes that can be implemented under this part include:
   a) Specification of gear and vessel identification requirements.
   b) Specification of gear that may be utilized or prohibited in directed fishery and specification of bycatch levels that may be taken as incidental catch in non-directed fisheries.

   PART B (HARVEST RESTRICTIONS) Appropriate rules or regulatory changes that can be implemented under this part include:
   a) Recreational bag and possession limits.
   b) Commercial trip limits.
   c) Changes in fishing seasons.
   d) Changes in minimum legal size.
   e) Changes to permit requirements.

Appendix E. History of Management

The Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region (CMP FMP; 1982), with an 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 CMP FMP treated cobia as one stock in the Atlantic and Gulf of Mexico (Gulf) and established the maximum sustainable yield (MSY) at 1.057 million pounds (mp). The optimum yield (OY) was defined as all cobia equal to or larger than 33 inches fork length (FL) that can be harvested by U.S. fishermen under current fishery conditions, and possession of cobia less than at 33 inches FL was prohibited. The management objective for cobia was to institute management measures necessary to increase yield per recruit and average size and to prevent overfishing.

CMP FMP Amendments

Amendment 1, with EIS, implemented in September 1985, provided a framework procedure for pre-season adjustment of total allowable catch (TAC) and established the fishing year as January 1 through December 31. The minimum size limit was designated as 33 inches FL or 37 inches total length (TL). Additionally, the Councils designated Problem #5 for the CMP FMP to address as: Cobia are presently harvested at a size below that necessary for maximum yield and may be overfished in some areas beyond the management area; most southeastern states have not yet adopted the recommended minimum size limit; no management action has been taken by states which have jurisdiction over cobia populations in Chesapeake Bay, which appear to have been overfished; and federal enforcement capability is limited and not believed to be very effective in this case.

Amendment 2, with an environmental assessment (EA), implemented in July 1987, except for the charter vessel permit requirements that became effective in August 1987. The amendment established federal permit requirements for for-hire vessels fishing for coastal migratory pelagics in the EEZ. For-hire vessels would comply with bag limits but could fish under a commercial quota with a commercial permit when not on under charter.

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

- Revised a specified problem that the condition of the cobia stock is unknown and increased landings over the last ten years have prompted concern about overfishing. The MSY is set at 1 mp.
- Specified parameters for ‘overfishing’ and ‘overfished’ designations
- Added cobia to the annual stock assessment procedure;
- Cobia possession limit is 2 fish per person per day with a 1-day possession limit.

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;
- Specified the minimum size limit 33 inches FL (remove reference to 37 inches TL).
- MSY set at 2.2 mp based on the 1992 Report of the Mackerel Stock Assessment Panel.

Amendment 8, with EA, implemented in March 1998, made the following changes to the management regime:

- Extend the management area for cobia through New York, i.e., through the jurisdiction of the Mid-Atlantic Fishery Management Council. Note: This action extended the 2 fish bag limit and 33"FL minimum size limit through the Mid-Atlantic Council's area.
- 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;
- Overfishing: For species like cobia, when there is insufficient information to determine whether the stock or migratory group is overfished (transitional SPR), overfishing is defined as a fishing mortality rate in excess of the fishing mortality rate corresponding to a default threshold static SPR of 30 percent. If overfishing is occurring, a program to reduce fishing mortality rates to at least the level corresponding to management target levels will be implemented.
- Modified the Stock Assessment Panel process.
- Optimum Yield (OY) for cobia is set at MSY, currently 2.2 million pounds, in accord with the recommendation of the SPRMSC that, because of limited data, SPR not be used for cobia.
- Established various data consideration and reporting requirements under the framework procedure;
- Modified the seasonal framework adjustment measures and specifications; and revised specified problems in the fishery for the FMP

Amendment 11, with SEIS, partially approved in December 1999, included Maximum sustainable yield for species in the coastal migratory pelagic management unit is unknown. The Council reviewed alternatives and concluded the best available data supports using 30% Static SPR as a proxy for MSY. Note: This was not approved.

- Optimum Yield (OY) for the coastal migratory pelagic fishery is the amount of harvest that can be taken by U.S. fishermen while maintaining the Spawning Potential Ration (SPR) at or above 40% Static SPR.
- Overfishing for all species in the coastal migratory pelagics management unit is defined as a fishing mortality rate (F) in excess of the fishing mortality rate at 30% Static SPR (F30%Static SPR) which is the coastal migratory pelagics MSY proxy. The "threshold level" for all species in the coastal migratory pelagic management unit is defined as 10% Static SPR.

Amendment 13, with SEIS, implemented August 2002, established two marine reserves in the 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 18, with EA, implemented in January 2012 established ACLs, ACTs, and AMs for

cobia. The amendment established Atlantic and Gulf migratory groups for cobia with the stock boundary set at the management boundary between the councils, and also modified the framework procedures.

Amendment 20B, with EA, implemented in March 2015 revised the ACLs and ACTs for Atlantic and Gulf cobia based on the recent stock assessment (SEDAR 28). The amendment also modified the boundary between Atlantic and Gulf cobia to be at the Georgia/Florida state line, to align with the stock boundary used in SEDAR 28.

Framework Amendment 4, with EA, implemented in September 2017, revised the recreational harvest limits for Atlantic cobia to be 1/person and 6/vessel, whichever is more restrictive, and a minimum size limit of 36" fork length (FL). Additionally, the commercial limits were specified at 2/person or 6/vessel, whichever is more restrictive. The framework amendment also modified the recreational accountability measures to remove the use of the 3-year moving average to evaluate an overage; and specified that if there is an overage, the vessel limit of the following fishing year will be reduced to no fewer than two per vessel, and then the recreational season may be also shortened if the reduced vessel limit is not sufficient.

Appendix F. Bycatch Practicability Analysis

Background

In the Gulf of Mexico (Gulf) and Atlantic (Florida through New York) regions, most king mackerel and cobia are harvested with hook and line gear; however, gillnets and cast nets are the predominant gear type used to harvest Spanish mackerel.

Commercial Sector

Currently, discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders in coastal migratory pelagics (CMP) fishery. However, in the absence of any observer data, there are concerns about the accuracy of logbook data in collecting bycatch information. Biases associated with logbooks primarily result from inaccuracy in reporting of species that are caught in large numbers or are of little economic interest (particularly of bycatch species), and from low compliance rates. During 2010 – 2014, the commercial sector for CMP species in both the Gulf and Atlantic landed 226,411 pounds (lbs) and had no reported discards (**Table D-1**) per year. The commercial sector predominantly harvested king and Spanish mackerel, with relatively few cobia (**Table D-1**). Both the king mackerel and Spanish mackerel commercial sectors have very low discards.

Recreational Sector

For the recreational sector, during 2010 – 2014, estimates of the number of recreational discards were available from Marine Recreational Information Program (MRIP) and the National Marine Fisheries Service (NMFS) headboat survey. The MRIP system classifies recreational catch into three categories:

- Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers.
- 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.

During 2010 – 2014, the private recreational landings and discards for all three CMP species were higher than for either the headboat or charter boat category (**Table D-1**). Spanish and king mackerel had the highest landings and cobia had the highest discards (58%) relative to the landings. For the headboat sector, cobia had 37% discards relative to total catch of 3,795. King and Spanish mackerel had considerably higher landings but lower discards compared to those of cobia.

During 2010 – 2014, information for charter trips came from two sources. Charter vessels for the CMP fishery were selected to report by the Science and Research Director (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. Harvest and bycatch information was monitored by MRIP. Since 2000, a 10% sample of charter vessel captains were called weekly to obtain trip level information, such as date, fishing location, target species, etc. 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 were 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 recreational survey of MRIP, formerly called Marine Recreational Fisheries Statistics Survey. Beginning in 2013, samples were 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.

Table D-1. Annual mean Headboat, MRIP, and commercial estimates of landings and discards in the Gulf of Mexico and U.S. Atlantic Ocean (Florida to New York) during 2010 – 2014. Headboat, MRIP (charter and private) landings are in numbers of fish (N); commercial landings are in pounds (lbs). Discards represent numbers of fish that were caught and released alive (B2).

	HEADBOAT				MRIP CHARTER				MRIP PRIVATE				COMMERCIAL		
	Catch (N)	Landings (N)	Discards (N)	Percent Discards	Catch (N)	Landings (N)	Discards (N)	Percent Discards	Catch (N)	Landings (N)	Discards (N)	Percent Discards	Landings (lbs ww)	Discards (N)	Percent Discards
Cobia	3,795	2,404	1,391	37%	17,666	10,150	7,516	43%	157,814	66,291	91,523	58%	226,411	0	0%
King Mackerel	27,141	25,498	1,643	6%	150,869	131,008	19,861	13%	348,595	239,425	109,170	31%	5,445,986	7,945	<1
Spanish Mackerel	12,611	11,500	1,111	9%	384,353	282,737	101,616	26%	2,069,184	1,095,230	973,954	47%	5,013,350	1,162	<1%
Total	**43,548**	**39,402**	**4,146**		**552,888**	**423,895**	**128,993**		**2,575,593**	**1,400,946**	**1,174,647**		**10,685,747**	**9,107**	

Sources: MRIP data from SEFSC Recreational ACL Dataset (March 2016); Headboat data from SEFSC Headboat Logbook CRNF files (expanded; March 2016);
Commercial landings data from SEFSC Commercial ACL Dataset (December 2015) with discard estimates from expanded SEFSC Commercial Discard Logbook (April 2016);
Notes: Commercial discard estimates are for vertical line gear only. Commercial king mackerel includes "king and cero mackerel" category;
Estimates of commercial discards are highly uncertain; No reported discards for Commercial and Headboat Cobia;
King mackerel, cobia, and Spanish mackerel data include both Atlantic coast and Gulf of Mexico. Note that discard estimates for commercial and headboat include only the Gulf of Mexico and SAFMC jurisdiction; discards from the Mid-Atlantic would likely be relatively low, but are not reported here

Bycatch Mortality

For cobia, SEDAR 28 (2013a and 2013b) used a discard mortality rate of 5% for the hook-and-line gear (both commercial and recreational sectors), and 51% for gillnets. SEDAR 38 provided estimates of release mortality for king mackerel of 20% for the private and charter sectors, 22% release mortality for the headboat sector, 25% release mortality for commercial hooked gear fisheries, and 100% for trawl by-catch for both the Gulf and Atlantic. 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 (2013c, 2013d) recommended identical discard mortality for Spanish mackerel as 100% for gillnets and shrimp trawls, but recommended a 10% discard mortality rate for commercial handlines, and 20% for recreational handlines. Most king mackerel and cobia are harvested using hook-and-line gear, and gillnets are the primary gear for Spanish mackerel. As shown in **Table D-1**, discards in the commercial sector are relatively low for all three CMP species, and while discards of cobia in the private recreational sector are high, the discard mortality rate is very low for this species using hook-and-line gear (SEDAR 28, 2013a and 2013b).

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

According to the bycatch information for mackerel gillnets, 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 sector. Of these, 34% are reported to be released dead, 59% released alive, and 6% undetermined. Bycatch was not reported for the Gulf Spanish mackerel sector. The Atlantic Spanish mackerel portion of the CMP fishery has 51 species reported as bycatch with approximately 81% reported as released alive. For the South Atlantic king mackerel portion of the CMP fishery 92.7% are reported as released alive with 6% undetermined. Bycatch was not reported separately for gillnets and hook-and-line gear. Additionally, the supplementary discard program to the logbook reporting requirement shows no interactions of gillnet gear with marine mammals or birds.

Table D-2 lists the species most often caught with cobia in the Gulf and South Atlantic from SEFSC commercial logbook data. Cobia is not included in the top three caught species on trips with at least one pound of cobia. The harvest of cobia is incidental to harvest of red grouper, red snapper and king mackerel.

Table D-2. Top three species caught on trips where at least one pound of cobia was caught with all gear types in the Gulf of Mexico and South Atlantic from 2010-2014. Cobia were not listed in the top three species by harvest on these trips. Cobia contributed only 7% of harvest on these trips.

Species	% of Harvest (All Gear Types)
Red Grouper	35.4%
Red Snapper	15.9%
King mackerel & Cero	9.0%

Source: Southeast Fisheries Science Center Commercial Logbook (April 2016)

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. The Gulf Council, South Atlantic Council, and NMFS are in the process of developing actions that would improve bycatch monitoring in all fisheries including the CMP fishery. For example, the Joint South Atlantic/Gulf of Mexico Generic Charter/Headboat Reporting in the South Atlantic Amendment, which became effective on January 7, 2014, requires weekly electronic reporting of landings and bycatch data for headboats in the South Atlantic. A similar framework action to require electronic reporting of landings and bycatch by headboats in the Gulf became effective on March 5, 2014. A generic amendment that requires weekly electronic reporting of commercial landings by dealers in the Gulf and South Atlantic became effective on August 7, 2014. The Gulf and South Atlantic Councils have developed amendments that would require electronic reporting of charter vessels, which would include landed and discarded fish. Better bycatch and discard data would provide a better understanding of the composition and magnitude of catch and bycatch, enhance the quality of data provided for stock assessments, increase the quality of assessment output, provide better estimates of interactions with protected species, and lead to better decisions regarding additional measures to reduce bycatch. Management measures that affect gear and effort for a target species can influence fishing mortality in other species. Therefore, enhanced catch and bycatch monitoring would provide better data that could be used in multi-species assessments.

Ecosystem interactions among CMP species in the marine environment are poorly known. The three 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 difficult 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. However, there is very little bycatch in the commercial cobia portion of the CMP fishery. There is high bycatch in the private recreational (58%), charter (43%) and headboat (37%) but these are caught using hook and line gear and the release mortality is low. Framework Amendment 4 did not modify the gear types or fishing techniques in the CMP fishery. Therefore, ecological effects due to changes in bycatch in the CMP fishery are likely to remain very low if implemented. For more details on ecological effects, see Chapters 3 and 4 of the amendment.

Effects on Marine Mammals and Birds

The Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2017 Marine Mammal Protection Act List of Fisheries as a Category III fishery (81 FR 54019, August 25, 2016), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

The Gulf and South Atlantic CMP gillnet sector is classified as a Category II fishery. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

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 USFWS 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 CMP fishery. Thus, it is believed that the CMP fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

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

Research and monitoring is ongoing to understand the effectiveness of proposed management measures and their effect on bycatch. In 1990, the SEFSC initiated a logbook program for commercial snapper – grouper vessels in the Gulf and South Atlantic. In 1999, logbook reporting was initiated for vessels catching king and Spanish mackerel. 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. Recreational discards are obtained from the MRIP and logbooks from the NMFS headboat program.

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 stranding events 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 stranding events and mass mortalities (http://www.sefsc.noaa.gov/species/mammals/strandings.htm).

The Southeast Regional Office (SERO) and the SEFSC participate in a wide range of training and outreach activities to communicate bycatch related issues. The NMFS SERO 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 releases are also available on the internet and broadcasted over NOAA weather radio.

Appendix G. Other Applicable Law

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the Exclusive Economic Zone. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

Administrative Procedures 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, 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 waiting period from the time a final rule is published until it takes effect.

The proposed rule associated with this amendment will include a request for public comment, and if approved, upon publication of the final rule, there will be a 30-day wait period before the regulations are effective in compliance with the APA.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that directly affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state's coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary of Commerce, NMFS will determine if this amendment is consistent with the Coastal Zone Management programs of the states of Florida, Georgia, South Carolina, North Carolina, Texas, Louisiana, Mississippi, and Alabama to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Information Quality Act

The Information Quality Act (IQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of

knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the IQA directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: 1) ensure information quality and develop a pre-dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the IQA, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Endangered Species Act (ESA)

The 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 conclude 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.

NMFS completed a biological opinion on June 18, 2015, evaluating the impacts of the CMP fishery on ESA-listed species. In the biological opinion, NMFS determined that the proposed continued authorization of the CMP Fishery, is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpack, or North Atlantic right whales), Gulf sturgeon, or elkhorn and staghorn corals. NMFS also determined that CMP Fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn corals or loggerhead sea turtles, and will have no effect on designated critical habitat for North Atlantic right whale.

According to the 2015 Biological Opinion on CMP fisheries, green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles, Atlantic sturgeon, and the smalltooth sawfish are all likely to be adversely affected by the CMP fishery. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles area all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in area of the fishery. The distribution of Atlantic sturgeon and smalltooth sawfish within the action area is more limited, but all of these species do overlap in certain regions of the action area and these species have the potential to be been incidentally captured in CMP fisheries.

An incidental take statement for sea turtles, smalltooth sawfish, and Atlantic sturgeon was issued for incidental take coverage in the federal CMP fisheries throughout the action area. Reasonable and prudent measures to minimize the impact of these incidental takes were specified, along with terms and conditions to implement them.

On March 23, 2015, NMFS published a proposed rule (80 FR 15271) listing 11 distinct population segments (DPSs) for green sea turtles; the proposed North Atlantic DPS for green sea turtles is listed as threatened, and is the only DPS whose individuals can be expected to be encountered in the action area. The listing of the DPSs of green turtles triggers reinitiation of consultation under Section 7 of the ESA because the previous opinion did not consider what effects the CMP fishery is likely to have on this species, therefore NMFS Protected Resources must analyze the impacts of these potential interactions.

On June 29, 2016, NMFS published a Final Rule in the Federal Register listing Nassau grouper as a threatened species under the ESA, effective July 29, 2016. Reinitiation of Section 7 consultation on the FMP for South Atlantic and Gulf of Mexico Coastal Migratory Pelagics is needed to address newly listed species/DPSs. SERO is currently prioritizing completion of the consultation along with other consultations required after recent listings.

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 Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2017 Marine Mammal Protection Act List of Fisheries as a Category III fishery (81 FR 54019), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

The Gulf and South Atlantic CMP gillnet fishery is classified as Category II fishery in the 2017 Marine Mammal Protection Act List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

Because of the nature of this fishery, the action in this amendment is not expected to negatively impact marine mammals.

Essential Fish Habitat

The amended Magnuson-Stevens Act included a new habitat conservation provision known as Essential Fish Habitat (EFH) that requires each existing and any new FMPs to describe and identify EFH for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements, the South Atlantic Council has, under separate action, approved an environmental impact statement (SAFMC 1998) to address the new EFH requirements contained within the Magnuson-Stevens Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH.

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

Executive Order 12866: Regulatory Planning and Review, 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 either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of 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 would have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act.

On July 1, 2016, the Small Business Administration final rule revising the small business size standards for several industries became effective (79 FR 33647). The rule increased the size standard for Finfish Fishing from $19.0 to $20.5 million, Shellfish Fishing from $5.0 to $5.5 million, and Other Marine Fishing from $7.0 to $7.5 million.

In light of these standards, NMFS has preliminarily determined that the proposed action would not have a significant economic impact on a substantial number of small entities.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

This Executive Order mandates that each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. Federal agency responsibilities under this Executive Order include conducting their programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefit of, or subjecting persons to discrimination under, such, programs policies, and activities, because of their race, color, or

national origin. Furthermore, each federal agency responsibility set forth under this Executive Order shall apply equally to Native American programs. Environmental justice considerations are discussed in detail in **Section 3.4**.

The action in this amendment is not expected to negatively impact minority or low-income populations.

E.O. 12962: Recreational Fisheries

This Executive Order 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, it establishes a seven-member National Recreational Fisheries Coordination Council (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 action in this amendment is intended to improve recreational fishing opportunities in the CMP Fishery and is consistent with the provisions of E.O. 12962.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No federalism issues have been identified relative to the action proposed in this amendment.

References

National Marine Fisheries Service (NMFS). 2015. Biological Opinion, ESA Section 7 Consultation for the Continued Authorization of Fishing under the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Atlantic and Gulf of Mexico (CMPR FMP). NMFS Southeast Regional Office Protected Resources Division: St. Petersburg, FL.

South Atlantic Fishery Management Council (SAFMC). 1998. Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans in the South Atlantic Region, including environmental assessment, regulatory impact review, and fishery impact statement. South Atlantic Fishery Management Council, Charleston, South Carolina. Available at: http://ocean.floridamarine.org/efh_coral/pdfs/Comp_Amend/EFHAmendCovTOC.pdf.

Appendix H. Regulatory Impact Review

This section will be completed after the amendment is finalized.

Appendix I. Regulatory Flexibility Analysis

This section will be completed after the amendment is finalized.

Appendix J. Fishery Impact Statement

This section will be completed after the amendment is finalized.