Amendment 30

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

Atlantic Cobia Recreational Fishing Year

November 10, 2016

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
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSST	minimum stock size threshold
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
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 30 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:	Modify the recreational fishing year for Atlantic cobia
Lead agency:	Amendment – South Atlantic Fishery Management Council (lead) and Gulf of Mexico Fishery Management Council Environmental Assessment – National Marine Fisheries Service (NMFS) Southeast Regional Office
For Further Information Contact:	South Atlantic Fishery Management Council 4055 Faber Place, Suite 201 North Charleston, SC 29405 843-571-4366/ 866-SAFMC-10 www.safmc.net Kari MacLauchlin Kari.MacLauchlin@safmc.net NMFS, Southeast Region 263 13th Avenue South St. Petersburg, FL 33701 727-824-5305 http://sero.nmfs.noaa.gov Karla Gore Karla.Gore@noaa.gov Gulf of Mexico Fishery Management Council 2203 North Lois Avenue, Suite 1100 Tampa, Florida 33607 813-348-1630 813-348-1711 (fax) http://www.gulfcouncil.org Contact: Ryan Rindone ryan.rindone@gulfcouncil.org

Summary

The South Atlantic Fishery Management Council (South Atlantic Council) and Gulf of Mexico Fishery Management Council (Gulf Council) are proposing Amendment 30 to the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP). Amendment 30 includes one action to modify the recreational fishing year for Atlantic migratory group cobia (Atlantic cobia).

The action to modify the recreational fishing year for Atlantic cobia had previously been included in Framework Amendment 4 to the CMP FMP during development of the framework amendment and public hearings. However, the current framework procedure for the CMP FMP does not allow changes to the fishing year through a framework amendment. In September 2016, the South Atlantic Council removed the action from Framework Amendment 4 and initiated an FMP amendment with the action to change the Atlantic cobia recreational fishing year. Because Amendment 30 would amend the joint CMP FMP, the Gulf Council approved the amendment at their October 2016 meeting.

In combination with the proposed changes to slow the rate of recreational harvest in Framework Amendment 4, the action in Amendment 30 is expected to reduce the likelihood of exceeding the annual catch limit and triggering accountability measures before the most popular time to recreationally fish for Atlantic cobia (May through September). This action is expected to provide fair access to the Atlantic cobia resource for participants in all states.

In September 2016, the South Atlantic Council selected **Alternative 2** as the preferred alternative, which would change the current fishing year (January 1 through December 31) to May 1 through April 30. The Gulf Council selected the same preferred and approved the amendment at their October 2016 meeting.

Amendment 30 is being proposed in accordance with the provisions set forth in the Magnuson-Stevens Fishery Conservation and Management Act. The amendment, with the integrated Environmental Assessment, will be available for public review before and during each South Atlantic Council and Gulf Council meeting and during the proposed rule phase. Comments can be submitted in person or online at www.safmc.net.

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Chapter 1. Introduction

1.1 What Action is Being Proposed?

Amendment 30 amends the Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (CMP FMP) and includes one action to change the recreational fishing year for Atlantic migratory group cobia (Atlantic cobia).

The action to modify the recreational fishing year for Atlantic cobia had previously been included in Framework Amendment 4 during development of the amendment and public hearings. However, the current framework procedure for the CMP FMP does not allow changes to the fishing year through a framework amendment. In September 2016, the South Atlantic Fishery Management Council (South Atlantic Council) removed the action from Framework Amendment 4 and initiated an FMP amendment with the action to change the Atlantic cobia recreational fishing year. Because Amendment 30 would amend the joint CMP FMP, the Gulf of Mexico Fishery Management Council (Gulf Council) has also reviewed and approved the action.

1.2 Who is Proposing the Action?

The coastal migratory pelagics (CMP) fishery is managed jointly by the South Atlantic and the Gulf Council. Amendments to the CMP FMP (plan amendments) and framework amendments affecting both Gulf of Mexico and Atlantic cobia must be approved by both the Gulf Council and the South Atlantic Council. Although the action applies only to Atlantic cobia, both Councils will approve the amendment for formal review and the amendment would be submitted to the National Marine Fisheries Service (NMFS), who implements the measures in the framework amendment on behalf of the Secretary of Commerce. NMFS is a line office in the National Oceanic and Atmospheric Administration. The Gulf Council approved the amendment at their October 2016 meeting.

South Atlantic Fishery Management Council and Gulf of Mexico Fishery Management Council

- Responsible for conservation and management of fish stocks
- Develop management plans/amendments and recommends regulations to NMFS for implementation
- The South Atlantic Council consists of 13 voting members appointed by the Secretary of Commerce or representatives from state agencies and NMFS, and 4 non-voting members. The Mackerel Cobia Committee of the South Atlantic Council also includes two voting seats for representatives from the Mid-Atlantic Fishery Management Council. The management area is from 3 to 200 nautical miles (exclusive economic zone or EEZ) off the coasts of North Carolina, South Carolina, Georgia, and Florida through the Atlantic side of Key West. The South Atlantic Council manages the CMP Fishery through the Mid-Atlantic region.
- The Gulf of Mexico Council consists of 17 voting members appointed by the Secretary of Commerce or representatives from state agencies and NMFS, and 4 non-voting members. The management area is the EEZ in the Gulf of Mexico off Texas, Louisiana, Mississippi, Alabama and Florida through the Gulf side of Key West.

1.3 Why are the South Atlantic and Gulf Councils Considering Action?

In 2015, recreational landings for Atlantic migratory group (Georgia to New York[1]) cobia (Atlantic cobia) exceeded the 2015 recreational ACL of 630,000 pounds whole weight (ww), and the 2015 stock ACL (commercial and recreational ACLs combined[2]) of 690,000 lbs ww. The current AM for Atlantic cobia requires that if total landings exceed the stock ACL, NMFS must file a notice to reduce the length of the following recreational season by the amount necessary to ensure recreational landings may achieve the recreational annual catch target, but do not exceed the recreational ACL.

On March 10, 2016, NMFS announced that the 2016 recreational season for Atlantic cobia in federal waters would close on June 20, 2016 (81 FR 12601). Because the closure occurred at the time of year when recreational fishing for cobia is typically the highest, the early closure is expected to have had negative social and economic impacts on recreational anglers, for-hire businesses, for-hire clients, and associated support businesses, such as tackle shops. Public comment indicates that the June 20 closure negatively affected many recreational fishermen and

[1] The MRIP-estimated recreational landings of Atlantic cobia in states north of Virginia from 2006-2015 are minimal, with only small numbers reported in Delaware and New Jersey every few years. Additionally, MRIP estimates for 2016 (preliminary) show landings from Maryland.

[2] Federal regulations do not specify 'commercial' and 'recreational' sectors for Atlantic cobia, but instead refer to the different landings as 'cobia that are sold' and 'cobia that are not sold'. Throughout this amendment, 'commercial' will refer to cobia that are sold, and 'recreational' will refer to cobia that are not sold.

businesses in North Carolina and Virginia, even though preliminary 2016 MRIP estimates indicate that landings continued to be high in these states after the federal closure. (see **Table 1.3.1**) Although Virginia and North Carolina did not adopt compatible regulations after the federal closure was announced, and harvest in Virginia and North Carolina state waters remained open after June 20, 2016, the more restrictive management measures implemented for Virginia and North Carolina state waters also affected recreational fishermen and businesses in those areas, as described in further detail in Chapter 4. The negative effects of the federal closure would likely be greatest for recreational fishermen and businesses in North Carolina and Virginia as landings are highest in these states (**Table 1.3.1)** and recreational landings are generally higher in the later months of the summer in North Carolina and Virginia (**Figure 1.3.1**).

Table 1.3.1. Recreational landings (lbs ww) of Atlantic cobia from 2005-2015, and 2016 preliminary landings. Data sources: MRIP and SEFSC

Year	VA Landings	NC Landings	SC Landings	GA Landings	TOTAL ATLANTIC
2005	577,284	322,272	5,793	3,358	908,707
2006	733,740	104,259	101,018	4,824	943,841
2007	322,887	90,197	268,677	64,708	746,469
2008	167,949	66,258	50,108	257,690	542,006
2009	552,995	123,061	76,229	3,997	756,282
2010	232,987	561,486	65,688	79,855	940,015
2011	136,859	121,689	3,565	90,375	352,488
2012	36,409	68,657	224,365	105,193	434,623
2013	354,463	492,969	19,130	29,224	895,786
2014	214,427	277,489	31,927	20,642	544,485
2015	718,647	630,373	123,952	67,804	1,565,186
2016*	919,992	285,352	77,744	0	1,283,088

*2016 data shown in the table include Waves 1-4 and were retrieved from the MRIP Database. The 2016 data are preliminary.

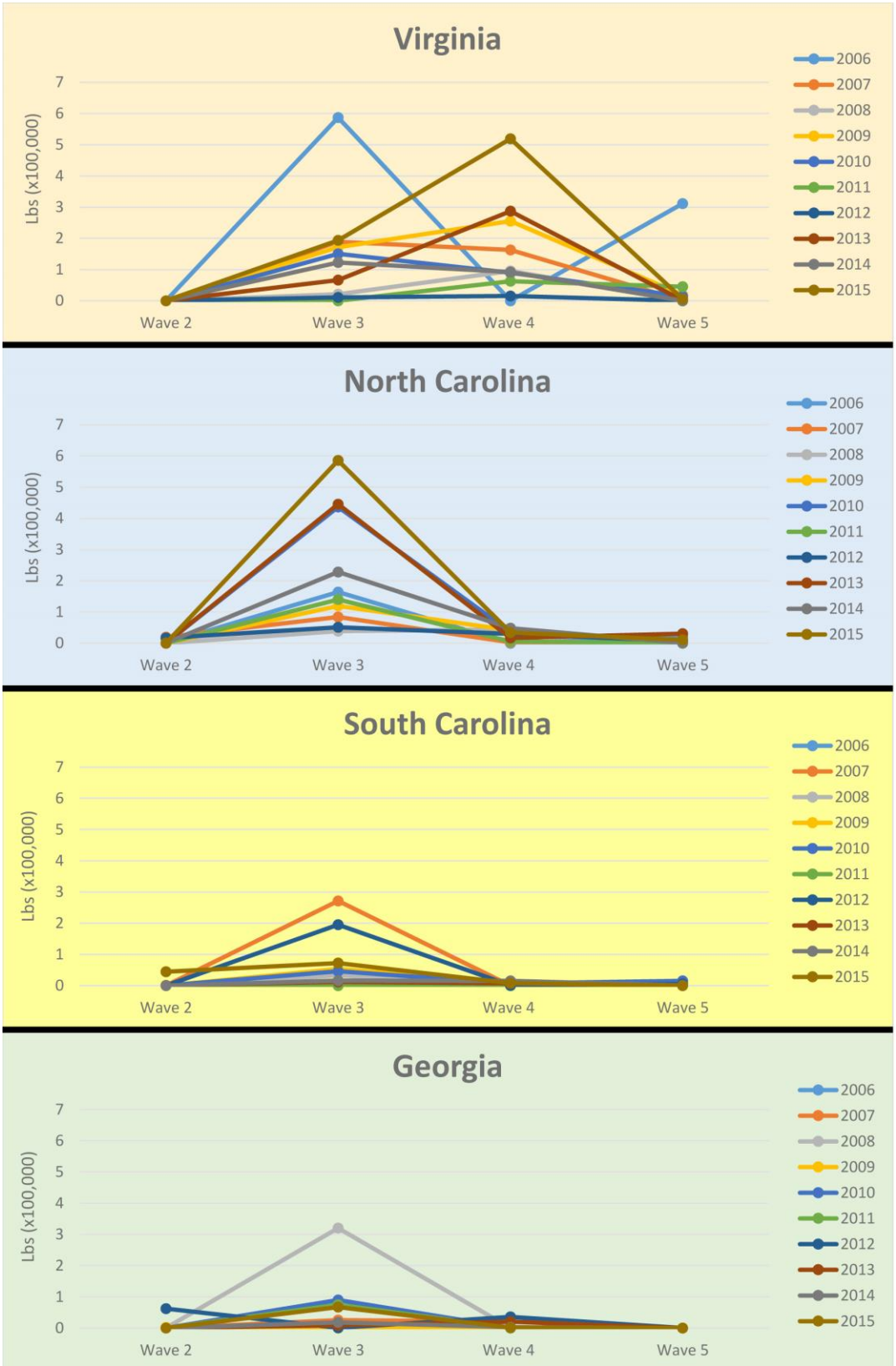

Figure 1.3.1. Recreational catch of Atlantic cobia (lbs ww) by wave from 2006-2015 for Waves 2-5. Data sources: SERO and MRIP database. The MRIP-estimated recreational landings of Atlantic cobia in states north of Virginia from 2006-2015 are minimal. MRIP estimates for 2016 (preliminary) show landings from Maryland.

In combination with the proposed changes to slow the rate of recreational harvest in Framework Amendment 4, the objective of the proposed measure is to ensure that in the event of a future ACL overage and implementation of associated AM(s), the recreational fishing season would be open long into the fishing year and at the time of year when cobia fishing is most popular (May through September) to allow for recreational fishermen in all states to have the opportunity to catch cobia.

1.3.1 DRAFT Purpose and Need Statement

Purpose for Action

The purpose of this amendment is to modify the recreational fishing year for Atlantic migratory group cobia to ensure consistent, stable, and equitable fishing opportunities for recreational participants in the Atlantic cobia component of the coastal migratory pelagics fishery.

Need for Action

The need for this amendment is to respond to changing fishery characteristics for Atlantic cobia, while increasing social and economic benefits of the coastal migratory pelagics fishery through sustainable recreational fishing opportunities and harvest of Atlantic cobia.

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

Federal regulations for commercial and recreational harvest of Atlantic cobia in the exclusive economic zone (Georgia through New York) include a minimum size limit of 33 inches fork length (FL) and a possession limit of 2 fish per person per day. Regulations in federal waters are consistent with regulations in state waters of Georgia and some areas of South Carolina (see explanation below). In the Mid-Atlantic, recreational harvest in state waters of New Jersey and New York is subject to a minimum size limit of 37 inches total length (TL) and a bag limit of 2 fish per person per day. The MRIP-estimated recreational landings of Atlantic cobia in states north of Virginia from 2006-2015 are minimal, but MRIP estimates for 2016 (preliminary) show landings from Maryland.

Virginia, North Carolina, and South Carolina have recently implemented management changes for cobia harvest in state waters. Effective June 1, 2016, the recreational harvest limits in Virginia state waters are 1 fish per person and 2 fish per boat; the minimum size limit is 40 inches TL and no more than one cobia over 50 inches TL is allowed per boat; no gaffing is allowed; and state waters closed for the year on August 30, 2016. These decisions were made at a May 24, 2016, Virginia Marine Resources Commission Meeting. The meeting summary is available at: http://www.mrc.virginia.gov/Commission_Summaries/cs0516.shtm.

In February 2016, the North Carolina Marine Fisheries Commission (North Carolina Commission) approved a reduction in the recreational bag limit for cobia in North Carolina state waters to 1 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 cobia harvest in state waters in May 2016. Effective May 23, 2016, the recreational

minimum size limit is 37 inches FL, and state waters closed on September 30, 2016. On for-hire trips, the harvest limit is 4 cobia per vessel per day or 1 cobia per person per day if fewer than four people are on board. Private recreational harvest is only allowed on Monday, Wednesday, and Saturday, with a vessel limit of 2 cobia per day and a bag limit of 1 cobia per person per day if there is only one person on board. Shore-based cobia harvest is allowed seven days a week with a recreational bag limit of 1 fish per person per day. The proclamation is available here: http://portal.ncdenr.org/web/mf/proclamation-ff-25-2016.

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, cobia harvest in the Southern Cobia Management Zone is limited to catch and release only from May 1 through May 31, and is limited to 1 fish per person per day or 3 fish per vessel per day, whichever is lower, from June 1 through April 30. The full language of the bill is available here: https://legiscan.com/SC/text/H4709/2015.

In March 2016, the South Atlantic Council sent a letter to the Atlantic States Marine Fisheries Commission (ASMFC) requesting that the ASMFC consider complementary management measures for cobia. In May 2016, the Interstate Fisheries Management Program Policy Board discussed cobia and the ASMFC has started exploring options for the development of an interstate fishery management plan for cobia. The Policy Board directed the South Atlantic State/Federal Fisheries Management Board (South Atlantic Board) of the ASMFC to develop alternatives for developing a 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 cobia and approved the development of a new Interstate FMP for the Atlantic Migratory Group of Cobia, which would allow for complementary management. At their October 2016, the South Atlantic Board reviewed and approved the Public Information Document for the cobia management plan, which is open to public comment until January 6, 2017, and available online at: http://www.asmfc.org/files/PublicInput/CobiaPID_PublicComment.pdf.

CMP Joint Fishery Management Plan Objectives

The current management objectives in the joint CMP FMP as amended are:

1) The primary objective of this FMP is to stabilize yield at the maximum sustainable yield (MSY), allow recovery of overfished populations, and maintain population levels sufficient to ensure adequate recruitment.
2) To provide a flexible management system for the resource which minimizes regulatory delay while retaining substantial South Atlantic Council and public input in management decisions and which can rapidly adapt to changes in resource abundance, new scientific information, and changes in fishing patterns among user groups or by areas.
3) To provide necessary information for effective management and establish a mandatory reporting system for monitoring catch.
4) To minimize gear and user group conflicts.
5) To distribute the total allowable catch of Atlantic migratory group Spanish mackerel between recreational and commercial user groups based on the catches that occurred during the early to mid-1970s, which is prior to the development of the deep water run-around gillnet sector and when the resource was not overfished.

6) To minimize waste and bycatch in the fishery.
7) To provide appropriate management to address specific migratory groups of king mackerel.
8) To optimize the social and economic benefits of the CMP fisheries.

The action proposed in the amendment specifically help to meet CMP FMP Objectives 2 and 8.

1.5 Which Species and Areas Would Be Affected by the Actions?

Although king mackerel, Spanish mackerel, and cobia are included in the CMP FMP, cobia is the only species addressed in this framework amendment. Cobia is managed as two migratory groups (Atlantic and Gulf of Mexico). The actions in this amendment address management of Atlantic cobia (Georgia to New York) 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 1.5.1**). The southern boundary is based on the approach used in the most recent stock assessment (SEDAR 28, 2013), which incorporated new information about the Gulf and Atlantic stocks through genetic data and tagging studies. Although cobia caught off the east coast of Florida are considered Gulf migratory group cobia (Gulf cobia), and counted toward the Florida east coast zone's allocation of the Gulf ACL, the South Atlantic Council manages harvest of Gulf cobia in the area jurisdictional in the South Atlantic to the boundary between the South Atlantic and Gulf of Mexico Councils. Cobia caught in state and federal waters count towards that area or zone's ACL.

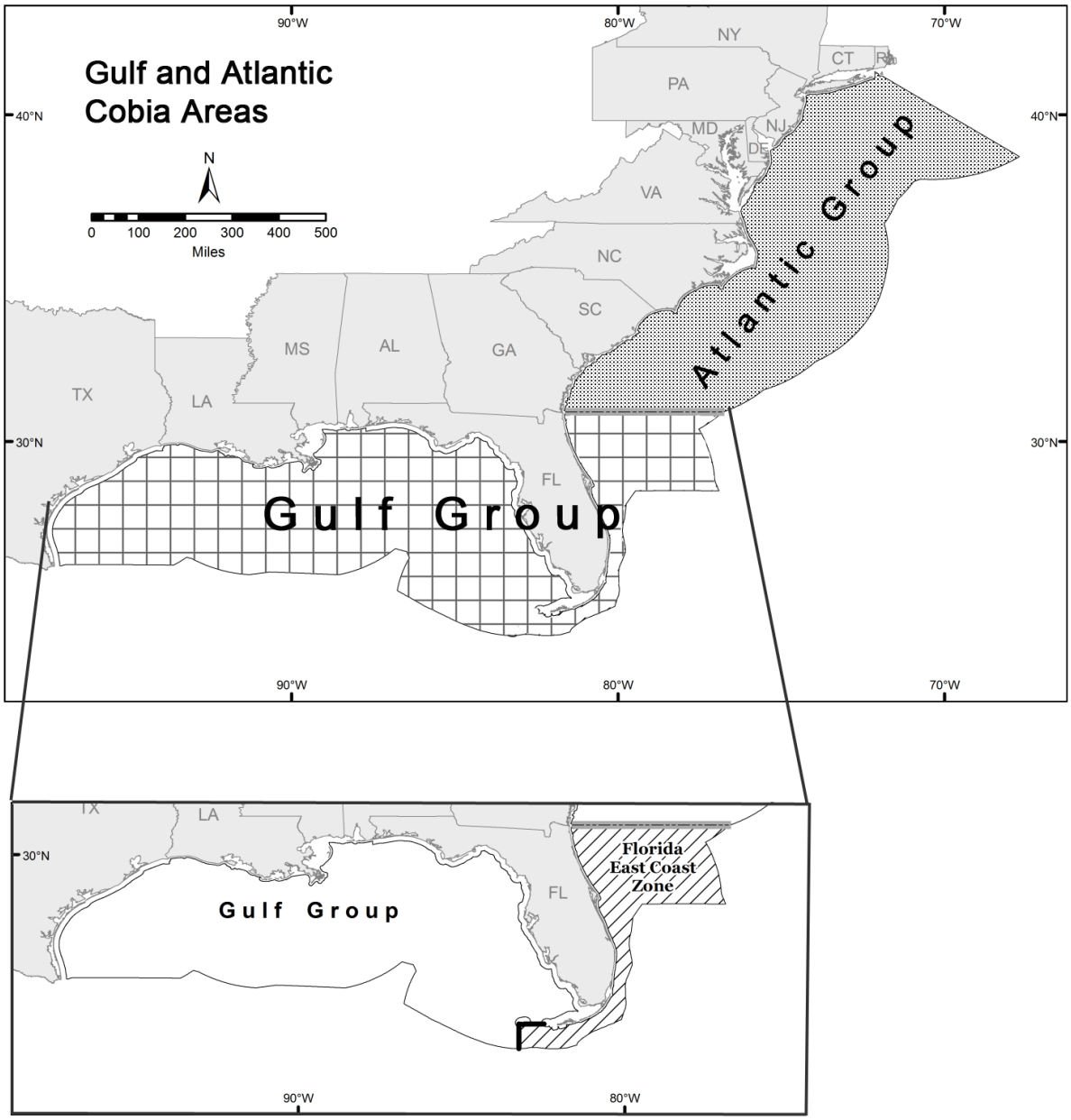

Figure 1.5.1. Boundary between Atlantic and Gulf cobia

Chapter 2. Proposed Action and Alternatives

Action: Modify the recreational fishing year for Atlantic cobia

Alternative 1 (No Action). Do not modify the current recreational fishing year of January 1 through December 31.

Preferred Alternative 2. Modify the recreational fishing year for Atlantic cobia to be May 1 through April 30.

Alternative 3. Modify the recreational fishing year for Atlantic cobia to be June 1 through May 31.

Alternative 4. Modify the recreational fishing year for Atlantic cobia to be April 1 through March 31.

Discussion:

This action includes alternatives to modify the recreational fishing year for Atlantic cobia. The South Atlantic Fishery Management Council (South Atlantic Council) and Gulf of Mexico Fishery Management Council are considering this change because a later start date of the fishing year may result in recreational landings reaching the recreational annual catch limit (ACL) later in the calendar year, and after the primary time of year when cobia is targeted. **Figure 2.1** shows that the peak in recreational landings is around the middle of the year (May-June). This is also when most recreational landings of cobia occur off Georgia, South Carolina, and North Carolina; however, peak landings of cobia off Virginia occur during July-August (**Figure 1.3.1**).

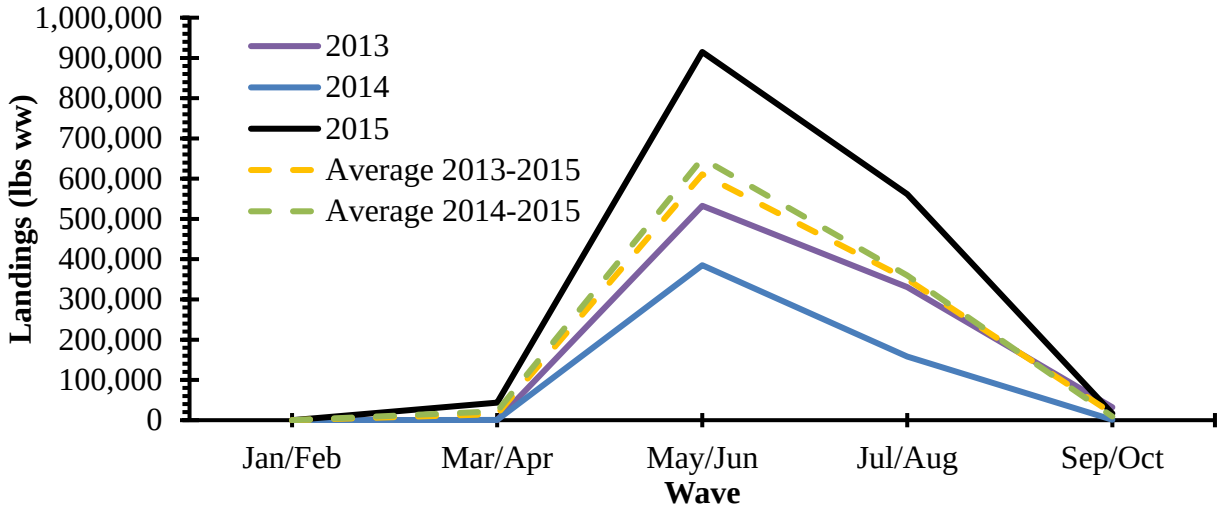

Figure 2.1. Atlantic recreational landings for January-October of 2013, 2014, 2015, average 2013-2015 landings, and average 2014-2015 landings by two-month wave. Source: SEFSC Recreational ACL Dataset

Alternative 1 (No Action) would not change the current recreational fishing year of January 1 through December 31. **Preferred Alternative 2** would change the recreational fishing year to start on May 1 and end on April 30; **Alternative 3** would change the recreational fishing year to start on June 1 and end on May 31; and **Alternative 4** would change the recreational fishing year to April 1 through March 31.

In Framework Amendment 4, the South Atlantic Council recommended a recreational bag limit of 1 fish per person per day and a vessel limit of 6 fish (the current possession limit is 2 fish per person per day). In addition, the South Atlantic Council recommended increasing the recreational minimum size limit to 36 inches fork length (FL). The South Atlantic Council also approved an action to modify the recreational accountability measures (AMs) so that in the event of recreational landings exceeding the recreational ACL, a reduced vessel limit would be applied in the following fishing year. If the vessel limit was not sufficient in mitigating the overage and keeping landings from exceeding the recreational ACL, the season length for the following fishing year would also be reduced. These proposed AMs would not be applied unless the stock ACL was also exceeded.

The proposed harvest limits in Framework Amendment 4 and the change in the fishing year in Amendment 30 are expected to affect the rate of harvest and when recreational landings reach the recreational ACL, and increase the likelihood that recreational harvest will be open during the time of year when cobia fishing is most popular (May through September). The alternatives in this action are analyzed with the Framework Amendment 4 proposed harvest limits (**Tables 2.1** and **2.2**). These estimated dates that the recreational ACL would be met assume that regulations are consistent in state and federal waters. The estimates would likely vary each year depending on a number of factors that could affect the level of recreational effort and catch. Additional information about the analyses is included in **Appendix H**.

These estimates assume that the accountability measures (AM) were not triggered in the previous year and that the fishing season has not been shortened due to the AM for a reduced season length. Specifically, the estimated dates in **Tables 2.1** and **2.1** are provided to show how the fishing years in **Alternatives 1-4** would each interact with the proposed harvest limits, and how the alternatives compare to each other. Because there is no in-season AM to close harvest when the recreational ACL is met or projected to be met, any specification of the length of a fishing season would depend on the previous year's landings and if the AM to reduce the season length was applied.

Table 2.1 includes estimated dates when the recreational landings would reach the recreational ACL under each alternative using landings data from 2013-2015. This period of time includes the 2015 landings, which were much higher than any other year from 2005-2015 (see **Table 1.3.1** for landings). The results of the analysis in **Table 2.1** indicate how the proposed harvest limits would interact with the fishing years under the alternatives during years with high recreational effort and landings of Atlantic cobia.

Table 2.1. Estimated dates when Atlantic cobia recreational landings would meet the recreational ACL under the proposed bag limit, vessel limit and minimum size limit in Framework Amendment 4, for each alternative. This analysis includes landings data from 2013-2015.

Fishing Year	1/person and 36" FL minimum size	6/vessel and 36" FL minimum size
Alternative 1 (No Action) Jan 1 – Dec 31	July 15	July 17
Preferred Alternative 2 May 1 - Apr 30	July 18	July 19
Alternative 3 June 1 - May 31	May 5	May 25
Alternative 4 Apr 1 – Mar 31	July 16	July 18

Under a scenario with high landings, the estimated dates that recreational landings would reach the recreational ACL are around mid-July under **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4**, because landings during 2013-2015 were very high in the months of May and June. If the fishing year started on June 1 (**Alternative 3**), the estimated dates that landings would reach the ACL would be in May.

Table 2.2 includes estimated dates when the recreational landings would reach the recreational ACL under each alternative using landings data from 2005-2014. Landings in this period varied from 352,488 pounds (lbs) to 943,841 lbs, with an average of 706,470 lbs (see **Table 1.3.1**). Even the highest landings between 2005 through 2014 (941,841 lbs) are much lower than the recreational landings in 2015 (1,540,776 lbs). Input during the public hearings for Framework Amendment 4 suggested that the 2015 landings were so much higher than landings in 2005 through 2014, that the 2015 landings should be considered an outlier and that the 2005-2014 period more adequately captured the dynamics of the cobia portion of the coastal migratory pelagics (CMP) fishery. In response to this input, the Council requested that analysis using data from 2005-2014 be incorporated into the amendment. **Table 2.2** provides estimates on how the fishing year in each action would interact with the proposed harvest limits from Framework Amendment 4 in years with landings closer to the average landings of 2005-2014.

Table 2.2. Estimated range of dates when Atlantic cobia recreational landings would meet the recreational ACL under the proposed bag limit, vessel limit and minimum size limit in Framework Amendment 4, for each alternative. This analysis includes landings data from 2005-2014.

Fishing Year	1/person and 36" FL minimum size	6/vessel and 36" FL minimum size
Alternative 1 (No Action) Jan 1 – Dec 31	Oct 23	Oct 11
Preferred Alternative 2 May 1 - Apr 30	March 21	Oct 31
Alternative 3 June 1 - May 31	May 31	May 29
Alternative 4 Apr 1 – Mar 31	Feb 12	Oct 25

Under a scenario with 'average' landings, the estimated dates that recreational landings would reach the recreational ACL are much later than in **Table 2.1**. With the fishing year starting on January 1 (**Alternative 1 (No Action)**), landings are estimated to reach the ACL in October. Under **Preferred Alternative 2**, it is estimated that the date when landings reached the ACL is different by only few days relative to **Alternative 1 (No Action)** if 2015 landings are included, but more different if 2015 landings are removed from the analysis. The combined effects of the fishing year, bag/vessel limit, and minimum size limit would likely vary each year and depend on effort and other factors.

With the proposed bag/vessel limits and minimum size limit from Framework Amendment 4, the June 1 – May 31 fishing year proposed in **Alternative 3** would be expected to result in landings reaching the ACL in May. Setting the start date of the fishing year as April 1 (**Alternative 4)** would result in expected dates of reaching the ACL near the end of October under the proposed limit of 6fish per vessel, and possibly through mid-February under the proposed bag limit of 1/person.

Summary of Effects:

Biological Effects

Under **Alternative 1 (No Action)**, recreational harvest would be open for the peak fishing time period (May/June) for fishing in Georgia, South Carolina, and North Carolina but a closure of harvest due to meeting the ACL could prevent fishermen in Virginia from being able to harvest cobia. In a year with high recreational effort and catch, it is estimated that the recreational ACL would be met in mid-July for **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4,** but landings would not reach the ACL until much later in the fishing year under **Alternative 3**. Beginning the fishing year in June under **Alternative 3** could remove fishing opportunities for those fishing off Georgia, North Carolina, and South Carolina; however, fishermen in Virginia would be expected to be able to fish for cobia before the ACL was met. During years with more average recreational effort and catch (such as 2005-2014), it would be expected that the proposed fishing years in combination with the proposed harvest limits in Framework Amendment 4 would all result in landings reaching the recreational ACL later in the fishing year. With the bag and vessel limits and size limit changes from Framework Amendment 4, landings would reach the recreational ACL about March 21.

The effect of the alternatives would be associated with when the ACL would be expected to be met. The spawning season for cobia along the Atlantic coast is reported to occur from April through July and peak during May and June (Brown-Peterson et al. 2001). SEDAR 28 (2013) states that recent collection efforts from 1990-2012 show that mean values of a female gonadosomatic index based on specimens collected in South Carolina waters were highest in May, and those collected in North Carolina waters peaked in June. It has also been reported peak spawning for cobia occurs in July off Virginia (Joseph et al. 1964, Richards 1967, Mills 2000). Thus, greater biological benefits would be expected from alternatives that result in closures of cobia during the spawning season. The biological effects of **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4** would be very similar since there is little difference in when the ACL would be met. Under all the alternatives including **Alternative 3**, it is expected that the ACL would be met, and AMs are in place to ensure overfishing does not occur.

In a year with high recreational effort and catch, it is estimated that the recreational ACL would be met in mid-July for **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4.** Since a closure could occur during the time of peak spawning off Virginia, these alternatives would be expected to have a greater biological benefit for cobia off Virginia than **Alternative 3**. Under **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4**, the fishing season would be open during May but the fishing season under **Alternative 3** would not begin until June**.** Thus, **Alternative 3** would be expected to have greater biological benefits for cobia off North Carolina than **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4**. None of the alternatives considered under this action would significantly alter the

way in which the cobia portion of the CMP fishery is prosecuted in the U.S. exclusive economic zone.

Economic Effects

Changing the start and end dates of a fishing year does not in and of itself create economic effects except if the entire ACL is taken prior to the end of the fishing year. Shifting the start date to a time that would result in a lower consumer surplus in the recreational sector could result in negative economic effects. The opposite would be true if the start of the fishing year was changed to a period when the fish would be more valuable.

Overall, ensuring that each state has a time period to harvest cobia while the fish are present in large numbers off of their coastal waters would ensure economic benefits are derived from the cobia portion of the CMP fishery and the economic value and impacts are distributed in an equitable manner among coastal communities of the South Atlantic and Mid Atlantic. The majority of cobia effort and harvest occurs after May 1, therefore **Preferred 2** and **Alternative 4** would have minimal impacts on the overall cobia portion of the CMP fishery in comparison to **Alternative 1 (No Action)**. Under **Preferred Alternative 2** and more so under **Alternative 3**, there is potential for negative economic effects to occur, particularly in the states of Georgia, South Carolina, and North Carolina, if harvest is closed for the remainder of a given fishing year, which may coincide with the beginning of the typical cobia season.

Social Effects

Modification to the fishing year and establishing closed season could have negative effects on the recreational sector by limiting fishing opportunities, but could also benefit the recreational sector by allowing the season to be open during peak harvest times during the year, and ensuring access to the cobia resource for different areas in the region when cobia fishing is popular and profitable. In a year with *high recreational effort and catch*, it is possible that there landings would reach the recreational ACL at a similar time of year (mid-July) for **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4,** but landings would not reach the ACL until much later in the fishing year under **Alternative 3**. However, it is likely that the proposed limits from Framework Amendment 4 along with more restrictive measures in state waters is expected to contribute to a slower rate of harvest and reduce the risk that recreational landings again reach the 2015 level. During years with *more average recreational effort and catch* (such as 2005-2014), it would be expected that the proposed fishing years in combination with the proposed harvest limits in Framework Amendment 4 would all result in landings reaching the recreational ACL later in the fishing year. Under all alternatives, landings would not reach the recreational ACL until at least after the popular fishing season (May through August). Because most recreational harvest occurs in May-August, current landings patterns indicate that the estimated dates when recreational landings would reach the recreational ACL are similar under **Alternative 1 (No Action), Preferred Alternative 2**, and **Alternative 4** and would have similar effects on recreational fishermen and associated businesses. **Preferred Alternative 2** would ensure that access to cobia would always occur on May 1 when the fishing year started, which would be beneficial to fishermen in areas where cobia are usually found during the beginning of the summer.

Administrative Effects

The administrative burden would likely be similar under **Alternative 1 (No Action)**, **Preferred Alternative 2, Alternative 3,** and **Alternative 4**. The effect of the different alternatives would be to change the time of year when the recreational sector is closed.

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). On the continental shelf, offshore projecting shoals at Cape Fear, Cape Lookout, and Cape Hatteras, North Carolina, 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, Florida, to Cape Hatteras, North Carolina, 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.

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°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 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).

EFH for Coastal Migratory Pelagics

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 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 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).

3.2 Biological and Ecological Environment

3.2.1 Fish Populations Affected by this Amendment

The actions in this amendment only apply to the Atlantic migratory group cobia component of the coastal migratory pelagics fishery. A description of CMP species biology is provided in Amendments 18, 20A, and 20B to the CMP FMP (GMFMC and SAFMC 2011, 2013, 2014), and is incorporated herein by reference.

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 (Gulf). 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 reefs. It 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.

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. 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 Atlantic Cobia Portion of the Coastal Migratory Pelagics Fishery

Currently, no federal commercial vessel permit is required for harvest or sale of cobia in the Gulf of Mexico or Atlantic. Cobia is considered a limited harvest species, and the possession limit for recreational or commercial harvest of Atlantic cobia from federal waters is 2 fish per prson 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 and subsequent years, the cobia annual catch limit (ACL) is 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 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	1,565,186

Source: Southeast Fisheries Science Center (SEFSC) ACL Landings Dataset, 2015 Commercial Quota Monitoring Program. Landings are in reported weight (a combination of gutted weight and whole weight).

Table 3.2.2.2. Recreational landings (lbs ww) of cobia from state and Federal waters, Georgia through New York during 2013-2015.

Year	GA	SC	NC	VA	Total
2013	29,224	19,130	492,969	354,463	895,786
2014	20,642	31,927	277,489	214,427	544,485
2015	68,447	125,365	642,906	728,468	1,565,186

Source: Southeast Fisheries Science Center The MRIP-estimated recreational landings of Atlantic cobia in states north of Virginia from 2006-2015 are minimal, with only small numbers reported in Delaware and New Jersey every few years.

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

3.2.4 Bycatch

Cobia is normally an incidentally caught species while fishermen are fishing for other species. **Table 3.2.4.1** lists the top three species caught on 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 Bycatch Practicability Analysis in **Appendix D** describes bycatch in the CMP fishery in more detail.

3.2.5 Protected Species

The actions discussed in this amendment may affect the following sea turtle species listed under the Endangered Species Act (ESA): the endangered leatherback, the endangered hawksbill, the endangered Kemp's ridley, the threatened Northwest Atlantic distinct population segment (DPS) of loggerhead, and the threatened North Atlantic and South Atlantic DPSs of green turtles.

The South Atlantic and Carolina DPS of the threatened Atlantic sturgeon, and the endangered smalltooth sawfish, also occur within the area encompassed by the CMP FMP. Additionally, two threatened *Acropora* coral species, elkhorn and staghorn, can be found in areas off Florida.

Species of large whales listed under 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.

Aside from the aforementioned protected species, portions of designated critical habitat for *Acropora* corals and the North Atlantic right whale also occur within areas encompassed by the alternatives in this amendment.

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), Gulf sturgeon, or elkhorn and staghorn corals. NMFS also determined that the 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 the 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 Gulf of Mexico 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 overlap with the CMP fisheries in certain regions of the action area and these species have the potential to be been incidentally captured in the CMP fisheries.

An incidental take statement for sea turtles, smalltooth sawfish, and Atlantic sturgeon was issued in the 2015 Biological Opinion 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 April 6, 2016, NMFS published a final rule (81FR 20057) listing 11 DPSs of green sea turtles. The North Atlantic and South Atlantic DPSs of green sea turtles are listed as threatened, and are the only DPSs whose individuals can be expected to be encountered in the action areaIn addition, on June 29, 2016, NMFS published a final rule (81 FR 42268) to list Nassau grouper as threatened under the ESA, effective July 29, 2016. Currently the Protected Resources Division is evaluating additional actions, such as establishing critical habitat or application of the 4(d) rule under the ESA. Reinitiation of Section 7 consultation on the CMP FMP may be needed to address the newly listed species and DPSs.

The Gulf and South Atlantic CMP hook-and-line fishery is classified as a Category III fishery in the 2016 MMPA List of Fisheries (81 FR 20550). A Category III fishery is defined as 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 a Category II fishery in the 2016 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

This section only includes a description of the economic environment of the recreational sector of Atlantic cobia. Information about the commercial sector is available in Framework Amendment 4.

Recreational Sector

The following focuses on recreational landings and effort (angler trips) for Atlantic group cobia. The major sources of data summarized in this description are the Recreational ACL Dataset (SEFSC MRIPACLspec_rec81_15wv6_17Mar16_w14and15LACreel) for landings and the NOAA fisheries website for accessing recreational data (http://www.st.nmfs.noaa.gov /recreational-fisheries/access-data/run-a-data-query/index) for effort. Additional information on the recreational sector of the CMP fishery contained in previous amendments is incorporated herein by reference [see Amendments 18 and 20B].

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.

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 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, 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. 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 Northeast 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 amendment.

Harvest

On average, from 2010 through 2015, the recreational sector landed approximately 793,000 lbs ww of Atlantic cobia (**Table 3.3.1**). North Carolina has been the dominant state in recreational landings of cobia, followed by the Mid-Atlantic states, South Carolina, and Georgia. Virginia (not shown in the table) accounted for most of the recreational landings in the Mid-Atlantic. 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.

The private/rental mode has been by far the most dominant fishing mode for harvesting cobia (**Table 3.3.2**). Headboats have provided the lowest contribution to recreational landings of cobia. Information reported in **Table 3.3.2** 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) since about 2007 [South Carolina Cobia Management Needs (PowerPoint Presentation), SC DNR, 2016].

Table 3.3.1. Annual recreational landings (lbs ww) of Atlantic cobia, by state, 2010-2015.

	Georgia	South Carolina	North Carolina	Mid-Atlantic	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 3.3.2. Annual recreational landings (lbs ww) of Atlantic cobia, by fishing mode, 2010-2015.

	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 3.3.1**). 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.

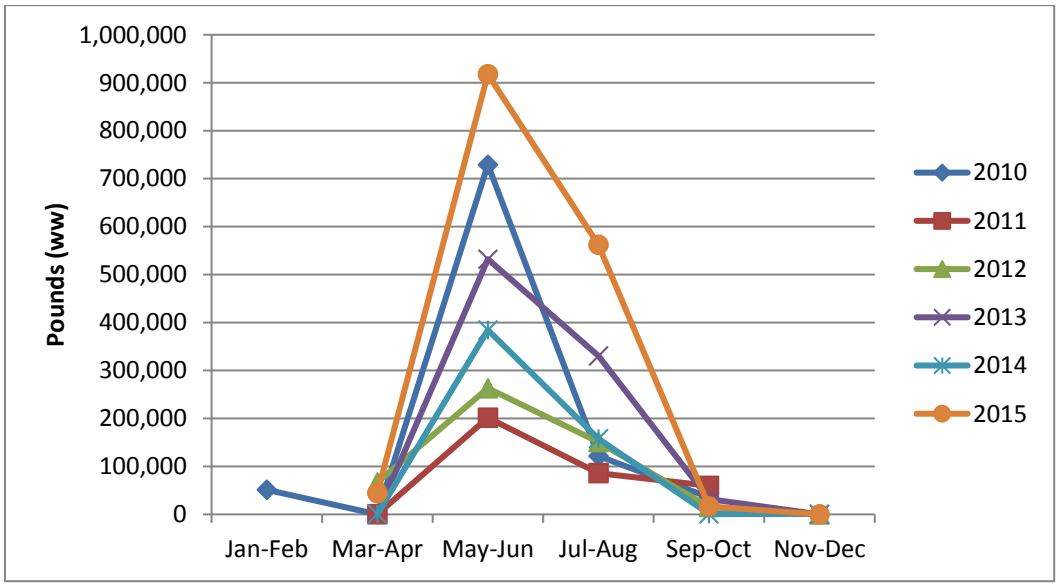

Figure 3.3.1. Distribution of Atlantic cobia recreational harvest, by wave, 2010-2015. 2015 data are preliminary.
Source: SEFSC MRIPACLspec_rec81_15wv6_17Mar16.

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), among other measures, 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 3.3.3** for target trips and **Table 3.3.4** 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. 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-data-query/queries/index.

Cobia, like dolphin, 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 3.3.3**). 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 3.3.4**). 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 most dominant fishing mode both in target and catch effort.

Table 3.3.3. Target trips for Atlantic cobia, by fishing mode and state, 2010-2015.

Year	Charter				
	Georgia	S. Carolina	N. Carolina	Mid-Atlantic	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 3.3.4. Catch trips for Atlantic cobia, by fishing mode and state, 2010-2015.

Year	Charter				
	Georgia	South Car.	North Car.	Mid-Atlantic	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 3.3.5** 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.

Table 3.3.5. South Atlantic headboat angler days, by state, 2010-2015.

	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).

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, fifth, and sixth king mackerel kept on a trip are approximately $100, $67, $49, $39, and $32, respectively. For dolphin, the values for the second, third, fourth, fifth, and sixth kept fish are $15.19, $10.13, $7.46, $5.88, and $4.85, respectively (Carter and Liese 2012; values updated to 2014 dollars).

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 is $153.45 (2014 dollars) per charter angler trip (Carter and Liese 2012). The estimated NOR value per headboat angler trip is $52.97 (2014 dollars) (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR per cobia target trip are not available.

Recreational Sector Business Activity

Estimates of the business activity (economic impacts) associated with recreational angling for cobia were derived using average impact coefficients for recreational angling for all species, as derived from an add-on survey to MRIP to collect economic expenditure information, as described and utilized in NMFS (2011). Estimates of these coefficients for target or catch behavior for individual species are not available. Estimates of the average trip expenditures by recreational anglers are also provided in NMFS (2011) and are incorporated herein by reference.

Business activity for the recreational sector is characterized in the form of jobs, output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods

and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income impacts (commercial sector) and value-added impacts (recreational sector) are not equivalent, though similarity in the magnitude of multipliers generated and used for the two metrics may result in roughly equivalent values. Similar to income impacts, value-added impacts should not be added to output (sales) impacts because this would result in double counting.

Estimates of the average cobia effort (2010-2015) and associated business activity (2014 dollars) are provided in **Table 3.3.6** for South Atlantic states and Virginia. Cobia target trip is selected as the measure of cobia effort. Target trips for cobia in the Mid-Atlantic, other than Virginia, are very negligible.

The estimates of the business activity associated with recreational trips for cobia are only available at the state level. Addition of the state-level estimates to produce a regional or national total will underestimate the actual amount of total business activity because summing the state estimates will not capture business activity that leaks outside the individual states. A state estimate only reflects activities that occur within that state and not related activity that occurs in another state. For example, if a good is produced in South Carolina but sold in North Carolina, the measure of business activity in North Carolina associated with the sale in North Carolina does not include the production process in South Carolina. Assessment of business activity at the national (or regional) level would capture activity in both states and include all activity except that which leaks into other nations.

It is noted that these estimates do not, and should not be expected to, represent the total business activity associated with a specific recreational harvest sector in a given state or in total. For example, these results do not state, or should be interpreted to imply, that there are only 11 jobs associated with the charter sector in South Carolina. Instead, as previously stated, these results relate only to the business activity associated with target trips for cobia. Few businesses or jobs would be expected to be devoted solely to cobia fishing, but there may be some businesses that have significant dependence and reliance on the cobia fishery. The existence of these businesses and jobs, in total, is supported by the fishing for, and expenditures on, the variety of marine species available to anglers throughout the year. In addition, expenditures for durable goods, such as boats, rods, reels, that were used for harvesting cobia are not included in the economic impact estimation.

Table 3.3.6. Summary of cobia target trips (2010-2015 average) and associated business activity, South Atlantic states. Output and value added impacts are not additive. Dollar values are in thousands and in 2014 dollars.

	Georgia	South Carolina	North Carolina	Virginia*
	Charter			
Target Trips	162	1,676	1,951	730
Output/Sales Impact	$71	$988	$994	$85
Value Added Impact	$40	$570	$567	$144
Jobs Impact	1	11	10	1

	Private/Rental			
Target Trips	6,295	25,291	43,122	55,558
Output/Sales Impact	$285	$1,162	$3,319	$2,145
Value Added Impact	$178	$686	$2,017	$3,408
Jobs Impact	3	14	32	34
	Shore			
Target Trips	0	1,055	15,412	11,826
Output/Sales Impact	$0	$140	$1,795	$337
Value Added Impact	$0	$83	$1,056	$535
Jobs	0	2	19	6
	All Modes			
Target Trips	6,457	28,022	60,485	68,114
Output/Sales Impact	$356	$2,290	$6,108	$2,567
Value Added Impact	$218	$1,339	$3,641	$4,088
Jobs Impact	4	26	61	41

*Headboat target trips in Virginia are negligible.
Source: Effort data from the MRIP, economic impact results calculated by NMFS SERO using the model developed for NMFS (2011b).

Estimates of the business activity (impacts) associated with headboat effort for cobia in the Southeast are not available. The headboat sector in the Southeast is not covered in the MRFSS/MRIP, so estimation of the appropriate impact coefficients for the headboat sector has not been conducted. While appropriate impact coefficients are available for the charter sector, potential differences in certain factors, such as the for-hire fee, rates of tourist versus local participation, and expenditure patterns, may result in significant differences in the business impacts of the headboat sector relative to the charter sector.

3.4 Social Environment

This section provides information on the fishermen, communities and businesses that may be affected by the proposed actions. 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 [3] and for Mid-Atlantic communities, see the Northeast Fisheries Science Center Community Snapshots.[4]

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.

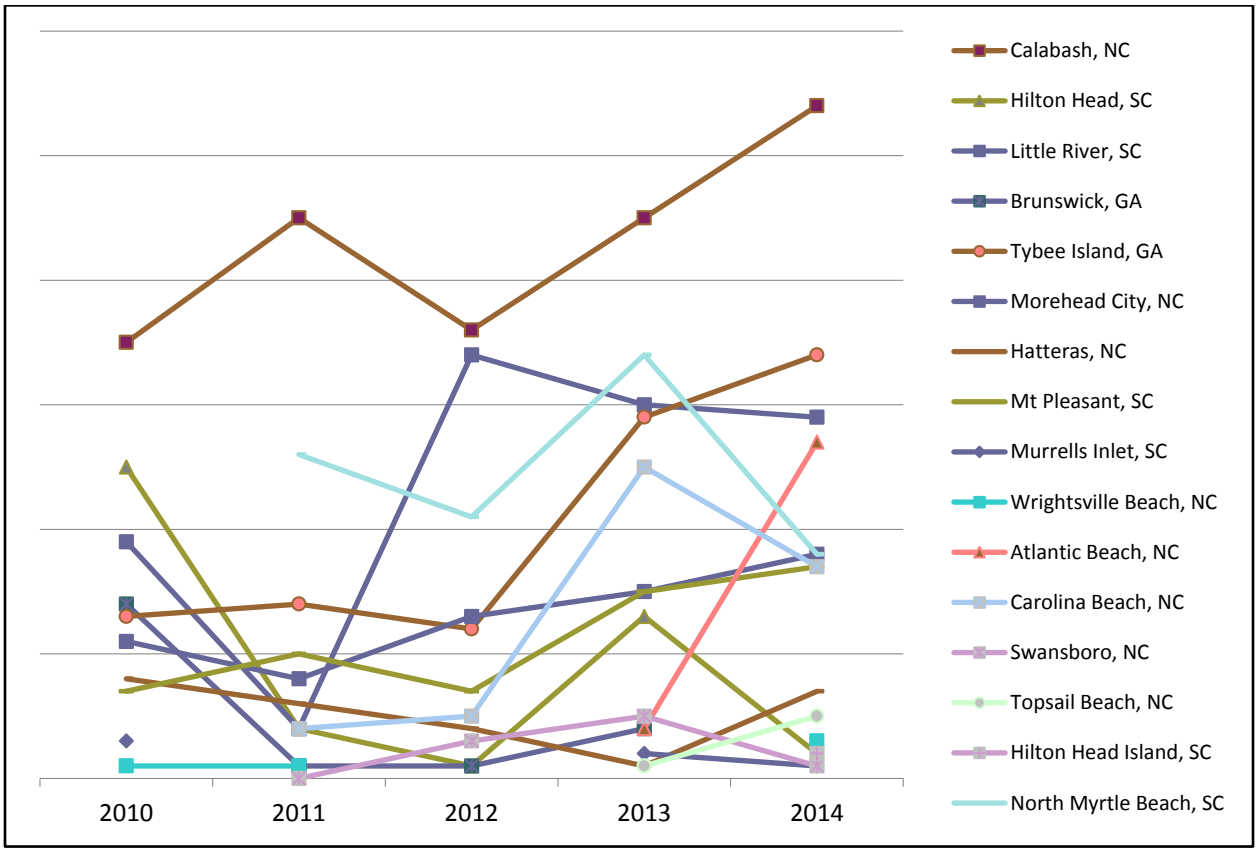

Figure 3.4.1. Cobia Headboat Landing Trends for South Atlantic Fishing Communities. Source: NMFS Southeast Region Headboat Survey (SRHS).

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

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 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.

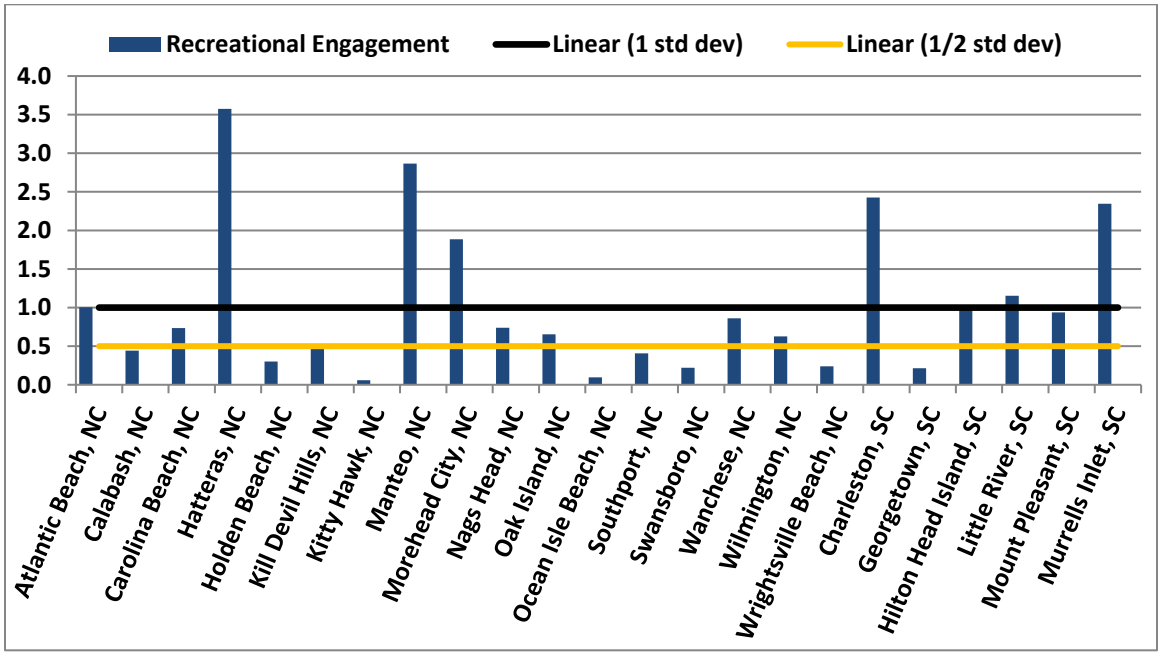

Figure 3.4.2. Recreational Engagement for Cobia Atlantic Group Fishing Communities. Source: SERO Community Social Vulnerability Indicators 2016.

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.

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 3.4.3** and **3.4.4**. No community exceeds both thresholds for all three vulnerabilities in **Figure 3.4.3**. 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.

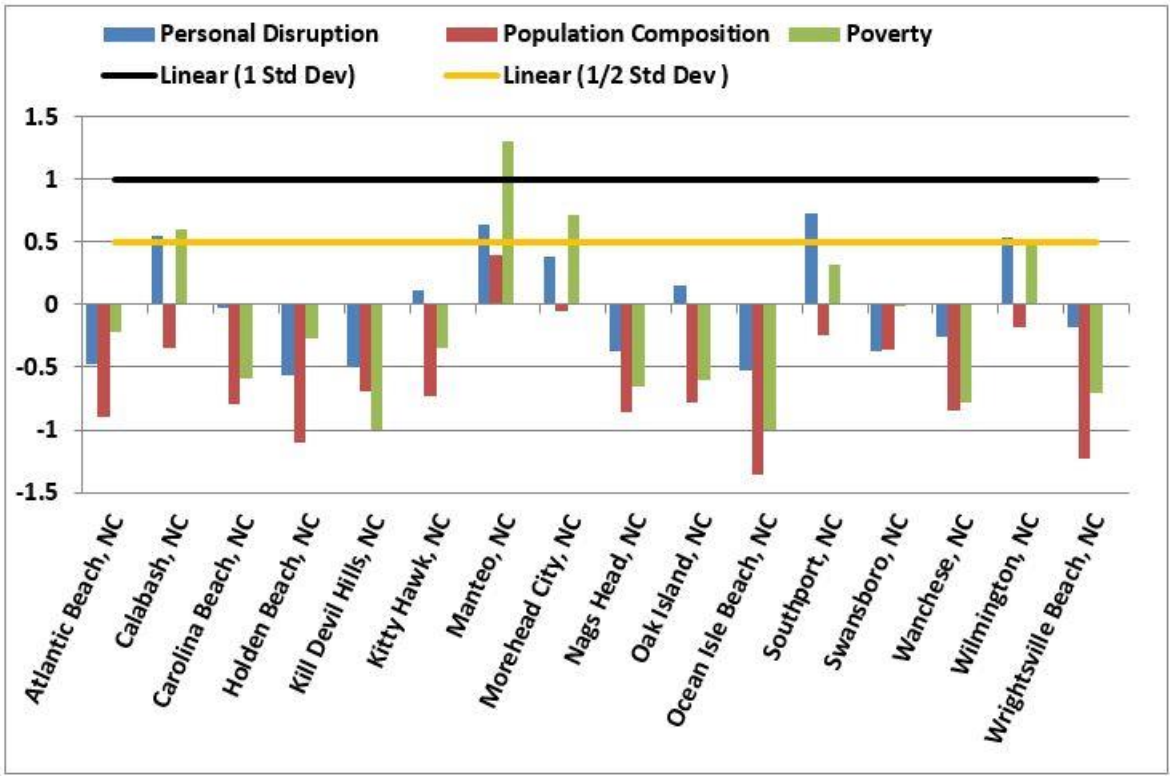

Figure 3.4.3. Social Vulnerability Indices for Atlantic Group Fishing Communities.
Source: SERO Community Social Vulnerability Indicators 2016.

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.

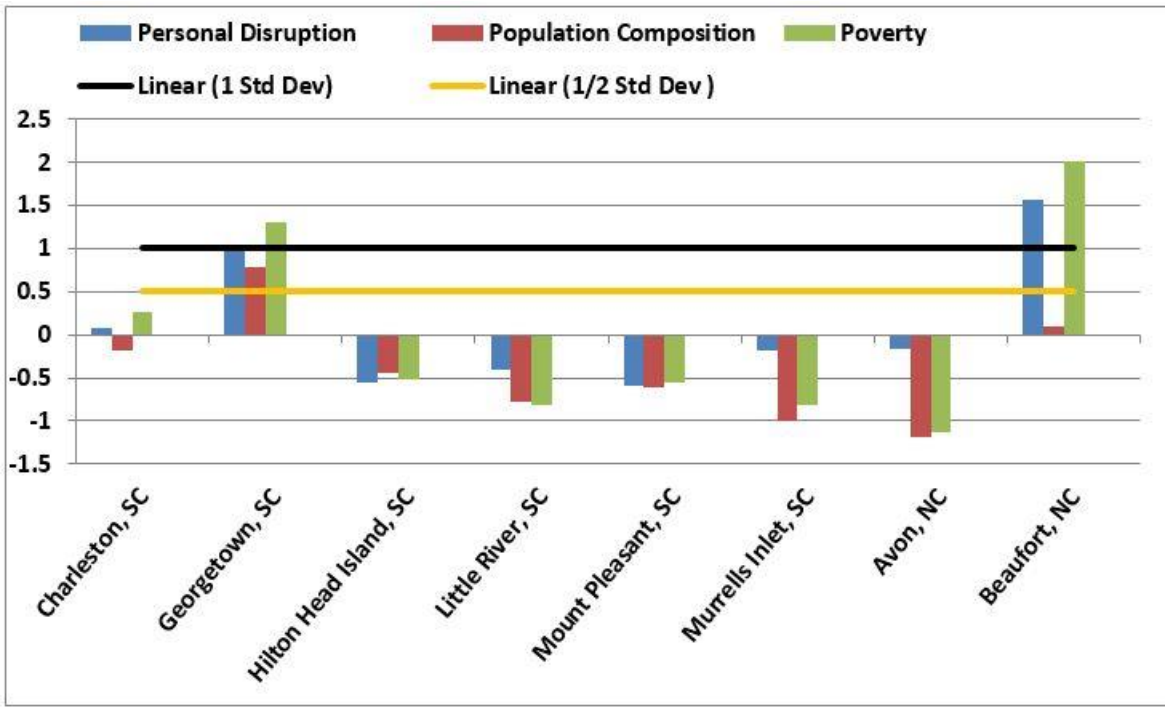

Figure 3.4.4. Social Vulnerability Indices for Atlantic Group Fishing Communities, cont.
Source:
SERO Community Social Vulnerability Indicators 2016.

For the Mid-Atlantic communities presented in **Figure 3.4.5**, 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.

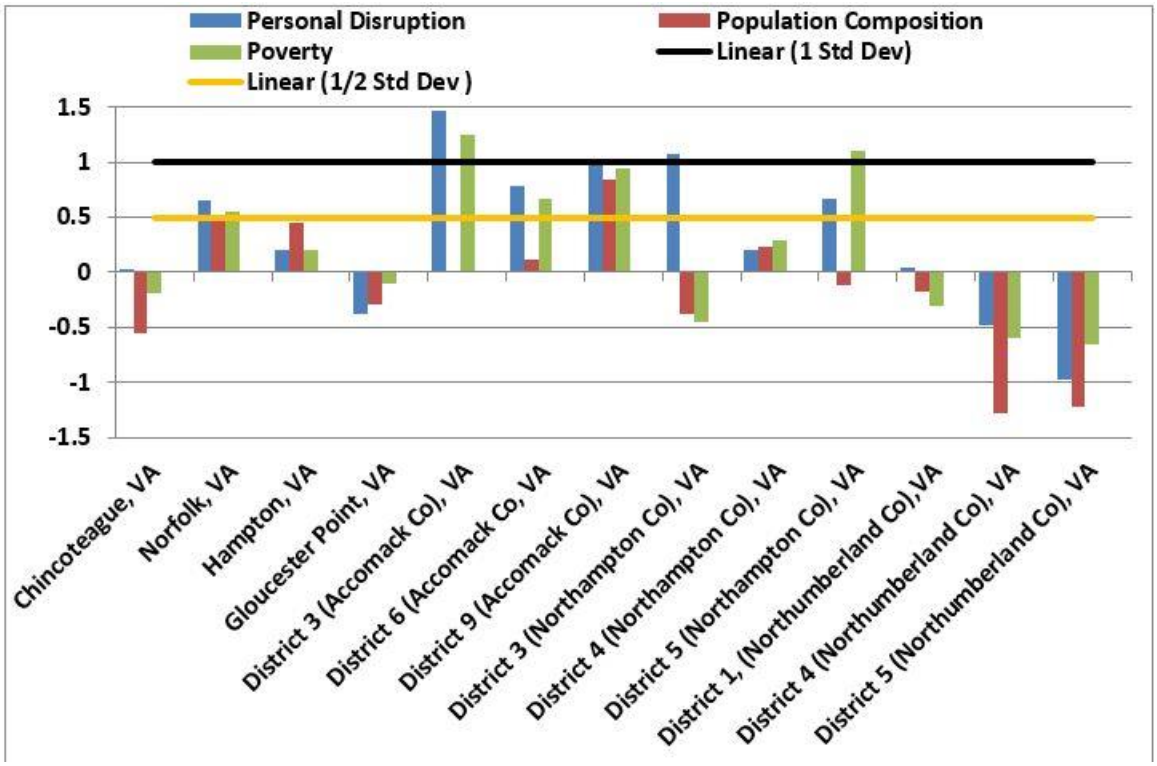

Figure 3.4.5. Social Vulnerability Indices for Mid-Atlantic Group Fishing Communities
Source: SERO Community Social Vulnerability Indicators 2016.

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 Fishery Conservation and Management Act (Magnuson-Stevens Act; 16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The 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 SSC to review data and science used in assessments and fishery management plans/amendments. 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.

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 Quality http://http://deq.nc.gov/
- 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: Modify the fishing year for Atlantic cobia

Alternative 1 (No Action). Do not modify the current fishing year of January 1 through December 31.

Preferred Alternative 2. Modify the fishing year for Atlantic cobia to be May 1 through April 30.

Alternative 3. Modify the fishing year for Atlantic cobia to be June 1 through May 31.

Alternative 4. Modify the fishing year for Atlantic cobia to be April 1 through March 31.

4.1.1 Biological Effects

The preferred alternatives in Framework Amendment 4 to the CMP FMP, approved by the South Atlantic Fishery Management Council (South Atlantic Council) in September 2016, includes a recreational bag limit of 1 fish per person per day and a vessel limit of 6 fish (the current possession limit is 2 fish per person per day). In addition, the South Atlantic Council recommended increasing the recreational minimum size limit to 36 inches fork length (FL). Framework Amendment 4 also proposes changes to the accountability measures (AMs) The AM, as proposed in the Cobia Framework 4 states that the if the annual catch limit (ACL) is exceeded during the fishing year, the Regional Administrator (RA) shall publish a notice to reduce the length of the **following fishing season** to ensure that recreational landings meet the recreational annual catch target (ACT) but do not exceed the recreational ACL, based on the recreational landings in the previous year. There is also a proposed action that would allow the RA to reduce the vessel limit during the following fishing year if the ACL is exceeded. Because the proposed harvest limits and the fishing year are expected to affect the rate of harvest and when recreational landings reach the recreational annual catch limit (ACL), the alternatives in this action are analyzed with the Framework Amendment 4 proposed harvest limits (see **Tables 4.1** and **4.2**, discussed below).

Based on the recent landings history the one cobia per person is the more restrictive management regulation. This is because there are more trips that exceed the one cobia per person regulation then there are trips that exceed the 6 cobia per vessel regulation. Trips that exceeded both the 1 cobia per person and 6 cobia per vessel are rare. In fact, from 2013-2015 there was only one recreational trip that exceeded both the one cobia per person and the six cobia per vessel regulation. This is less than 1% of the trips (1 out of 342 trips). The combined effect of both the per person and per vessel limits is small. The more restrictive management regulation is the one cobia per person limit, so when considering both the per person and per

vessel regulation the closure date will mostly likely align with the one cobia per person restriction.

The estimated dates that the recreational ACL would be met assume that regulations are consistent in state and federal waters. The rate of recreational harvest would likely vary each year depending on a number of factors that could affect the level of recreational effort and catch. Additional information about the analyses is included in **Appendix H**.

This also assumes that the accountability measure (AM) were not triggered in the previous year and that the fishing season has not been shortened due to the AM. The AM, as proposed in the Cobia Framework 4 states that the if the stock annual catch limit (ACL) is exceeded during the fishing year, the Regional Administrator (RA) shall publish a notice to reduce the length of the **following fishing season** to ensure that recreational landings meet the recreational annual catch target (ACT) but do not exceed the recreational ACL, based on the recreational landings in the previous year. The AM also proposes to allow the RA to reduce the vessel limit during the following fishing year if the ACL is exceeded.

Under **Alternative 1 (No Action)**, the fishing year would remain aligned with the calendar year. **Preferred Alternative 2** would implement a fishing year to start May 1, which corresponds with peak landings in May/June (**Figure 4.1**). **Alternative 3** would modify the fishing year to be June 1-May 31. **Alternative 4** would modify the fishing year to start April 1 and run through March 31.

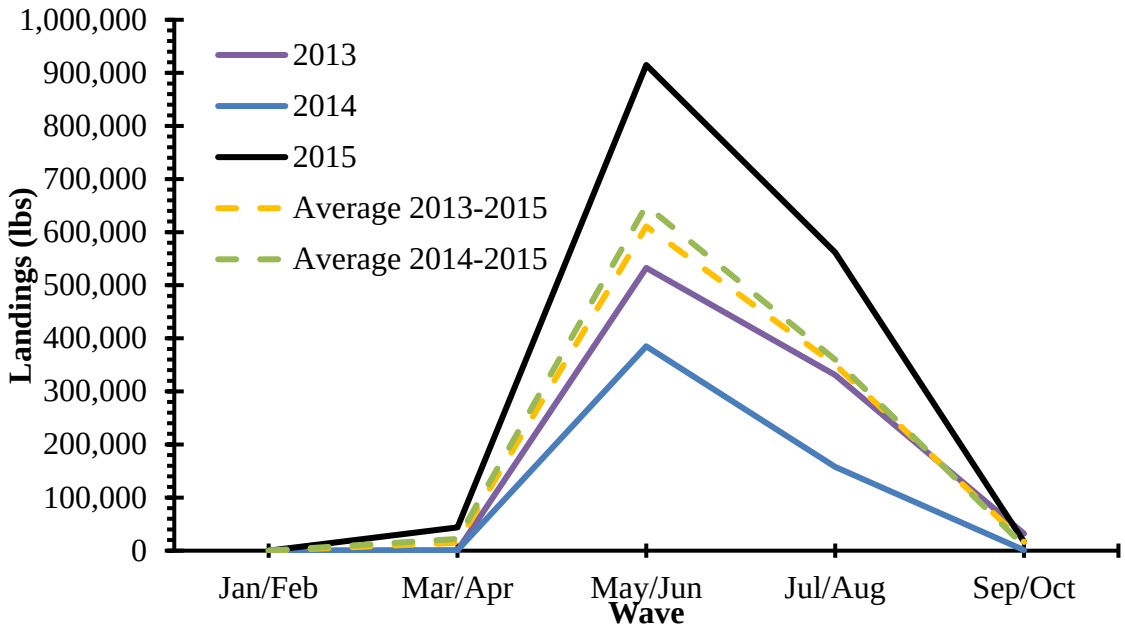

Figure 4.1. Atlantic recreational landings for January-October of 2013, 2014, 2015, average 2013-2015 landings, and average 2014-2015 landings by two-month wave. Source: SEFSC Recreational ACL Dataset

Table 4.1 includes estimated dates when the recreational landings would reach the recreational ACL under each alternative using landings data from 2013-2015. This period

includes the 2015 landings, which were much higher than any other year from 2005-2015 (see **Table 1.3.1** for landings). Preliminary 2016 landings show that the landings were similar to those of 2015. The results of the analysis in **Table 4.1** indicate how the proposed harvest limits would interact with the fishing years under the alternatives during a year or years with high recreational effort and landings of Atlantic cobia. During a period of high landings, **Alternative 1**, **Preferred Alternative 2** and **Alternative 4** predict meeting the ACL around mid-July. Under these alternatives, the fishery would be open during the peak fishing months of May and June but would potentially be closed by the time the fishery was peaking off Virginia. **Alternative 3** would start the fishing year on June 1st but would likely reach the ACL in early May. Under this alternative, the fishery would be closed for much of May, which is when the peak of harvest usually occurs. This would result in positive biological benefits to the stock, especially the spawning stock.

Table 4.1. Estimated dates when Atlantic cobia recreational landings would meet the recreational ACL under the proposed bag limit, vessel limit and minimum size limit in Framework Amendment 4, for each alternative. This analysis includes landings data from 2013-2015.

Fishing Year	1/person and 36" FL minimum size	6/vessel and 36" FL minimum size
Alternative 1 (No Action) Jan 1 – Dec 31	July 15	July 17
Preferred Alternative 2 May 1 - Apr 30	July 19	July 18
Alternative 3 June 1 - May 31	May 5	May 25
Alternative 4 Apr 1 – Mar 31	July 16	July 18

Table 4.2 includes estimated dates when the recreational landings would reach the recreational ACL under each alternative using landings data from 2005-2014. Landings in this period varied from 352,488 pounds (lbs) to 943,841 lbs, with an average of 706,470 lbs (see **Table 1.3.1**). Even the highest landings between 2005 through 2014 (941,841 lbs) are much lower than the recreational landings in 2015 (1,540,776 lbs). Input during the public hearings for Framework Amendment 4 suggested that the 2015 landings were so much higher than landings in 2005 through 2014, and that the 2005-2014 period more adequately captured the dynamics of the fishery. However, preliminary 2016 landings show landings more similar to those of 2015. **Table 4.2** provides estimates on how the fishing year in each action would interact with the proposed harvest limits from Framework Amendment 4 in years with landings closer to the average landings of 2005-2014.

Table 4.2. Estimated range of dates when Atlantic cobia recreational landings would meet the recreational ACL under the proposed bag limit, vessel limit and minimum size limit in Framework Amendment 4, for each alternative. This analysis includes landings data from 2005-2014.

Fishing Year	1/person and 36" FL minimum size	6/vessel and 36" FL minimum size
Alternative 1 (No Action) Jan 1 – Dec 31	Oct 23	Oct 11
Preferred Alternative 2 May 1 - Apr 30	March 21	Oct 31
Alternative 3 June 1 - May 31	May 31	May 29
Alternative 4 Apr 1 – Mar 31	Feb 12	Oct 25

Under **Alternative 1 (No Action)**, and an average landings scenario (as seen in 2005-2014), recreational landings are predicted to reach the ACL between October 11 and October 23. Since the fishing peaks in May/June, under **Alternative 1 (No Action)**, recreational harvest would be would be open for the peak fishing time period in Georgia, South Carolina, and North Carolina but a recreational closure could occur before fishermen in Virginia have a chance to target cobia in July/August.

Preferred Alternative 2 would modify the fishing year for cobia to be from May 1 - April 30. This is to ensure that the season is open during the peak landings period of May/June (**Figure 4.1**). With the incorporation of the management measures approved by the South Atlantic Council in Framework Amendment 4, the ACL is predicted to be reached between July 15-July 17, under a high landings scenario or between March 21 and October 31 under an average landings scenario, which is very similar to **Alternative 1 (No Action)** and **Alternative 4**. During a high landings year, this would only increase the fishing year by about three days from **Alternative 1 (No Action)** largely because the pulse nature of cobia harvest. Under an average landings scenario, recreational harvest would be extended to March 21 with a recreational bag limit and October 31 with the vessel limit. This is because, as shown in **Figure 4.1**, the bulk of the landings occur during May/June and the landings from January-April are minimal.

Alternative 3 would modify the fishing year for cobia to be from June 1-May 31. **Table 4.1** and **Table 4.2** estimates the date the ACL would be reached, based on high landings (2013-2015) and average landings (2005-2014). Under both the average and high landings scenario, the ACL is predicted to be reached in May. This alternative would ensure that cobia would be open during the early part of the year; however, fishing opportunities for those off Georgia, South Carolina, and North Carolina could be reduced since the peak in landings off those states is

during May and June. **Alternative 3** would help ensure that recreational harvest for cobia is open during July and August, when harvest peaks off Virginia.

Alternative 4 would modify the fishing year for cobia to be from April 1-March 31. Under a high landings scenario (**Table 4.1**), this alternative would provide a very similar closure date (July 16-July 18) as **Alternative 1 (No Action)** and **Preferred Alternative 2** because the bulk of the landings occur in May, just after the proposed start of the fishing year. Under an average landings scenario, recreational harvest would be extended to February 12 with a recreational bag limit and October 25 with the vessel limit.

The effect of the alternatives would be associated with when the ACL would be expected to be met. The spawning season for cobia along the Atlantic coast is reported to occur from April through July and peak during May and June (Brown-Peterson et al. 2001). SEDAR 28 (2013) shows that peak spawning occurs off South Carolina in May, and off North Carolina in June. It has also been reported peak spawning for cobia occurs in July off Virginia (Joseph et al. 1964, Richards 1967, Mills 2000). Thus, greater biological benefits would be expected from alternatives that result in closures of cobia during the spawning season.

Under a period of high landings, the biological effects of **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4** would be very similar since there is little difference in when the ACL would be met. Under all the alternatives including **Alternative 3**, it is expected that the ACL would be met, and AMs are in place to ensure overfishing does not occur. In a year with high recreational effort and catch, it is estimated that the recreational ACL would be met in mid-July for **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4.** Since a closure could occur during the time of peak spawning off Virginia, these alternatives would be expected to have a greater biological benefit for cobia off Virginia than **Alternative 3**. Under **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4**, the fishing season would be open during May but the fishing season under **Alternative 3** would not begin until June**.** Thus, **Alternative 3** would be expected to have greater biological benefits for cobia off North Carolina than **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4**.

None of the alternatives considered under this action would significantly alter the way in which the cobia portion of the coastal migratory pelagics (CMP) fishery is prosecuted in the U.S. exclusive economic zone. No significant adverse impacts on endangered or threatened species are anticipated because of this action; nor are any adverse impacts on essential fish habitats or habitat areas of particular concern including corals, sea grasses, or other habitat types expected because of this action. None of the alternatives under this action would be expected to result in an increase in bycatch of any species because it does not alter the way the fishery is prosecuted.

4.1.2 Economic Effects

Changing the start and end dates of a fishing year does not in and of itself create economic effects except if the entire ACL is taken prior to the end of the fishing year and cobia harvest is closed. In this situation, shifting the start date to a time that would result in a lower consumer surplus (CS) in the recreational sector or reduce the number of for-hire trips and thus Net Operating Revenue (NOR) of fishing charter businesses would result in negative economic

effects. The opposite would be true if the start of the fishing year was changed to a period when the fish would be more valuable and more economic benefits could be derived from the fishery.

Overall, ensuring that each state has a time period to harvest cobia while the fish are present in large numbers off of their coastal waters would ensure economic benefits are derived for both anglers and for-hire operators from the cobia portion of the CMP fishery and the economic value and impacts are distributed in an equitable manner among coastal communities of the South Atlantic and Mid Atlantic. While some economic benefits for the recreational sector would be accrued from catch and release fishing during a time when harvest is closed, overall recreational effort by both private and for-hire anglers would be higher when harvest is allowed. This increased effort would lead to more interactions with cobia and more for-hire trips taken for cobia, thus contributing to higher CS, NOR, and economic impacts that may be attributed to the species.

The majority of cobia effort and harvest occurs after May 1, therefore, **Preferred Alternative2** and **Alternative 4** may have minor effects on the overall cobia fishery in comparison to **Alternative 1 (No Action).** All three alternatives would presumably allow the harvest of cobia in South and Mid-Atlantic states while the fish are typically present in large numbers off of their coastal waters**.** Under **Preferred Alternative 2** and more so under **Alternative 3**, there is potential for some negative effects to occur, particularly in the states of Georgia, South Carolina, and North Carolina, if harvest is closed for the months of April and/or May, which are the beginning of the typical South Atlantic cobia fishing season. If such a closure were to last until June 1, as specified under **Alternative 3,** anglers in these states could lose a large portion of their opportunity to harvest cobia, thereby, reducing CS in the cobia fishery and creating negative economic effects for the for-hire sector, other fishing related business, and coastal communities.

The estimated average number of targeted charter angler trips (primary or secondary target) for Atlantic cobia per day by wave as well as the estimated net operating revenue (NOR) generated from these trips is shown in **Table 4.3** using data from 2013-2015 and in **Table 4.4** using data from 2005-2014**.** NOR estimates were based on a value of $153.45 (2014 $) per trip as found in **Section 3.3** and paired with the average targeted charter angler trips for Atlantic cobia estimated using MRIP data. Average trips per day were estimated by dividing the total average targeted charter angler trips for Atlantic cobia for the timeframes of 2013-2015 and 2005-2014 in 2-month waves by the number of days in the wave. The average number of trips per day in a wave were used to estimate the number of targeted charter angler trips and associated NOR that may be effected by the earliest of the seasonal closure dates for Atlantic cobia that are presented for each alternative in **Table 4.1.** and **Table 4.2** (**Table 4.5** and **Table 4.6).** The timeframe from 2013-2015 tended to exhibit higher levels of directed effort for cobia on charter trips, therefore using this time period leads to earlier projected dates when the fishery would meet the ACL and thus a larger number of trips and subsequent NOR that may be effected compared to the same analysis using data from 2005-2014.

Under the alternatives in this action, between 0 and 1,409 charter angler trips representing $0 to $216,141 in NOR are estimated to be effected once the recreational ACL has been met. While

the estimated effects of each alternative on the for-hire sector are of a lower magnitude than those that would occur in the entire recreational sector, it is assumed that these effects are proportionally representative. Based this assumption and the estimates provided in **Table 4.5** and **4.6**, **Alternative 3** would have the greatest potential for negative economic effects, followed distantly by **Alternative 1 (No Action)**, **Alternative 4**, and **Preferred Alternative 2**.

Table 4.3 Average estimated daily target charter angler trips for Atlantic cobia and net operating revenue (NOR; 2014 $) by wave, 2013-2015.

Wave	Average Trips Per Day	Average NOR Per Day
May/June	54.17	$8,313
July/August	15.34	$2,355
September/October	0.13	$20

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

Table 4.4 Average estimated daily target charter angler trips for Atlantic cobia and net operating revenue (NOR; 2014 $) by wave, 2005-2014.

Wave	Average Trips per day	Average NOR per day
May/June	38.58	$5,919
July/August	16.10	$2,470
September/October	0.25	$38

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

Table 4.5 Estimated annual net operating revenue from targeted charter angler trips for Atlantic cobia that may be effected once the sector ACL is met based on data from 2013-2015.

Fishing Year	Estimated Number of Charter Angler Trips Effected	Estimated NOR of Charter Angler Trips Effected
Alternative 1 (No Action) Jan 1 – Dec 31	729	$111,891
Preferred Alternative 2 May 1 - Apr 30	683	$104,828
Alternative 3 June 1 - May 31	1,409	$216,141
Alternative 4 Apr 1 – Mar 31	714	$109,537

Table 4.6 Estimated annual net operating revenue from targeted charter angler trips for Atlantic cobia that may be effected once the sector ACL is met based on data from 2005-2014.

Fishing Year	Estimated Charter Angler Trips Effected	Estimated NOR of Charter Angler Trips Effected
Alternative 1 (No Action) Jan 1 – Dec 31	5	$760
Preferred Alternative 2 May 1 - Apr 30	0	$0
Alternative 3 June 1 - May 31	77	$11,839
Alternative 4 Apr 1 – Mar 31	1	$228

4.1.3 Social Effects

Modification to the fishing year and establishing closed season could have negative effects on the recreational sector by limiting fishing opportunities, but could also benefit the recreational sector by allowing the season to be open during peak harvest times, and ensuring access to the cobia resource for different areas in the region when cobia fishing is popular and profitable. **Figure 4.2** shows recreational landings by state and Marine Recreational Information Program (MRIP) wave to illustrate the different times that fishermen in each state harvest cobia.

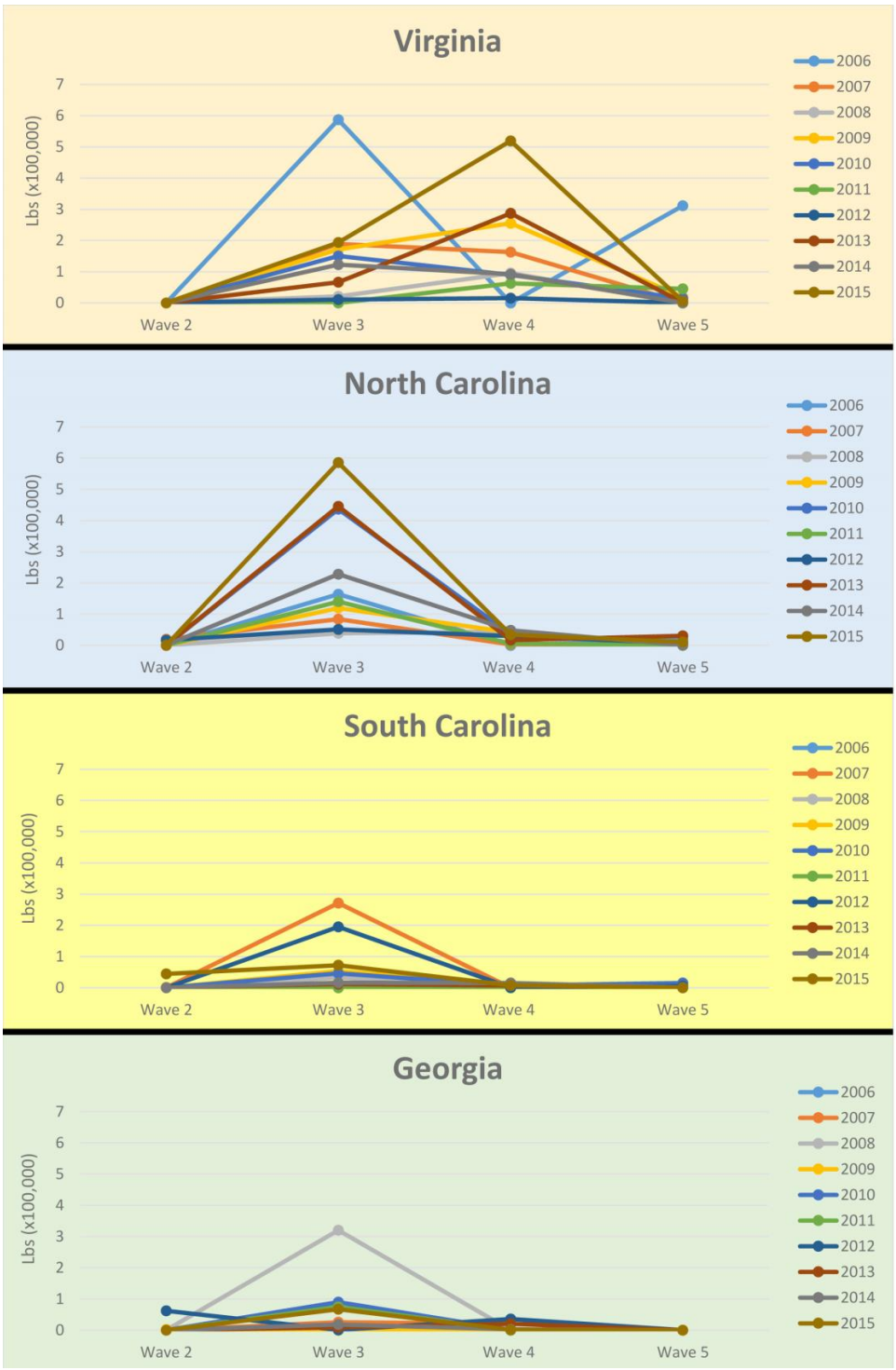

Figure 4.2. Recreational catch of Atlantic cobia by wave from 2006-2015 for Waves 2-5. Data source: SERO and MRIP database

A later start date (**Preferred Alternative 2, Alternative 3,** and **Alternative 4**) could help extend the season into the summer or later, when considering the proposed harvest limits in Framework Amendment 4 and depending on the level of landings in that year. In a year with

high recreational effort and catch, it is possible that there landings would reach the recreational ACL at a similar time of year (mid-July) for **Alternative 1 (No Action)**, **Preferred Alternative 2**, and **Alternative 4,** but landings would not reach the ACL until much later in the fishing year under **Alternative 3** (see **Table 4.1**). However, it is likely that the proposed limits from Framework Amendment 4 along with more restrictive measures in state waters is expected to contribute to a slower rate of harvest and reduce the risk that recreational landings again reach the 2015 level.

During years with more average recreational effort and catch (such as 2005-2014), it would be expected that the proposed fishing years in combination with the proposed harvest limits in Framework Amendment 4 would all result in landings reaching the recreational ACL later in the fishing year (see **Table 4.2**). Under all alternatives, landings would not reach the recreational ACL until at least after the popular fishing season (May through August).

Because recreational most harvest occurs in May-August, current landings patterns indicate that the estimated dates when recreational landings would reach the recreational ACL are similar under **Alternative 1 (No Action), Preferred Alternative 2**, and **Alternative 4** (**Tables 4.1-4.2**) and would have similar effects on recreational fishermen and associated businesses. **Preferred Alternative 2** would ensure that access to cobia would always occur on May 1 when the fishing year started, which would be beneficial to fishermen in areas where cobia are usually found during the beginning of the summer (**Figure 4.2**).

Starting the fishing year on June 1 (**Alternative 3**) may help keep recreational landings from reaching the recreational ACL early in the summer, but could also restrict access to cobia in the late spring and early summer months if there is a current or future management measure that results in a closure at the end of the fishing year. **PreferredAlternative 2**, **Alternative 3** and **Alternative 4** also would result in different fishing years for the commercial and recreational sectors. This would increase the complexity of Atlantic cobia management.

4.1.4 Administrative Effects

The administrative burden would likely be similar under **Alternative 1 (No Action)**, **Preferred Alternative 2, Alternative 3,** and **Alternative 4**. The effect of the different alternatives would be to change the time of year when the recreational sector is closed. These impacts would be associated with rule-making, quota monitoring, outreach and education and enforcement.

Chapter 5. Councils' Choice for the Preferred Alternatives

5.1 Modify the recreational fishing year for Atlantic cobia

5.1.1 Public Comments and Recommendations

Comment summary from August 2016 hearings on the recreational fishing year

There were only a few people who commented on this action. One individual supported No action, and one person supported Alternative 3 (June 1- May 31). Several commenters did state that it is important that the recreational fishery for Atlantic cobia is open for the month of May, for a season of May through September or October.

Comment summary from October 2016 webinar hearing and comment period

- One commenter supported a season from May 1 through September 15, with the fishery closed the rest of the year.
- One commenter supported a closure in June and July for all state and federal waters.
- Three commenters supported Preferred Alternative 2 (May 1 opening), although one commenter felt that the effects analysis indicated that Alternative 3 (June 1 opening) would be the better choice because landings would reach the ACL further into the fishing year.
- One commenter supported Alternative 3 (June 1) as the best alternative for Virginia fishermen, but felt that state quotas would reduce negative impacts on other states.

5.1.2 Council's Choice for Preferred Alternative

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 pelagics (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 is responsible for the Coastal Migratory Pelagic (CMP) Resources in the Gulf of Mexico 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, Maryland, Delaware, Pennsylvania, 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 CMP FMP was implemented, and through what is expected to take place approximately before or within 2016-2017. Refer to **Appendix C** 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 fisheries.

Past Actions

CMP Fishery

The following amendments to the CMP FMP contained actions that pertained to the 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 33inches 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 exclusive economic zone (EEZ) of the Gulf of Mexico (Gulf) 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.

P**resent Actions**

Other amendments in development that address the CMP fishery include:

- Amendment 26 to the CMP FMP (under Secretarial review), which proposes a revision of the king mackerel stock boundary; updates biological parameters, acceptable biological catch (ABC) and annual catch limits (ACL) for Gulf and Atlantic king mackerel; updates ABC levels for Atlantic king mackerel; establishes zone commercial quotas for Gulf king mackerel; allows for the sale of incidental catch of Atlantic king mackerel in the small coastal shark gillnet fishery; and revises management measures for commercial harvest of Atlantic king mackerel on the Florida east coast.
- Amendment 27 to the CMP FMP (under development) modifies the electronic reporting for headboats and establishes an electronic reporting program for charter vessels in the snapper grouper, dolphin wahoo, and CMP.
- Amendment 29 to the CMP FMP (under development) includes actions to establish an allocation sharing system for Gulf king mackerel.

- Framework Amendment 5 to the CMP FMP (under development) which includes an action to modify restrictions on commercial permits to allow fishing for and retention of bag limit king mackerel and Spanish mackerel.
- Framework Amendment 4 to the CMP FMP includes measures to extend the length of the recreational season for Atlantic cobia including modifications to the bag limit and minimum size limit, and a specification of a vessel limit. The South Atlantic Council approved Framework Amendment 4 for review by the Secretary of Commerce at their September 2016 meeting.

Reasonably Foreseeable Actions

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. The South Atlantic Council is also considering limited entry for for-hire permits in the Snapper Grouper, Dolphin Wahoo and CMP fisheries.

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 Southeast Fisheries Science Center and the Southeast Regional Office are developing Climate Change Regional Action Plans for the South Atlantic, Gulf of Mexico, and Caribbean to identify to better understand the impacts climate change could 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 oil rig, 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 well head. 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 Atlantic region, and does not likely pose a threat to cobia. 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 a change in the fishing year for the Atlantic cobia sector of the CMP fishery. **Chapters 2** and **4** of this document describe in detail the magnitude and significance of effects of the action and none of the impacts have been determined to be significant. The cumulative effects of the actions proposed in combined with effects of other past, present, and future actions, are not expected to affect the magnitude of bycatch, diversity, and ecosystem structure of fish communities, or safety at sea of fishermen. The action 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 are, and will continue to be, monitored through collection of landings data by the National Marine Fisheries Service, 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, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, the actions in the amendment do 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) have 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 30 would not have significant biological, social, or economic effects because the action is to change the start date of the fishing year. ACLs and accountability measures are in place to ensure overfishing does not occur. Therefore, the cumulative effects of the action proposed in Amendment 30 are not expected to affect the magnitude bycatch, diversity and 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
Kari MacLauchlin	SAFMC	IPT Lead/Fishery Social Scientist
Ryan Rindone	GMFMC	IPT Lead/Biologist
Karla Gore	SERO /SF	IPT Lead/Fishery Biologist
Brian Cheuvront	SAFMC	Deputy Director
Rick DeVictor	SERO/SF	Fishery Biologist
Susan Gerhart	SERO/SF	Fishery Biologist
John Hadley	SAFMC	Fishery Economist
Stephen Holiman	SERO/SF	Economist
Michael Jepson	SERO/SF	Fishery Social Scientist
Michael Larkin	SERO/LAPP	Biologist
Tony Lamberte	SERO/SF	Economist
Jennifer Lee	SERO/PR	Protected Resources
Scott Sandorf	SERO	Technical Writer
Noah Silverman	SERO	NEPA Specialist
Monica Smit-Brunello	NOAA GC	General Counsel
Iris Lowery	NOAA GC	General Counsel
Jocelyn D'Ambrosio	NOAA GC	General Counsel

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
SAFMC Law Enforcement Advisory Panel
SAFMC Mackerel Cobia Advisory Panel
SAFMC Scientific and Statistical Committee
North Carolina Coastal Zone Management Program
South Carolina Coastal Zone Management Program
Georgia Coastal Zone Management Program
Florida Coastal Zone Management Program
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Department of Environmental Quality
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.

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 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.

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.

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.

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

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

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

Quota: % 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. History of Management

The Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region (CMP FMP; GMFMC/SAFMC 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, was approved by the South Atlantic Council in September 2016 and included actions to establish a recreational bag limit (1 fish) and vessel limit (6 fish) and to increase the recreational minimum size limit to 36" fork length for Atlantic cobia, in addition to changes to the recreational accountability measures for Atlantic cobia and a commercial trip limit for Atlantic cobia. The amendment was transmitted to NMFS for formal review on October 28, 2016.

Appendix C. 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 castnets 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 1) per year. The commercial sector predominantly harvested king and Spanish mackerel, with relatively few cobia (Table 1). Both the king mackerel and Spanish mackerel 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 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 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 3.3.3.1, 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).

<u>Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality</u>

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.

Tables 2-4 list the species most often caught with king mackerel, Spanish mackerel, and 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 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)

Table 3. Top three species caught on trips where at least one pound of Spanish mackerel was caught with all gear types in the Gulf of Mexico and South Atlantic from 2010-2014.

Species	% of Harvest (All Gear Types)
Spanish mackerel	65.4%
King mackerel & Cero	14.1%
Bluefish	5.2%
Atlantic Sharpnose Shark	2.0%

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

Table 4. Top 3 species caught on trips where at least one pound of king-cero mackerel with all gear types in the Gulf of Mexico and in the South Atlantic from 2010-2014.

Species	% of Total Harvest
King mackerel & Cero	63.5%
Vermilion snapper	7.3%
Red snapper	3.9%
Little tunny	3.9%

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 (Charter/Headboat 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 are developing 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 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. This amendment would 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, September 14, 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 fishery 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 D. Regulatory Impact Review

To be completed

Appendix E. Regulatory Flexibility Analysis

To be completed

Appendix F. Fishery Impact Statement

To be completed

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 framework amendment is consistent with the Coastal Zone Management programs of the states of Florida, Georgia, South Carolina, 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 (FMP) 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.

National Marine Fisheries Service 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 SA/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 2015 Marine Mammal Protection Act List of Fisheries as a Category III fishery (79 FR 77919), 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 2015 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 framework 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 Fishery Management 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 framework 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 actions in this framework are intended to improve recreational fishing opportunities in the CMP Fishery and are 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 actions 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. Analysis for the Proposed Action

Prepared June 2016 and August 2016, SERO LAPP

I. Predicted Atlantic cobia recreational ACL overage dates for South Atlantic Framework Amendment 4 (using recreational data from 2013-2015)

Predicted dates when the ACL will be exceeded in 2017 were generated with the average Atlantic (New York through Georgia) cobia recreational landings from 2013 through 2015 (Figure 1). These landings came from the SEFSC recreational ACL dataset (MRIPACLspec_rec81_15wv5_2013Jan16) which is complete for 2013 through 2015 but the 2015 landings are still preliminary at this time. These are the same recreational landings that were used to predict the 2016 recreational closure date of June 20.

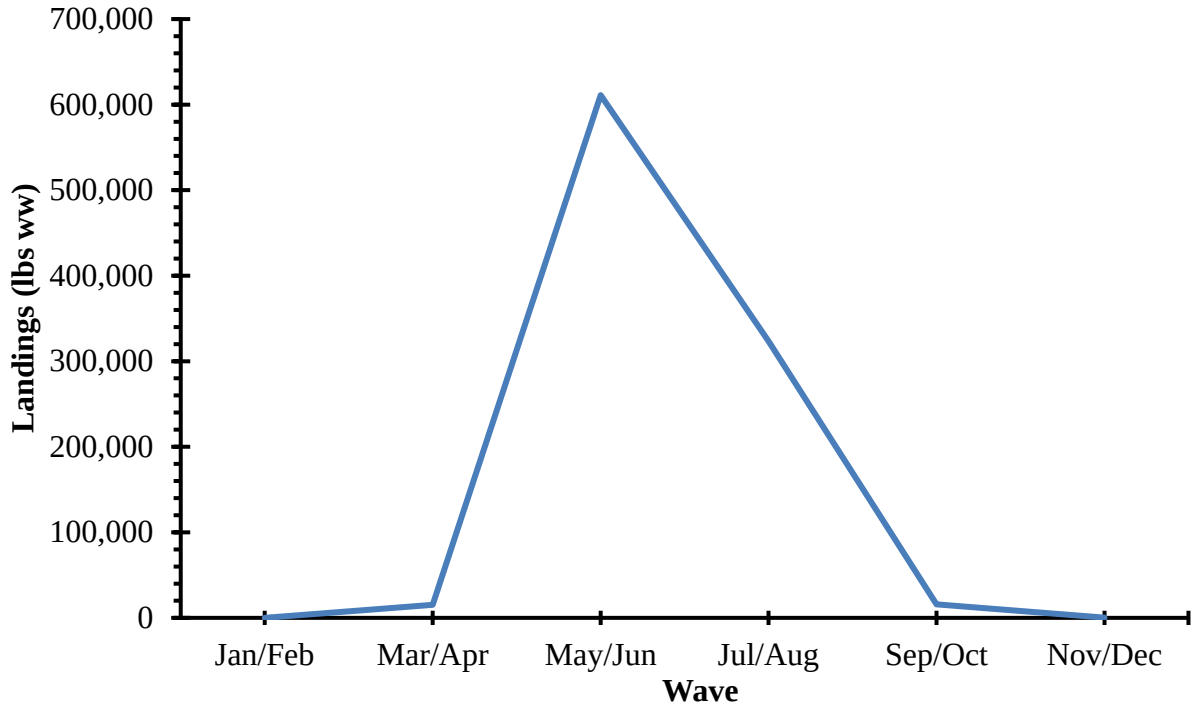

Figure 1.- Average Atlantic cobia recreational landings from 2013 through 2015. The Atlantic cobia stock is defined from the waters of New York through Georgia.

ACL overage dates were determined by evaluating when the landings are predicted to exceed the 2017 ACL of 620,000 pounds whole weight. The closure dates also assume all of the Atlantic cobia states will follow the same regulations that are stated in the amendment. Therefore, the regulations will be consistent for both state and federal waters.

Framework amendment 4 is considering a range of bag limits, vessel limits, and size limits. The ACL overage dates were determined by first calculating percent decrease in landings from the regulations being considered (bag limits, vessel limits, and size limits) following the methods of SERO-LAPP-2012-03. Table 1 displays the percent decrease in landings. Then the percent decrease in landing estimates were multiplied against the average landings from 2013 through 2015. Since the amendment is considering different fishing years in Action 2 the ACL overage dates were calculated for each fishing year. The fishery years being considered are January 1 through December 31 (Table 2), May 1 through April 30 (Table 3), June 1 through May 31 (Table 4), and April 1 through March 31 (Table 5).

Table 1. Estimated percent decrease in Atlantic cobia landings for a combination of minimum size limits, bag limits, and vessel limits. The reductions assume the regulations are implemented in both state and federal waters.

	Minimum Size Limit (FL)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	2.0	4.9	8.1	12.7	16.7	21.3	23.8	59.5	73.7
2 per Person	0	2.9	6.1	10.7	14.7	19.3	21.8	57.5	71.7
Vessel Limit									
1 per Vessel	20.4	23.3	26.5	31.1	35.1	39.7	42.2	77.9	92.1
2 per Vessel	8.8	11.7	14.9	19.5	23.5	28.1	30.6	66.3	80.5
3 per Vessel	4.4	7.3	10.5	15.1	19.1	23.7	26.2	61.9	76.1
4 per Vessel	2.7	5.6	8.8	13.4	17.4	22.0	24.5	60.2	74.4
5 per Vessel	2.1	5.0	8.2	12.8	16.8	21.4	23.9	59.6	73.8
6 per Vessel	0.9	3.8	7.0	11.6	15.6	20.2	22.7	58.4	72.6

Table 2. Estimated ACL overage dates for Alternative 1 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 1 has the current fishing year of January 1 through December 31st.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per person	2-Jul	5-Jul	10-Jul	17-Jul	23-Jul	31-Jul	5-Aug	None	None
2 per person	30-Jun	3-Jul	7-Jul	14-Jul	20-Jul	28-Jul	1-Aug	None	None
Vessel Limit									
1	30-Jul	4-Aug	11-Aug	22-Aug	22-Sep	None	None	None	None
2	11-Jul	15-Jul	20-Jul	28-Jul	5-Aug	15-Aug	21-Aug	None	None
3	5-Jul	9-Jul	13-Jul	20-Jul	27-Jul	5-Aug	10-Aug	None	None
4	3-Jul	6-Jul	11-Jul	18-Jul	24-Jul	2-Aug	7-Aug	None	None

5	2-Jul	6-Jul	10-Jul	17-Jul	23-Jul	1-Aug	6-Aug	None	None
6	30-Jun	4-Jul	8-Jul	15-Jul	21-Jul	29-Jul	3-Aug	None	None

Table 3. Estimated ACL overage dates for Alternative 2 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 2 has the current fishing year of May 1 through April 30.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	5-Jul	8-Jul	13-Jul	19-Jul	26-Jul	3-Aug	8-Aug	None	None
2 per Person	2-Jul	6-Jul	10-Jul	16-Jul	23-Jul	31-Jul	4-Aug	None	None
Vessel Limit									
1 per Vessel	2-Aug	7-Aug	14-Aug	25-Aug	20-Mar	None	None	None	None
2 per Vessel	14-Jul	18-Jul	23-Jul	31-Jul	8-Aug	18-Aug	24-Aug	None	None
3 per Vessel	8-Jul	12-Jul	16-Jul	23-Jul	30-Jul	8-Aug	13-Aug	None	None
4 per Vessel	6-Jul	9-Jul	14-Jul	21-Jul	27-Jul	5-Aug	10-Aug	None	None
5 per Vessel	5-Jul	8-Jul	13-Jul	20-Jul	26-Jul	4-Aug	9-Aug	None	None
6 per Vessel	3-Jul	7-Jul	11-Jul	18-Jul	24-Jul	1-Aug	6-Aug	None	None

Table 4. Estimated ACL overage dates for Alternative 3 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 3 has the current fishing year of June 1 through May 31.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	4-Oct	18-Apr	19-May	25-May	30-May	14-May	16-May	None	None
2 per Person	31-Aug	27-Oct	1-May	4-May	8-May	12-May	14-May	None	None
Vessel Limit									
1 per Vessel	13-May	16-May	19-May	25-May	30-May	None	None	None	None
2 per Vessel	3-May	5-May	8-May	12-May	16-May	21-May	24-May	None	None
3 per Vessel	4-Apr	2-May	4-May	8-May	12-May	16-May	19-May	None	None
4 per Vessel	22-Oct	1-May	3-May	7-May	10-May	14-May	17-May	None	None
5 per Vessel	7-Oct	21-Apr	3-May	6-May	9-May	14-May	16-May	None	None
6 per Vessel	7-Sep	19-Mar	2-May	5-May	8-May	13-May	15-May	None	None

Table 5. Estimated ACL overage dates for Alternative 4 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 4 has the current fishing year of April 1 through March 31.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	3-Jul	7-Jul	11-Jul	18-Jul	25-Jul	2-Aug	7-Aug	None	None
2 per Person	1-Jul	4-Jul	8-Jul	15-Jul	21-Jul	29-Jul	3-Aug	None	None
Vessel Limit									
1 per Vessel	31-Jul	6-Aug	13-Aug	23-Aug	22-Oct	None	None	None	None
2 per Vessel	12-Jul	17-Jul	22-Jul	30-Jul	6-Aug	16-Aug	22-Aug	None	None
3 per Vessel	6-Jul	10-Jul	15-Jul	22-Jul	29-Jul	7-Aug	12-Aug	None	None
4 per Vessel	4-Jul	8-Jul	12-Jul	19-Jul	26-Jul	3-Aug	8-Aug	None	None
5 per Vessel	3-Jul	7-Jul	11-Jul	18-Jul	25-Jul	2-Aug	7-Aug	None	None
6 per Vessel	2-Jul	5-Jul	10-Jul	16-Jul	23-Jul	31-Jul	5-Aug	None	None

References

SERO-LAPP-2012-03. Modeling the combined effects of Gulf reef fish Amendment 37 proposed management measures for gray triggerfish. Southeast Region technical report. http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/archives/documents/pdfs/2012/sero_lapp_2012_03_gulf_gray_triggerfish_decision_tool_rpt.pdf

II. Predicted Atlantic cobia recreational ACL overage dates for South Atlantic Framework Amendment 4 (using recreational data from 2005-2014)

Predicted dates when the ACL will be exceeded in 2017 were generated with the average Atlantic (New York through Georgia) cobia recreational landings from 2005 through 2014 (Figure 1). These landings came from the Southeast Fisheries Science Center's recreational ACL dataset which was provided in August of 2016.

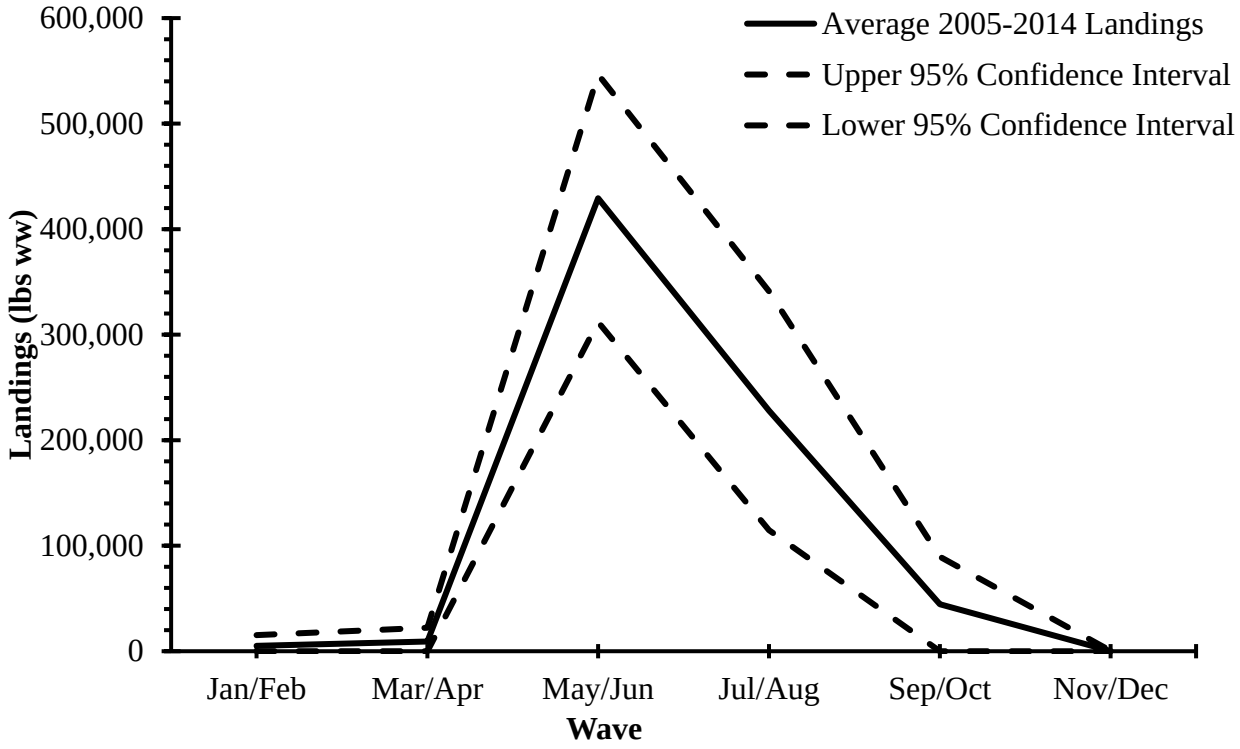

Figure 1.- Average and 95% confidence interval Atlantic cobia recreational landings from 2005 through 2014. The Atlantic cobia stock is defined from the waters of New York through Georgia.

ACL overage dates were determined by evaluating when the landings were predicted to exceed the 2017 ACL of 620,000 pounds whole weight. The closure dates also assume all of the Atlantic cobia states will follow the same regulations. Therefore, the regulations will be consistent for both state and federal waters.

Framework amendment 4 is considering a range of size limits, bag limits, and vessel limits. The ACL overage dates were determined by first calculating percent decrease in landings from the regulations being considered (size limits, bag limits, and vessel limits). Then the reductions were multiplied against the projected monthly recreational landings (RL). This was done with the following equation of:

$$RL_m = AAL_m * \varsigma_m * \beta_m$$

where AAL: average annual landings from 2005-2014, ς: projected size limit reduction, and β: projected bag or vessel limit reduction. The projected recreational landings were calculated for each month (m). Additional details of the method can be found in SERO-LAPP-2012-03 (http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/archives/documents/pdfs/2012/sero_lapp_2012_03_gulf_gray_triggerfish_decision_tool_rpt.pdf). The landings were summed over time, and closure dates were determined when the landings exceeded the ACL of 620,000 lbs.

The percent decrease in landings from the size limits, bag limits, and vessel limits were determined with dock-side intercept data from 2013 through 2015. Data from the most recent three years (2013-2015) were used because they are likely to reflect current cobia sizes and catch behavior of fishers. Table 1 displays the percent decrease in landings from the size limits, bag limits, and vessel limits being considered in Amendment 4.

Table 1. Estimated percent decrease in Atlantic cobia landings for a combination of minimum size limits, bag limits, and vessel limits. These estimates came from dock-side intercept data from 2013 through 2015. The reductions assume the regulations are implemented in both state and federal waters.

	Minimum Size Limit (FL)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	2.0	4.9	8.1	12.7	16.7	21.3	23.8	59.5	73.7
2 per Person	0	2.9	6.1	10.7	14.7	19.3	21.8	57.5	71.7
Vessel Limit									
1 per Vessel	20.4	23.3	26.5	31.1	35.1	39.7	42.2	77.9	92.1
2 per Vessel	8.8	11.7	14.9	19.5	23.5	28.1	30.6	66.3	80.5
3 per Vessel	4.4	7.3	10.5	15.1	19.1	23.7	26.2	61.9	76.1
4 per Vessel	2.7	5.6	8.8	13.4	17.4	22.0	24.5	60.2	74.4
5 per Vessel	2.1	5.0	8.2	12.8	16.8	21.4	23.9	59.6	73.8
6 per Vessel	0.9	3.8	7.0	11.6	15.6	20.2	22.7	58.4	72.6

Amendment 4 is considering different fishing year start dates in Action 2. ACL overage dates were calculated for each fishing year being considered. The fishery year start dates under consideration are January 1 through December 31 (Table 2), May 1 through April 30 (Table 3), June 1 through May 31 (Table 4), and April 1 through March 31 (Table 5).

Table 2. Estimated ACL overage dates for Alternative 1 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 1 has the current fishing year of January 1 through December 31st. The ACL is 620,000 lbs ww.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									

1 per Person	21-Aug	26-Aug	5-Sep	23-Oct	None	None	None	None	None
2 per Person	17-Aug	23-Aug	28-Aug	2-Oct	None	None	None	None	None
Vessel Limit									
1 per Vessel	None	None	None	None	None	None	None	None	None
2 per Vessel	12-Sep	12-Oct	None	None	None	None	None	None	None
3 per Vessel	25-Aug	31-Aug	29-Sep	None	None	None	None	None	None
4 per Vessel	22-Aug	27-Aug	12-Sep	31-Oct	None	None	None	None	None
5 per Vessel	21-Aug	26-Aug	6-Sep	25-Oct	None	None	None	None	None
6 per Vessel	19-Aug	24-Aug	30-Aug	11-Oct	None	None	None	None	None

Table 3. Estimated ACL overage dates for Alternative 2 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 2 has the current fishing year of May 1 through April 30. The ACL is 620,000 lbs ww.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	25-Aug	30-Aug	24-Sep	21-Mar	None	None	None	None	None
2 per Person	21-Aug	26-Aug	5-Sep	21-Oct	None	None	None	None	None
Vessel Limit									
1 per Vessel	None	None	None	None	None	None	None	None	None
2 per Vessel	1-Oct	3-Jan	None	None	None	None	None	None	None
3 per Vessel	29-Aug	16-Sep	19-Oct	None	None	None	None	None	None
4 per Vessel	26-Aug	31-Aug	1-Oct	28-Apr	None	None	None	None	None
5 per Vessel	25-Aug	30-Aug	25-Sep	26-Mar	None	None	None	None	None
6 per Vessel	23-Aug	28-Aug	13-Sep	31-Oct	None	None	None	None	None

Table 4. Estimated ACL overage dates for Alternative 3 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 3 has the current fishing year of June 1 through May 31. The ACL is 620,000 lbs ww.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	20-May	22-May	26-May	31-May	None	None	None	None	None
2 per Person	18-May	20-May	24-May	28-May	None	None	None	None	None
Vessel Limit									
1 per Vessel	None	None	None	None	None	None	None	None	None
2 per Vessel	26-May	29-May	None	None	None	None	None	None	None
3 per Vessel	22-May	25-May	28-May	None	None	None	None	None	None

4 per Vessel	20-May	23-May	26-May	31-May	None	None	None	None	None
5 per Vessel	20-May	22-May	26-May	31-May	None	None	None	None	None
6 per Vessel	19-May	21-May	24-May	29-May	None	None	None	None	None

Table 5. Estimated ACL overage dates for Alternative 4 of Action 2 under a range of size limits, bag limits, and vessel limits. Alternative 4 has the current fishing year of April 1 through March 31. The ACL is 620,000 lbs ww.

	Minimum Size Limit (inches fork length)								
	33	34	35	36	37	38	39	45	50
Bag Limit									
1 per Person	24-Aug	29-Aug	18-Sep	12-Feb	None	None	None	None	None
2 per Person	20-Aug	25-Aug	31-Aug	15-Oct	None	None	None	None	None
Vessel Limit									
1 per Vessel	None	None	None	None	None	None	None	None	None
2 per Vessel	25-Sep	26-Oct	None	None	None	None	None	None	None
3 per Vessel	28-Aug	10-Sep	13-Oct	None	None	None	None	None	None
4 per Vessel	25-Aug	30-Aug	25-Sep	29-Mar	None	None	None	None	None
5 per Vessel	24-Aug	29-Aug	19-Sep	22-Feb	None	None	None	None	None
6 per Vessel	22-Aug	27-Aug	7-Sep	25-Oct	None	None	None	None	None

This analysis attempted to predict realistic changes to cobia recreational landings by estimated decreases in landings from the regulations considered in Amendment 4. Uncertainty exists in these projections, as economic conditions, weather events, changes in catch-per-unit effort, fisher response to management regulations, and a variety of other factors may cause departures from this assumption. The bounds of this uncertainty are not captured by the analysis as currently configured; as such, it should be used with caution as a 'best guess' for future dynamics. In addition to the aforementioned sources of uncertainty, the predicted change in landings associated with the regulations considered assume past performance in the fishery is a good predictor of future dynamics.

References

SERO-LAPP-2012-03. Modeling the combined effects of Gulf reef fish Amendment 37 proposed management measures for gray triggerfish. Southeast Region technical report. http://sero.nmfs.noaa.gov/sustainable_fisheries/lapp_dm/archives/documents/pdfs/2012/sero_lapp_2012_03_gulf_gray_triggerfish_decision_tool_rpt.pdf