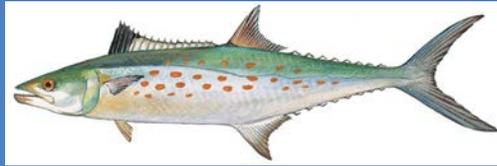


Framework Amendment 1 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region

Spanish Mackerel Annual Catch Limits



February 21, 2014



Environmental Assessment Regulatory Impact Review Regulatory Flexibility Analysis

A publication of the South Atlantic Fishery Management Council pursuant to National Oceanic and Atmospheric Administration (NOAA) Award Number FNA10NMF4410012, and of the Gulf of Mexico Fishery Management Council Pursuant to NOAA Award No. NA10NMF441001

Abbreviations and Acronyms Used in the FMP

ABC	acceptable biological catch	FMP	fishery management plan
ACL	annual catch limits	FMU	fishery management unit
AM	accountability measures	HAPC	Habitat Area of Particular Concern
ACT	annual catch target	M	natural mortality rate
B	a measure of stock biomass in either weight or other appropriate unit	MARMAP	Marine Resources Monitoring Assessment and Prediction Program
B_{MSY}	the stock biomass expected to exist under equilibrium conditions when fishing at F _{MSY}	MFMT	maximum fishing mortality threshold
B_{OY}	the stock biomass expected to exist under equilibrium conditions when fishing at F _{OY}	MMPA	Marine Mammal Protection Act
B_{CURR}	The current stock biomass	MRFSS	Marine Recreational Fisheries Statistics Survey
CLM	Commercial Landings Monitoring System	MRIP	Marine Recreational Information Program
CMP	coastal migratory pelagics	MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
CPUE	catch per unit effort	MSST	minimum stock size threshold
DEIS	draft environmental impact statement	MSY	maximum sustainable yield
EA	environmental assessment	NEPA	National Environmental Policy Act
EEZ	exclusive economic zone	NMFS	National Marine Fisheries Service
EFH	essential fish habitat	NOAA	National Oceanic and Atmospheric Administration
ESA	Endangered Species Act	NS	National Standard
F	a measure of the instantaneous rate of fishing mortality	OFL	overfishing limit
F_{30%SPR}	fishing mortality that will produce a static SPR = 30%	OY	optimum yield
F_{CURR}	the current instantaneous rate of fishing mortality	PSE	percent standard error
F_{MSY}	the rate of fishing mortality expected to achieve MSY under equilibrium conditions and a corresponding biomass of B _{MSY}	RIR	regulatory impact review
F_{OY}	the rate of fishing mortality expected to achieve OY under equilibrium conditions and a corresponding biomass of B _{OY}	SEDAR	Southeast Data Assessment and Review
FEIS	final environmental impact statement	SEFSC	Southeast Fisheries Science Center
		SERO	Southeast Regional Office
		SPR	spawning potential ratio
		SRD	Science and Research Director
		SSC	Scientific and Statistical Committee

Framework Amendment 1 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region with Draft Environmental Assessment and Regulatory Impact Review

Proposed action: Modify annual catch limit, optimum yield, and recreational annual catch target for Atlantic migratory group Spanish mackerel; and modify annual catch limit for Gulf migratory group Spanish mackerel

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Summary

A Southeast Data, Assessment, and Review (SEDAR) stock assessment for Gulf of Mexico (Gulf) and Atlantic Spanish mackerel and cobia was finalized in 2013. The South Atlantic Fishery Management Council (South Atlantic Council)'s Scientific and Statistical Committee (SSC) reviewed the result of the stock assessment in April 2013 and requested projections from the Southeast Fisheries Science Center (SEFSC). In June 2013, the South Atlantic Council received the SSC's recommendations for the Atlantic Spanish mackerel acceptable biological catch (ABC), but the South Atlantic Council requested that the SSC review the Spanish mackerel projections and revisit recommendations for the overfishing limit (OFL) and the ABC. In October 2013, the SSC reviewed the projections again and recommended an OFL value of 7.03 million pounds (mp) in 2014, 6.62 mp in 2015, and 6.519 mp in 2016. The SSC also recommended a revised ABC value of 6.063 mp for 2014-2016.

The Gulf of Mexico Fishery Management Council (Gulf Council)'s SSC reviewed the results of the Gulf Spanish mackerel stock assessment in May 2013 and requested projections from the SEFSC. In August 2013, the Gulf Council received and accepted the SSC recommendations for the Gulf Spanish mackerel OFL and ABC for 2013-2016. OFL was set at 14.4 mp for 2013, 12.9 mp for 2014, 12.0 mp for 2015, and 11.5 mp for 2016. Likewise, using a P* value of 0.434, ABC was set at 14.2 mp for 2013, 12.7 mp for 2014, 11.8 mp for 2015, and 11.3 mp for 2016.

In accordance with the provisions set forth in the Magnuson-Stevens Fishery Conservation and Management Act and regulations found at 50 CFR 622.389 (Adjustment of Management Measures), the intent of Framework Amendment 1 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region is to revise the annual catch limit (ACL), optimum yield (OY) and recreational annual catch target (ACT) for Atlantic migratory group Spanish mackerel, and revise the ACL for Gulf migratory group Spanish mackerel based on the SSC recommendations. Framework Amendment 1 with the integrated Environmental Assessment will be available for public review before and during each Gulf Council and South Atlantic Council meeting where the actions will be discussed, during public hearings held in January 2014, during the proposed rule phase of the rulemaking process, and online at www.safmc.net and www.gulfcouncil.org.

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Chapter 1. Introduction

1.1 What Actions are Being Proposed?

In Framework Amendment 1, the South Atlantic Fishery Management Council (South Atlantic Council) and Gulf of Mexico Fishery Management Council (Gulf Council) propose to modify the annual catch limits (ACLs) for Atlantic migratory group Spanish mackerel and Gulf of Mexico (Gulf) migratory group Spanish mackerel based on the outcome of the stock assessment (SEDAR 28 2013) and recommendations for the acceptable biological catch (ABC) value from each Council's Scientific and Statistical Committee (SSC). The amendment also proposes to update the optimum yield and recreational annual catch target (ACT) for Atlantic migratory group Spanish mackerel.

The current ACL for Atlantic migratory group Spanish mackerel is 5.69 million pounds (mp). The recreational allocation is 2.56 mp (45% of ACL) with an ACT of 2.32 mp, and the commercial allocation is 3.13 mp (55% of ACL). The current stock ACL for Gulf migratory group Spanish mackerel is 5.15 mp, with no separate allocation between sectors.

1.2 Who is Proposing the Actions?

The South Atlantic Council and Gulf Council are proposing the actions. The Councils develop the fishery management plans and amendments, and submit them to the National Marine Fisheries Service (NMFS) who ultimately approves, disapproves, or partially approves the actions in the amendment on behalf of the Secretary of Commerce. NMFS is an agency in the National Oceanic and Atmospheric Administration.

South Atlantic and Gulf of Mexico Fishery Management Councils

- Responsible for conservation and management of fish stocks
 - The South Atlantic Council consists of 13 voting members appointed by the Secretary of Commerce and 4 non-voting members. The management area is from 3 to 200 nautical miles off the coasts of North Carolina, South Carolina, Georgia, and Florida through the Atlantic side of Key West.
 - The Gulf Council consists of 17 voting members appointed by the Secretary of Commerce and 4 non-voting members. The management area is from 9 to 200 nautical miles off the coasts of West Florida and Texas, and from 3 to 200 nautical miles off the coasts of Alabama, Mississippi, and Louisiana.
 - Develop management plans/amendments and recommends regulations to NMFS for implementation

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

The South Atlantic Council and Gulf Council are considering revised ACL values for Atlantic migratory group Spanish mackerel and Gulf migratory group Spanish mackerel, based on recommended ABC values from the SSCs, to incorporate information from the most recent stock assessments (SEDAR 28), ensure overfishing does not occur in the coastal migratory pelagics fishery, and help achieve optimum yield (OY). The Atlantic assessment was completed in 2012 and revised in 2013, while the Gulf of Mexico (Gulf) assessment was completed and revised in 2013.

Management Plan Objectives

The current management objectives in the joint Fishery Management Plan (FMP) for Coastal Migratory Pelagic Resources in the Gulf of Mexico and South Atlantic Region (CMP FMP; GMFMC/SAFMC 1982) as amended are:

- 1) The primary objective of this FMP is to stabilize yield at the maximum sustainable yield, 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 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 fishery 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 coastal migratory pelagic fisheries.

The actions proposed in the amendment specifically help to meet FMP Objectives 1, 2 and 8.

Purpose for Actions

The purpose of this amendment is to revise the ACLs for Atlantic migratory group Spanish mackerel and Gulf migratory group Spanish mackerel based on the results of recently completed stock assessments.

Need for Actions

The need for this amendment is to ensure the annual catch limits are based on the best available and most recent information, and ensure overfishing does not occur in the coastal migratory pelagics fishery.

1.4 Which species and areas would be affected by the actions?

Three species—king mackerel, Spanish mackerel, and cobia—are included in the CMP FMP and are separated into Atlantic migratory groups and Gulf migratory groups. The proposed actions in this amendment would affect Atlantic and Gulf migratory groups of Spanish mackerel, and could affect anglers harvesting Spanish mackerel in the federal waters in the Gulf of Mexico, South Atlantic, and Mid-Atlantic regions.

The CMP FMP, approved in 1982 and implemented by regulations effective February 1983, treated Spanish mackerel as one U.S. stock. The present management regime for mackerel recognizes two migratory groups of Spanish mackerel, the Gulf migratory group and the Atlantic migratory group with the boundary fixed at the Miami-Dade/Monroe County border on Florida's southeast coast (**Figure 1.4.1**).

Pending approval of Amendment 20B to the CMP FMP (GMFMC/SAFMC 2013), the Atlantic group will be separated into a Northern Zone and a Southern Zone (as shown in **Figure 1.4.1**) that will have separate commercial quotas. The designation of Northern Zone and Southern Zone will not affect the recreational sector. The Northern Zone allocation would be calculated using combined landings from North Carolina, Virginia, Maryland, Delaware, Pennsylvania, New Jersey, and New York. The Southern Zone allocation would be calculated using combined landings of South Carolina, Georgia, and the Florida east coast and Florida Keys on the Atlantic side. The Atlantic migratory group Spanish mackerel commercial ACL would be allocated between the zones based on landings from the 2002/2003-2011/2012 fishing seasons. Thus, 19.9% of the commercial ACL would be allocated to the Northern Zone and 80.1% of the commercial ACL would be allocated to the Southern Zone. NMFS would monitor the commercial quotas and close the EEZ in each zone when the respective quota is met or expected to be met. All current commercial accountability measures would remain in place.

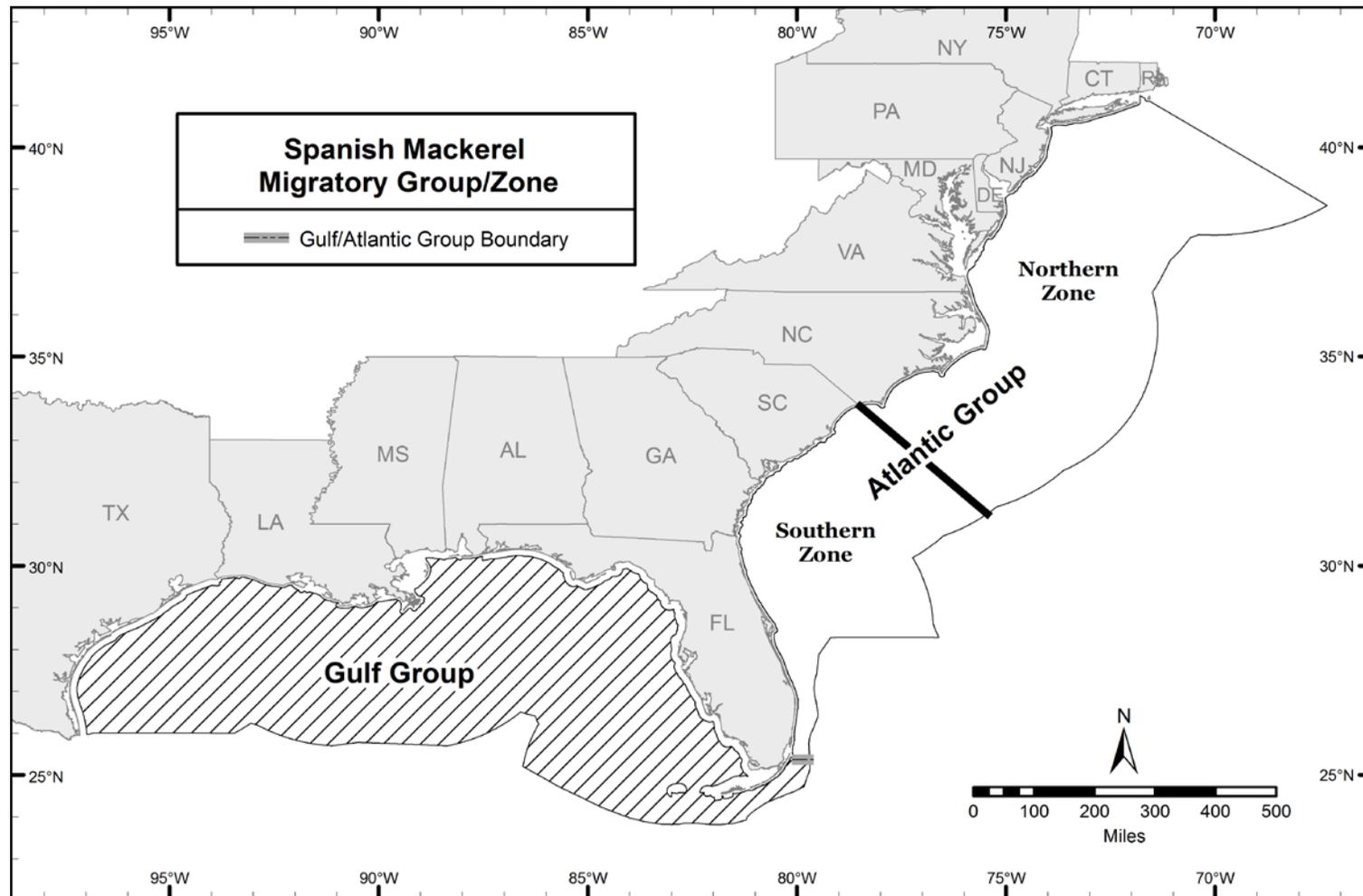


Figure 1.4.1. Fixed boundary between Atlantic and Gulf migratory groups of Spanish mackerel, with the proposed Northern and Southern Zones in the Atlantic Group (pending submission and approval of CMP Amendment 20B).

Chapter 2. Proposed Actions and Alternatives

Action 1. Modify the Annual Catch Limit (ACL) for Atlantic migratory group Spanish mackerel

Alternative 1 (No Action). Retain the ACLs, optimum yield (OY), and recreational annual catch target (ACT) for Atlantic migratory group Spanish mackerel:

Current acceptable biological catch (ABC) = 5.69 mp, recommended by the Scientific and Statistical Committee (SSC) based on the third highest point over a ten-year period (equivalent to the 80th percentile) for the time series ranging from 1999-2008. The recreational ACT equals sector ACL[(1-PSE) or 0.5], whichever is greater, where the percent standard error (PSE) is an average from the Marine Recreational Fisheries Survey and Statistics (MRFSS) program based on landings in weight from 2005-2009. The average PSE from MRFSS for 2005-2009 is 9.4. The values would remain until modified.

$$\begin{aligned} \text{ACL} &= \text{OY} = \text{ABC} = 5.69 \text{ mp} \\ \text{Commercial ACL (55\%)} &= 3.13 \text{ mp} \\ \text{Recreational ACL (45\%)} &= 2.56 \text{ mp} \\ \text{Recreational ACT} &= 2.32 \text{ mp} \end{aligned}$$

South Atlantic Preferred/ Gulf Preferred Alternative 2. Revise the ACL (including sector ACLs), OY, and recreational ACT for Atlantic migratory group Spanish mackerel for 2014-2016. The ABC recommended by the SSC is 6.063 mp. Set ACL = OY = ABC, and the recreational ACT = recreational ACL[(1-PSE) or 0.5], whichever is greater. The ABC, ACL, and recreational ACT values are based on landed catch only; discards are accounted for in specifying the ABC in terms of landed catch and not total kill. The average PSE from MRIP for 2005-2009 is 13.34. The values would remain until modified.

$$\begin{aligned} \text{ACL} &= \text{OY} = \text{ABC} = 6,063,000 \text{ lbs (6.063 mp)} \\ \text{Commercial ACL (55\%)} &= 3,330,000 \text{ lbs (3.330 mp)} \\ \text{Recreational ACL (45\%)} &= 2,727,000 \text{ lbs (2.727 mp)} \\ \text{Recreational ACT} &= 2,364,388 \text{ lbs (2.364 mp)} \end{aligned}$$

Two Alternatives Considered

The National Marine Fisheries Service (NMFS) acknowledges there are two alternatives for this action. Section 1502.14(a) of the National Environmental Policy Act (NEPA) states that “agencies shall: rigorously explore and objectively evaluate all reasonable alternatives...” NMFS and the South Atlantic Council have identified two reasonable alternatives for this action, including the no action alternative. **South Atlantic Preferred/ Gulf Preferred Alternative 2** (ACL=ABC=OY) represents the accepted formula used for specifying ACLs for the majority of assessed species that are not overfished nor undergoing overfishing.

Amendment 18 to the CMP FMP (GMFMC/SAFMC 2011) established $ACL=ABC=OY$ for Atlantic migratory group Spanish mackerel. This formula was also used for snapper grouper species in the Comprehensive ACL Amendment (SAFMC 2011) and red grouper in Amendment 24 to the Snapper Grouper FMP (Amendment 24). Amendment 18 to the CMP FMP as well as the South Atlantic snapper grouper amendments considered alternatives that set ACL below the ABC; however, the South Atlantic Fishery Management Council (South Atlantic Council) and Gulf of Mexico Fishery Management Council (Gulf Council) chose as their preferred alternative $ACL=ABC=OY$. The Councils, and NMFS are not considering options beyond the two alternatives listed because: 1) setting $ACL=ABC=OY$ was the preferred alternative in Amendment 18 and snapper grouper amendments; 2) the Councils have approved an amendment that, if implemented, would require dealers to report landings electronically once a week; and 3) recreational landings have remained well below the recreational ACL since it was implemented through Amendment 18. Therefore, the Councils and NMFS determined it is not reasonable to include additional alternatives that incorporate a buffer between the ABC and ACL.

Discussion:

In Amendment 18 to the CMP FMP (GMFMC/SAFMC 2011), the ACL and OY for Atlantic migratory group Spanish mackerel were set equal to the ABC. Amendment 18 also established a recreational ACT based on the recreational ACL. The ABC value was based on the recommendation by the South Atlantic Council's SSC. When the SSC reviewed information for Atlantic migratory group Spanish mackerel during meetings in 2010 and 2011, the ABC value was based on landings data rather than assessment information. The SSC developed a new interim approach for determining ABC at their April 2011 meeting and recommended using the 80th percentile, or in this case the third highest point in landings over a ten-year period for use as the ABC. The SSC determined the overfishing limit (OFL) for Atlantic migratory group Spanish mackerel to be unknown, and set the ABC at the 80th percentile for the landings time series ranging from 1999-2008.

Southeast Data, Assessment, and Review (SEDAR 28) included a benchmark assessment for Atlantic migratory group Spanish mackerel and was completed in 2012 (and revised in 2013). In April 2013, the SSC reviewed the results. The SSC accepted the benchmark assessment as representing the best available scientific information on the status of Spanish mackerel in South Atlantic waters and considered it appropriate for South Atlantic Council management decisions.

The current stock status in the base run from the Beaufort Assessment Model (BAM) was estimated to be $SSB_{2011}/MSST=2.29$. The current level of fishing is $F_{2009-2011}/F_{MSY} = 0.526$, with $F_{2011}/F_{MSY} = 0.521$ ¹. The SSC concluded that the Atlantic migratory group Spanish mackerel stock is not overfished and is not undergoing overfishing. Because this assessment falls under Tier 1 of the SSC's ABC control rule, ABC was obtained according to a P* (P-star) value.² A summary of results from applying the ABC control rule is presented below:

¹ SSB_{2011} = Static Stock Biomass in fishing year 2011; MSST = Minimum Stock Size Threshold; $F_{2009-2011}$ = Fishing Mortality in fishing years 2009-2011; F_{MSY} = Fishing Mortality at Maximum Sustainable Yield. Results and additional details about the model are available in the SEDAR 28 report (<http://www.sefsc.noaa.gov/sedar/>).

² P* refers to the probability for overfishing to occur at the harvest level. e.g., when the SSC requests projections for P*=50%, the SEFSC provides projections for landings that are expected to result in only a 50% probability of causing overfishing of the stock. Lower selected P* values will produce more restrictive projections for landings because the risk of overfishing occurring is lower.

Assessment Information: Tier 2 (2.5%)
 Uncertainty Characterization: Tier 2 (2.5%)
 Stock Status: Tier 1 (0%)
 Risk Analysis: Tier 2 (5%)
 Total adjustment 10%
 P* value: 40%

At the June 2013 South Atlantic Council meeting, the SSC provided their recommendation to use five-year projections at P*=50% for OFL and at P*=40% for ABC. When the South Atlantic Council received the projections from the Southeast Fisheries Science Center (SEFSC) at their June 2013 meeting, the South Atlantic Council requested the SSC review the Spanish mackerel projections and revisit the recommendations for OFL and ABC. The South Atlantic Council asked the SSC to consider basing OFL and ABC on equilibrium projections of the maximum sustainable yield (MSY), in light of effects of selectivity and recruitment patterns on short-term yield estimates. Additional language was added to provide guidance and clarification to the SSC: ‘Considering the high degree of confidence that the stock is not only not overfished nor undergoing overfishing, but that current biomass is high (SSB/MSST = 2.29) and exploitation is low ($F/F_{msy} = 0.53$) and that the stock has not experienced overfishing over the assessment period, the Council believes that use of a less risk-averse reference point such as the equilibrium MSY, (6.063 million pounds (mp)) as OFL for 2013-2015 is justified. Due to the exploitation history and stock status, the Council believes such a reference point does not significantly increase the probability of overfishing during these years’.

In October 2013, the SSC reviewed projections and recommended the OFL and ABC values for Atlantic migratory group Spanish mackerel shown in **Table 2.1**.

Table 2.1. SSC recommendations for Atlantic migratory group Spanish mackerel, October 2013.

Fishing Year (March-February)	OFL (Landings-mp)	ABC (Landings- mp)
2014-2015	7.03	6.063
2015-2016	6.62	6.063
2016-2017	6.519	6.063

Comparison of Alternatives:

Alternative 1 (No Action) would not modify the Atlantic group Spanish mackerel ACL based on the results of the stock assessment. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would modify the ACL by using the new ABC in the formula of $ACL = OY = ABC$. Thus, the total ACL would be 6.063 mp ww. The commercial ACL, recreational ACL, and recreational ACT would be adjusted accordingly, based on existing sector allocations and the formula used for the recreational ACT in Amendment 18 (GMFMC/SAFMC 2011). Because **Alternative 1 (No Action)** would constrain harvest to a lower level than **South Atlantic Preferred/ Gulf Preferred Alternative 2**, the biological benefits under **Alternative 1 (No Action)** would be expected to be greater than **South Atlantic Preferred/ Gulf Preferred Alternative 2**. However, results of the most recent assessment for the Atlantic migratory group of Spanish mackerel indicate the stock is not overfished or undergoing overfishing. Therefore, there is no

biological need to constrain harvest at a level lower than that determined to be appropriate by the SSC.

In general, higher ACLs are better for both sectors as long as they are not exceeded and/or do not require overage paybacks in future seasons. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would have the greatest positive direct economic effects. **Alternative 1 (No Action)** would maintain the status quo and is not expected to change economic effects. Changes in the ACL for any stock would not directly affect resource users unless the ACL is met or exceeded, in which case accountability measures, which restrict or close harvest, could negatively affect the commercial fleet, for-hire fleet, and private anglers. In general, the higher the ACL, the greater the short-term social and economic benefits that would be expected to accrue, assuming information is up-to-date and accurate to allow sustainable harvest. **Alternative 1 (No Action)** would not incorporate the results of the recent stock assessment and the current ACL may not reflect the stock status at this time. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would increase the ACL based on the best information available from a recent assessment, which would be beneficial to fishermen by allowing additional Spanish mackerel to be harvested but without negatively affecting the stock. Administrative impacts of this action are likely to be minimal.

Figure 2.1 compares total landings of Atlantic migratory group Spanish mackerel with the ACLs proposed in the alternatives. **Figures 2.2-2.4** show the comparison of sector landings to the proposed sector ACLs and recreational ACT in the alternatives.

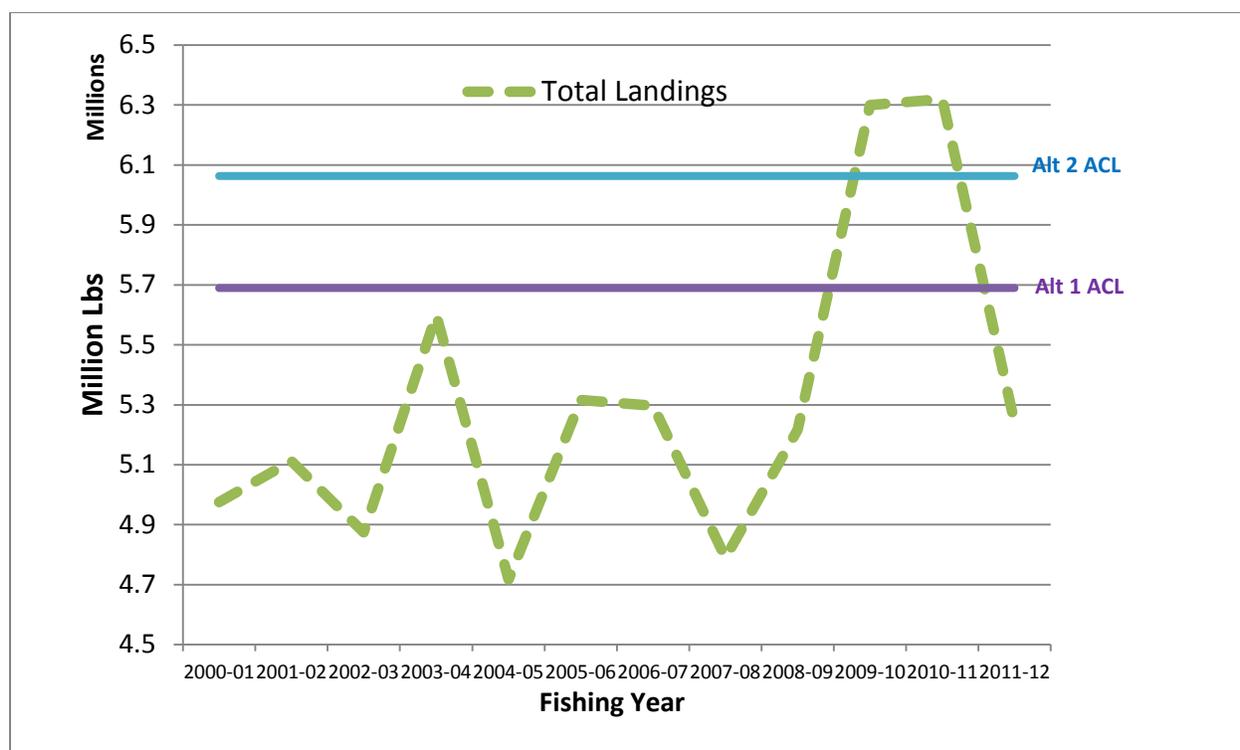


Figure 2.1. Total landings of Atlantic migratory group Spanish mackerel since the 2000/2001 fishing season compared to the proposed ACLs in **Action 1**. The fishing season is March-February. Data source: SERO.

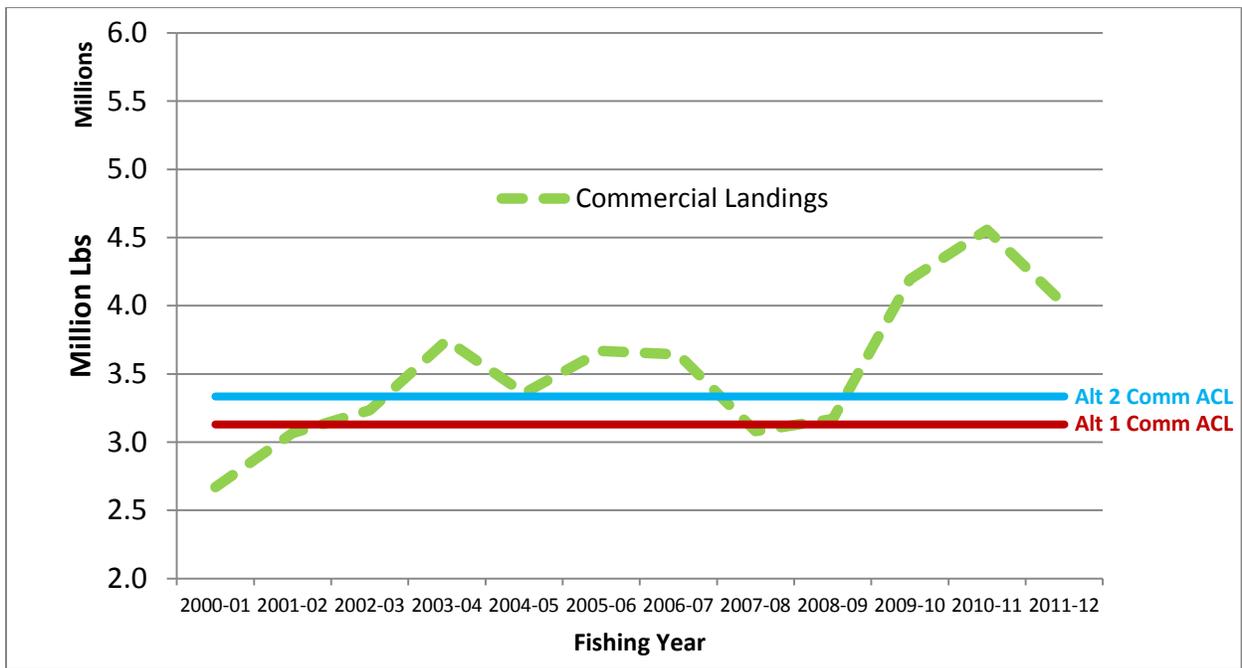


Figure 2.2. Commercial landings of Atlantic migratory group Spanish mackerel since the 2000/2001 fishing season compared to the proposed commercial ACLs in **Action 1**. The fishing season is March-February. Data source: SERO.

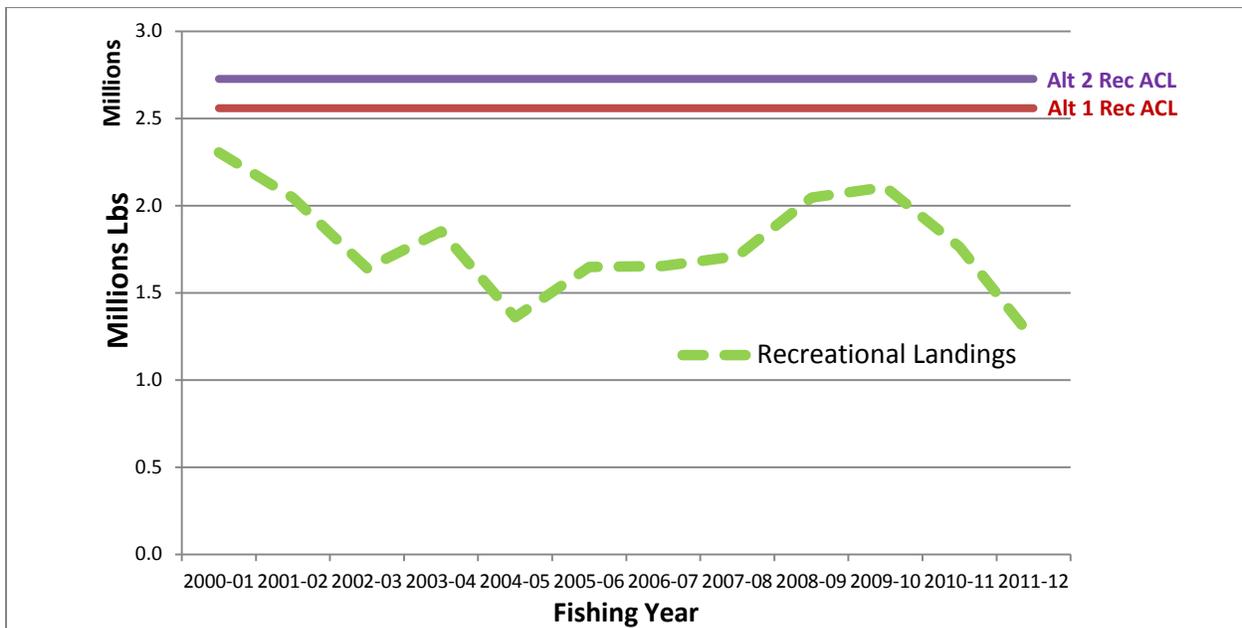


Figure 2.3. Recreational landings of Atlantic migratory group Spanish mackerel since the 2000/2001 fishing season compared to the proposed recreational ACLs in **Action 1**. The fishing season is March-February. Data source: SERO.

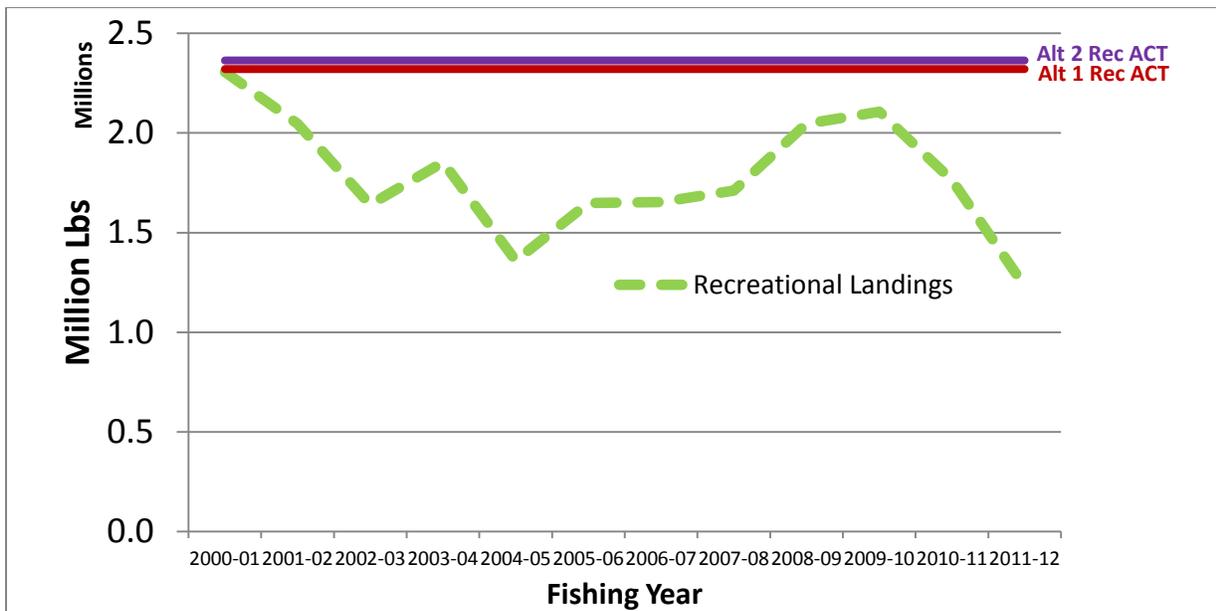


Figure 2.4. Recreational landings of Atlantic migratory group Spanish mackerel since the 2000/2001 fishing season compared to the proposed recreational ACTs in **Action 1**. The fishing season is March-February. Data source: SERO

Action 2. Modify the Annual Catch Limit (ACL) for Gulf migratory group Spanish mackerel

Alternative 1 (No Action). Retain the current ACL for Gulf migratory group Spanish mackerel:

Current ABC = 5.15 mp

ACL= ABC = 5.15 mp (single Gulf-wide stock ACL).

Gulf Preferred Alternative 2. Revise ACL for Gulf migratory group Spanish mackerel for 2014 through 2016 as shown below, and set ACL = ABC.

Table 2.2. ABCs and ACLs for 2014-2016 from the SEDAR 28 Gulf Spanish mackerel stock assessment and the Gulf Council/SSC-approved projections for Gulf migratory group Spanish mackerel. 'mp' = million pounds.

Fishing Year (April-March)	ABC	Total ACL
2014-2015	12.7 mp	12.7 mp
2015-2016	11.8 mp	11.8 mp
2016-2017	11.3 mp	11.3 mp

Discussion:

In Amendment 18 to the CMP FMP (GMFMC/SAFMC 2011), the ACL for Gulf migratory group Spanish mackerel was established. The ABC value was recommended by the Gulf Council's SSC. Amendment 18 also discontinued the use of separate commercial and recreational ACLs in the Gulf of Mexico (Gulf), instead selecting a single stock ACL to include both sectors.

SEDAR 28 included a benchmark assessment for Gulf migratory group Spanish mackerel and was completed and revised in 2013 (SEDAR 28 2013). In August 2013, the SSC reviewed the results. The SSC accepted the benchmark assessment as representing the best available scientific information on the current stock status of Spanish mackerel in Gulf waters and considered it appropriate for Gulf Council management decisions.

The current stock status in the base run from the Stock Synthesis Model was estimated to be $SSB_{2011}/MSST=2.96$. The current level of fishing (the geometric mean of the 2009-2011 levels) is $F_{2009-2011}/F_{MSY} = 0.40$. The SSC concluded that the Gulf migratory group Spanish mackerel stock is not overfished and is not undergoing overfishing. Following the discussion regarding the ABC buffer, the SSC recommended an ABC yield stream using the base model and a probability of overfishing of $P^* = 0.434$ applied to the OFL. Although the SSC voted to set

ABC according to its control rule for years 2013 through 2016, the SSC felt that the Gulf Council should take into account their concerns raised regarding the OFL buffer and the equilibrium yield level when determining where to set ACL levels.

In August 2013, the SSC reviewed projections and recommended the OFL and ABC values for Gulf migratory group Spanish mackerel shown in **Table 2.3**. Although the values are higher than recent landings, the ABC would decrease in subsequent years toward equilibrium levels. This is because the current biomass level is estimated to be well above SSB_{MSY} . Consequently, catch levels above equilibrium ABC can occur, but will result in the stock being fished down to its equilibrium SSB_{MSY} level. At the August 2013 Gulf Council meeting, the SSC provided their recommendation to use four-year projections at $P^*=50\%$ for OFL and at $P^*=43.4\%$ for ABC. The Gulf Council subsequently approved the SSC’s recommendations for OFL and ABC.

Table 2.3. SSC recommendations for OFL and ABC for Gulf of Mexico migratory group Spanish mackerel, August 2013. Yields include landings and discards, and are presented in millions of pounds.

ABC Values			OFL Values	
Year	P*	ABC	P*	OFL
2013	0.434	14.2	0.5	14.4
2014	0.434	12.7	0.5	12.9
2015	0.434	11.8	0.5	12.1
2016	0.434	11.3	0.5	11.5

Table 2.4. Spanish mackerel status, and fishing level recommendations (mp = million pounds). Deterministic values for evaluation criteria from analyses and projections provided to the Gulf Council SSC after the SEDAR 28 assessment, for determining OFL and ABC.

Criteria	Deterministic
Overfished evaluation	No ($SSB/MSST=2.96$)
Overfishing evaluation	No ($F_{2009-2011}/F_{MSY}=0.40$)
MFMT	0.38
MSST	14,474,190 lbs
MSY	23,345,467 lbs
P-Star	43.4%

Comparison of Alternatives:

Alternative 1 would not update ACLs based on results from the recent stock assessment, and would therefore not result in a change to the current biological environment. **Gulf Preferred Alternative 2** proposes to increase the ACL, which could lead to additional removals from the population. **Gulf Preferred Alternative 2** would employ the same formula as specified in the **Alternative 1 (No Action)**, and set the $ACL = ABC$. However, since the ACL is equal to the SSC-recommended ABC, there is little risk of any direct or indirect negative biological effects.

Alternative 1 (No Action) would maintain a Gulf migratory group Spanish mackerel ACL of 5.15 mp, and would not be expected to have economic effects. Between 2000 and 2011, Gulf

Spanish mackerel landings averaged 3.93 mp annually. During the same time interval, the maximum harvest level was 4.88 mp. This value is well below the 5.15 mp current ACL. It is therefore highly unlikely that economic benefits that could result from ACL increase under consideration in **Gulf Preferred Alternative 2** would materialize. In the future, should commercial and recreational fishermen elect to take advantage of the additional fishing opportunities provided by **Gulf Preferred Alternative 2**, direct economic benefits proportional to the ACL increases could be realized. Since current landings of Gulf migratory group Spanish mackerel usually do not meet the current ACL under **Alternative 1 (No Action)**, the proposed increases in the ACL under **Gulf Preferred Alternative 2** is not expected to change fishing behavior or access to the resource, and would likely be beneficial to the fleet while maintaining sustainable harvest. Administrative impacts of this action are likely to be minimal.

Chapter 3. Affected Environment

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

- **Habitat environment** (Section 3.1)
- **Biological environment** (Section 3.2)
- **Human environment** (Sections 3.3)
- **Administrative environment** (Section 3.4)

3.1 Habitat Environment

3.1.1 South Atlantic

The South Atlantic Fishery Management Council (South Atlantic Council) has management jurisdiction of the federal waters (3-200 nm) offshore of North Carolina, South Carolina, Georgia, and Florida. 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 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. From Cape Canaveral, Florida, to Cape Hatteras,

North Carolina four water masses are found: Gulf Stream water; Carolina Capes water; Georgia water; and Virginia coastal 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, North Carolina, Cape Lookout, North Carolina, 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.

3.1.2 Gulf of Mexico

The Gulf of Mexico (Gulf) has a total area of approximately 600,000 square miles (1.5 million km²), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel. Oceanic conditions are primarily affected by the Loop Current (**Figure 3.1.2.1**), the discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf.

The Gulf is both a warm temperate and a tropical body of water (McEachran and Fechhelm 2005). Based on satellite derived measurements from 1982 through 2009, mean annual sea surface temperature ranged from 73 through 83° F (23-28° C) including bays and bayous (**Figure 3.1.2.1**). In general, mean sea surface temperature increases from north to south depending on time of year with large seasonal variations in shallow waters (NODC 2012: <http://accession.nodc.noaa.gov/0072888>).

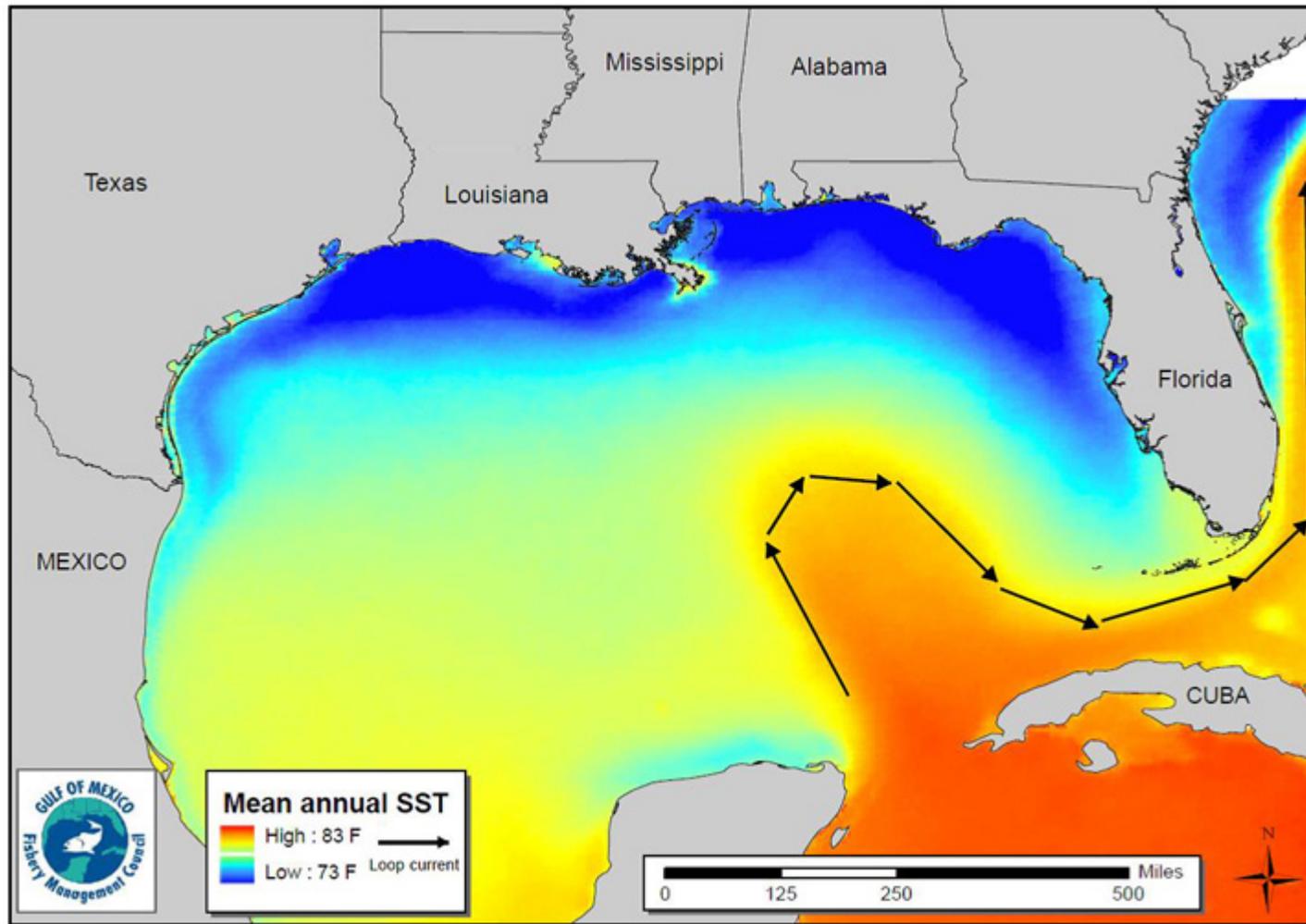


Figure 3.1.2.1. Mean annual sea surface temperature derived from the Advanced Very High Resolution Radiometer (AVHRR) Pathfinder Version 5 sea surface temperature data set (<http://pathfinder.nodc.noaa.gov>).

Several area closures include gear restrictions may affect targeted and incidental harvest of coastal migratory pelagic (CMP) species in the Gulf of Mexico. These are described in detail in Amendment 20B (GMFMC/SAFMC 2013) to the CMP FMP and incorporated by reference. The areas include

- Longline/Buoy Gear Area Closure
- Madison-Swanson and Steamboat Lumps Marine Reserves
- The Edges Marine Reserve
- Tortugas North and South Marine Reserves
- Alabama Special Management Zone

Reef and bank areas designated as Habitat Areas of Particular Concern (HAPCs) in the northwestern Gulf include East and West Flower Garden Banks, Stetson Bank, Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank, Geyer Bank, McGrail Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank, Florida Middle Grounds HAPC and Pulley Ridge HAPC.

Deepwater Horizon Oil Spill

The Deepwater Horizon MC252 oil spill affected at least one-third of the Gulf from western Louisiana east to the Florida Panhandle and south to the Campeche Bank of Mexico. Oil flowed from the ruptured wellhead at a rate of 52,700 – 62,200 barrels/day for a total of 4,928,100 barrels (www.restorethegulf.gov 2010). The impacts of the Deepwater Horizon MC252 oil spill on the physical environment may be significant and long-term. Oil was dispersed on the surface, and because of the heavy use of dispersants (both at the surface and at the wellhead), oil was also documented as being suspended within the water column (Camilli et al. 2010; Kujawinski et al. 2011). Floating and suspended oil washed onto coastlines in several areas of the Gulf along with non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are persistent in the environment and can be transported hundreds of miles (Goodman 2003).

Surface or submerged oil during the Deepwater Horizon MC252 oil spill event could have restricted the normal processes of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column, thus affecting the long-standing hypoxic zone located west of the Mississippi River on the Louisiana continental shelf (NOAA 2010). Research by Hazen et al. (2010), however, has indicated that microbial biodegradation of hydrocarbons in the water column may have occurred without substantial oxygen drawdown. Residence time of hydrocarbons in sediments is also a point of interest. Among the indices developed for past oil spills (Harper 2003) and oil spill scenarios (National Environmental Research Institute 2011) is the “oil residence index”; however, this index does not appear to have been utilized during the assessment of the Deepwater Horizon MC252 oil spill.

Most recently, the Associated Press reported on September 6, 2012 that researchers from Louisiana State University had linked oil discovered on Elmer’s Island and Grand Isle to the Deepwater Horizon MC252 oil spill after the landfall and dissipation of Hurricane Isaac (Burdeau and Reeves 2012).

3.2 Biological and Ecological Environment

3.2.1 Fish Populations Affected by this Amendment

A description of the biological environment for CMP species is provided in Amendment 18 (GMFMC/ SAFMC 2011), is incorporated herein by reference, and is summarized below.

The mackerel family, Scombridae, includes tunas, mackerels and bonitos are among the most important commercial and sport fishes. The habitat of adults in the coastal pelagic management unit is the coastal waters out to the edge of the continental shelf in the Atlantic Ocean. Within the area, the occurrence of CMP species is governed by temperature and salinity. All species are seldom found in water temperatures less than 20°C. Salinity preference varies, but these species generally prefer high salinity, less than 36 ppt. The habitat for eggs and larvae of all species in the coastal pelagic management unit is the water column. Within the spawning area, eggs and larvae are concentrated in the surface waters.

The proposed actions in this amendment specifically affect Spanish mackerel (*Scomberomorus maculatus*). Spanish mackerel are migratory and move into specific areas to spawn. Environmental factors, such as temperature can change the timing and extent of their migratory patterns (Williams and Taylor 1980) and Spanish mackerel mature at age 1-2 years.

Spanish mackerel is also a pelagic species occurring in depths up to 75 meters but primarily found in depths of 20 meters or less. The species occurs throughout the coastal zones of the western Atlantic from southern New England to the Florida Keys and throughout the Gulf of Mexico (Collette and Russo 1979). Adults usually are found from the low-tide line to the edge of the continental shelf, and along coastal areas. They inhabit estuarine areas, especially the higher salinity areas, during seasonal migrations, but are considered rare and infrequent in many Gulf estuaries.

Spawning occurs along the inner continental shelf from April to September (Powell 1975). Eggs and larvae occur most frequently offshore over the inner continental shelf at temperatures between 20°C to 32°C and salinities between 28 and 37 ppt. They are also most frequently found in water depths from 9 meters to about 84 meters, but are most common in < 50 m.

Juveniles are most often found in coastal and estuarine habitats and at temperatures greater than 25° C and salinities greater than 10 ppt. Although they occur in waters of varying salinity, juveniles appear to prefer marine salinity levels and generally are not considered estuarine-dependent. Like king mackerel, adult Spanish mackerel are migratory, generally moving from wintering areas of south Florida and Mexico to more northern latitudes in spring and summer. Spanish mackerel generally mature at age 1 to 2 and have a maximum age of approximately 11 years (Powell 1975).

3.2.2 Protected Species

All sea turtle species occurring in the Atlantic Ocean are listed as either endangered or threatened under the Endangered Species Act (ESA). The alternatives discussed in this amendment may potentially affect five sea turtle species: the endangered leatherback, the endangered hawksbill, the endangered Kemp's ridley, the Northwest Atlantic distinct population segment (DPS) of the threatened loggerhead, and the threatened green, except for breeding populations of green turtles in Florida, which are listed as endangered.

The threatened Gulf sturgeon, the endangered shortnose sturgeon, the South Atlantic and Carolina DPS of the threatened Atlantic sturgeon, and the endangered smalltooth sawfish, also occur within the area encompassed by the alternatives analyzed within this amendment. Additionally, two threatened *Acropora* coral species, elkhorn and staghorn, can be found in areas of Florida.

Species of large whales protected by the ESA that occur throughout the Gulf and 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; the West Indian manatee is under the jurisdiction of the USFWS. 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 and/or Gulf of Mexico. Aside from the aforementioned protected species, portions of designated critical habitat for Gulf sturgeon, *Acropora* corals, and the North Atlantic Right Whale also occur within areas encompassed by the alternatives in this amendment.

In a 2007 biological opinion, the National Marine Fisheries Service (NMFS) determined the continued existence of endangered green, leatherback, hawksbill, and Kemp's ridley sea turtles, and threatened loggerhead sea turtles was not likely to be jeopardized by fishing for CMP species in the Southeastern United States. Other listed species are not likely to be adversely affected, including Endangered Species Act-listed whales, Gulf sturgeon, and *Acropora* corals. Since the completion of the 2007 consultation, five DPSs of Atlantic sturgeon became federally protected by the ESA. What affect the CMP fishery is likely to have on Atlantic sturgeon has never been analyzed in a Section 7 consultation; however, Atlantic sturgeon have been captured by fishermen fishing for CMP species in the past. Because of these past captures and the new protection for Atlantic sturgeon, ESA consultation was reinitiated in November 2012. NMFS has determined that allowing the continued operation of the CMP fishery under the existing fishery management regulations during the reinitiating period will not violate section 7(a)(2) or 7(d) of the ESA.

The Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2013 Marine Mammal Protection Act List of Fisheries as a Category III fishery (78 FR 53336, August 29,

2013), 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 mortalities, 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. 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 Social and Economic Environment

A description of the social and economic environments for CMP species is provided in Amendment 18 (GMFMC/ SAFMC 2011), is incorporated herein by reference, and is summarized below.

Description of the fishery

A commercial Spanish mackerel permit is required for vessels fishing in the Gulf or Atlantic. This permit is open access. For-hire vessels must have a charter/headboat CMP permit for the area fished. The commercial permit has an income requirement of 25% of earned income or \$10,000 from commercial or charter/headboat fishing activity in one of the previous three calendar years; however, the South Atlantic and Gulf of Mexico Fishery Management Councils (Councils) have approved an action in Amendment 20A to remove this requirement. As of December 31, 2013, there were 1,609 valid federal Spanish mackerel permits.

Gulf migratory group Spanish mackerel are considered a single stock throughout the Gulf from the southern border of Texas to the Miami-Dade/Monroe county border on the east coast of Florida. A single ACL for both commercial and recreational sectors was implemented through Amendment 18 (GMFMC/ SAFMC 2011) beginning with the 2012/2013 fishing year. Before that, the commercial and recreational sectors had separate quotas. The fishing year is April 1-March 31. When the stock ACL has been landed, both sectors are closed to fishing for the remainder of the fishing year.

The fishing year for Atlantic migratory group Spanish mackerel is March-February, which was implemented in August 2005; before then, the fishing year was April-March. Because of the change in fishing year, the 2005/2006 fishing year has only 11 months of landings and has been normalized for comparison with other years.

For management measures, the Atlantic migratory group of Spanish mackerel is divided into two areas separated at the Georgia-Florida state line. The commercial trip limit north of the Georgia-Florida line is 3,500 lbs. In Florida, the trip limit can be adjusted during the season depending on how much of the Atlantic migratory group Spanish mackerel commercial ACL has been

landed between December 1 and the end of February. During the time when less than 75% of the adjusted quota (commercial ACL minus 250,000 lbs) has been landed, there is no trip limit on weekdays and a trip limit of 1,500 lbs on weekends. When 75% of the adjusted quota has been landed, the trip limit is 1,500 lbs on all days. When 100% of the adjusted quota has been landed, the trip limit in Florida is 500 lbs. When the total commercial ACL has been landed, the commercial sector is closed.

One commercial ACL is set for the Mid-Atlantic and South Atlantic regions. In CMP Amendment 20B, the Gulf and South Atlantic Councils are considering creating allocations of the Atlantic migratory group Spanish mackerel commercial ACL to a northern zone (North Carolina to New York) and a southern zone (South Carolina, Georgia, and Florida (see **Figure 1.4.1**). Each zone would have a separate quota and separate accountability measures.

Landings compiled for the current Southeast Data, Assessment, and Review (SEDAR 28 2013) stock assessment divided the two migratory groups at the boundary between the Councils, which is the line of demarcation between the Atlantic Ocean and the Gulf of Mexico, although the management boundary is at the Dade/Monroe County line. Additionally, landings were compiled by calendar year rather than fishing year. For consistency with previous analyses, landings based on the correct management boundary and calendar year are included here.

Commercial landings over the past five years have averaged 1.3 mp annually in the Gulf and 3.7 mp annually in the Atlantic. Commercial landings of Spanish mackerel fell sharply in 1995 after Florida implemented a constitutional amendment banning certain types of nets, but average landings then increased back to near historical levels (**Table 3.3.1**).

Table 3.3.1. Annual commercial landings of Spanish mackerel.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000-2001	868,171	2,855,805
2001-2002	782,227	3,091,117
2002-2003	1,707,950	3,257,807
2003-2004	883,090	3,763,769
2004-2005	1,958,155	3,379,347
2005-2006	888,379	3,908,607
2006-2007	1,472,307	3,654,655
2007-2008	863,871	3,086,792
2008-2009	2,273,248	3,190,881
2009-2010	916,614	4,208,116
2010-2011	1,219,484	4,592,708

Source: SEFSC, ALS database; NEFSC, CFDBS database

*For 99/00-04/05, the Atlantic fishing year is Apr-Mar; for 06/07-09/10, the fishing year is Mar-Feb.

Recreational catches of Spanish mackerel in the Gulf have remained rather stable since the early 1990's at around 2.0 to 3.0 mp, despite increases in the bag limit from three fish in 1987 to 10

fish in 1992 to 15 fish in 2000. Recreational landings in the Atlantic also have remained fairly steady over time and averaged around 1.9 mp during the recent five years (**Table 3.3.2**).

Table 3.3.2. Annual recreational landings of Spanish mackerel.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000-2001	2,787,773	2,306,607
2001-2002	3,452,981	2,046,039
2002-2003	3,171,235	1,640,822
2003-2004	2,742,270	1,853,294
2004-2005	2,665,269	1,359,360
2005-2006	1,595,375	1,648,291
2006-2007	2,845,347	1,653,413
2007-2008	2,724,757	1,710,276
2008-2009	2,525,443	2,046,806
2009-2010	1,890,143	2,107,213
2010-2011	2,964,339	1,763,640

Source: SEFSC, ACL data sets; MRFSS, HBS, TPWD

Distribution of Fishing Activity

Jurisdiction of the CMP fishery is divided between the federal and state governments. However, Spanish mackerel most commonly occur in state jurisdictional waters (ASMFC Fishery Management Report, Omnibus Amendment to the Interstate Fishery Management Plans for Spanish mackerel, Spot, and Spotted Trout, 2012).

For purposes of the following discussion, the level of activity in the CMP fishery is divided into two mutually exclusive groups: those that harvest quantities of Spanish mackerel greater than the bag limits and those that harvest quantities of these species under the bag limits. Vessels that take CMP in quantities under the bag limits are divided into three groups: commercial fishing vessels, charter vessels and headboats, and angler/recreational vessels.

Commercial fishermen who harvest Spanish mackerel in federal waters with a permit are limited by daily trip limits, except for those who harvest Spanish mackerel in federal waters of the Gulf where the daily catch is unlimited. Daily trip limits vary by location and gear and may be adjusted when landings reach 75% or another percent of the annual quota (**Table 3.3.3**).

Table 3.3.3. Commercial trip limits for Spanish mackerel.

Species	Migratory Group	Zone	Subzone	Gear/Fishery	Daily Trip Limit
Spanish Mackerel	Atlantic	Northern			3,500 lbs
		Southern			3,500 lbs ¹
	Gulf	-	-	-	Unlimited

¹ The 3,500-lb trip limit begins Mar 1. Unlimited trip limits begin Dec 1 and continue until 75% of adjusted quota is harvested and trip limit is reduced to 1,500 lbs in federal waters off Florida's east coast. Daily trip limits during

the unlimited season: unlimited Mon-Fri and 1,500 lbs on Sat-Sun. In federal waters off Florida's east coast, the trip limit is reduced to 500 lbs through Mar 31 if 100% of the adjusted quota is harvested.

Any vessel in the EEZ without a federal Spanish mackerel commercial permit is restricted to a bag limit of 15 per person per day. As of December 31, 2013, there were 1,081 valid or renewable Gulf CMP for-hire permits, 27 Gulf Historical Captain CMP for-hire permits, and 1,284 Atlantic CMP for-hire permits. For-hire fishing vessels must have either a Gulf or a South Atlantic charter vessel/headboat CMP permit, depending on where they fish in the EEZ. The Gulf permit is a limited access permit, while the South Atlantic permit is an open access permit. Each charter/headboat permit allows the for-hire fishing vessel to be used to catch any CMP species in quantities no greater than the recreational bag/possession limits in federal waters. Some vessels may have both federal charter vessel/headboat and federal Spanish mackerel commercial permits. When a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the recreational bag limit. Private recreational fishing vessels must be registered in their state or documented by the U.S. Coast Guard. Saltwater anglers aboard these vessels must be registered with the National Saltwater Angler Registry or licensed in their exempted state in order to fish for CMP in the EEZ. All states require a commercial fishing license to sell Spanish mackerel landed in their waters. Texas requires an additional permit beyond a commercial fishing license to bring any fish taken in the EEZ into state waters. Operators of commercial fishing vessels with a federal Spanish mackerel permit and who are commercially licensed in a state can land and sell quantities of these species greater than the respective bag limits (and under quota).

3.3.1 Economic Environment

3.3.1.1 Economic Description of the Commercial Sector

Number of Vessels, Harvest, and Ex-vessel Value

An economic description of the commercial sectors for Spanish mackerel is contained in Vondruska (2010) and is incorporated herein by reference. Updated select summary statistics are provided in **Table 3.3.1.1**. Landings information is provided in Section 3.1.

Table 3.3.1.1. Five-year average performance statistics, including number of vessels landing each species, value of the species for those vessels, value of all species for those vessels, and the average value for those vessels.

Spanish Mackerel Migratory Group	Number of Vessels	Ex-vessel Value (millions)	Ex-vessel Value All Species (millions)	Average Ex-vessel Value per Vessel
Gulf migratory group	208	\$0.28	\$10.33	\$49,700
Atlantic migratory group	387	\$1.87	\$11.99	\$31,000

Notes: Each row should be interpreted individually, as there will be substantial double counting across rows in columns 2 and 4, e.g., the same vessel might fish for different migratory groups of the same species.

Five-year averages in column 3 are based on fishing years for Spanish mackerels (2007/2008, 2008/2009, ..., 2011/2012).

Five-year averages in column 4 are based on calendar years (2007-2011).

All value analyses account for inflation by adjusting dollar amounts reported from 2007-2012 (i.e., current dollars) to 2011 dollars (i.e., constant dollars) using price indices from the Bureau of Labor Statistics, specifically SERIES CUUR0000SA0, CPI-U, ALL ITEMS, NOT SEASONALLY ADJUSTED, BASE=1982-84.

Source: NMFS SEFSC Coastal Fisheries Logbook for landings and NMFS Accumulated Landings System for prices. Note that small amounts (1.95% of Spanish mackerel) are landed in the Northeast and are not counted here. Similar, landings and revenue from State waters by vessels without federal permits are not included.

Economic Activity

An alternative, regional perspective on the economics of the CMP fishery is an economic impact assessment or analysis. The desire to consume CMP species, and availability of these species generate economic activity as consumers spend their incomes on CMP-derived commodities (including services), such as Spanish mackerel purchased at a local fish market and served during restaurant visits. This spurs additional economic activity in the region(s) where CMP species are purchased and fishing occurs, such as jobs in local fish markets, restaurants and fishing supply establishments. It should be clearly noted that, in the absence of CMP species for purchase, consumers would spend their incomes on substitute proteins and other commodities. As such, the economic impact analysis presented below represents a distributional analysis only; that is, it only shows how economic effects can be distributed through regional markets.

Estimates of average annual economic activity (impacts) associated with the commercial fisheries for CMP species addressed in the amendment were derived using the model developed for and applied in NMFS (2009a) and are provided in **Table 3.3.1.2**. Business activity for the commercial sector is characterized as full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

As noted in **Table 3.3.1.2**, the annual period refers to the fishing year, as appropriate to the management of the species. The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the

personal consumption expenditures of employees in the direct and indirectly affected sectors). Estimates are provided for the economic activity associated with the ex-vessel revenues from the individual CMP species as well as the revenues from all species harvested by these same vessels.

Table 3.3.1.2. Average annual economic activity associated with the CMP fishery.

Species	Average Ex-vessel Value ¹ (millions)	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)	Income Impacts (millions)
Atlantic migratory group Spanish mackerel	\$1.87	337	44	\$24.62	\$10.49
- all species	\$11.99	2,163	282	\$157.87	\$67.28
Gulf migratory group Spanish mackerel	\$0.28	51	7	\$3.69	\$1.57
- all species	\$10.33	1,863	243	\$136.01	\$57.97

¹2011 dollars.

²Includes ex-vessel revenues and economic activity associated with the average annual harvests of all species harvested by vessels that harvested the subject CMP species.

3.3.1.2 Economic Description of the Recreational Sector

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

Effort

Extrapolated recreational effort derived from the MRFSS/MRIP database, which excludes Texas, can be characterized in terms of the number of trips as follows:

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

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

All recreational trips - The total estimated number of recreational trips taken, regardless of target intent or catch success.

Estimates of average annual recreational effort, 2007-2011, for Spanish mackerel are provided in **Tables 3.3.1.3-6**. In each table, where appropriate, the “total” refers to the total number of target

or catch trips, as appropriate, while “all trips” refers to the total number of trips across all species regardless of target intent of catch success. The estimates were evaluated by calendar year and not fishing year. As a result, while the results may not be fully reflective of effort associated with specific stocks (e.g., Gulf migratory group versus Atlantic migratory group), the results are consistent with fishing activity based on area fished.

Spanish mackerel is subject to a fair amount of target and catch effort for the Gulf states (**Table 3.3.1.3**). Spanish mackerel is also subject to more catch effort than target effort. West Florida dominates other areas in both target and catch effort for Spanish mackerel. The effort situation is somewhat different for the South Atlantic states (**Table 3.3.1.4**). Spanish mackerel target and catch effort are lower than in the Gulf. Further, target effort is about the same as catch effort. East Florida dominates for catch effort but North Carolina dominates for target effort.

If examined by mode, in the Gulf, the shore mode dominates target effort, while the private mode accounts for the most catch trips (**Table 3.3.1.5**). In the South Atlantic, the private mode leads for both effort types (**Table 3.3.1.6**).

Table 3.3.1.3. Average annual (calendar year) recreational effort (thousand trips) in the Gulf of Mexico, by species and by state, across all modes, 2007-2011.

	Target Trips					
Species	Alabama	W Florida	Louisiana	Mississippi	Total	All Trips
Spanish Mackerel	68	762	0	1	830	23,600
	Catch Trips					
Spanish Mackerel	83	1,070	18	13	1,185	23,600

Source: NMFS MRFSS/MRIP and SERO.

Table 3.3.1.4. Average annual (calendar year) recreational effort (thousand trips) in the South Atlantic, by species and by state, across all modes, 2007-2011.

	Target Trips					
	E Florida	Georgia	North Carolina	South Carolina	Total	All Trips
Spanish Mackerel	186	4	258	64	512	19,842
	Catch Trips					
Spanish Mackerel	242	9	200	54	505	19,842

Source: NMFS MRFSS/MRIP and SERO.

Table 3.3.1.5. Average annual (calendar year) recreational effort (thousand trips) in the Gulf of Mexico, by species and by mode, across all states, 2007-2011.

	Target Trips				
	Shore	Charter	Private	Total	All Trips
Spanish Mackerel	534	17	280	830	23,600
	Catch Trips				
Spanish Mackerel	529	55	600	1,185	23,600

Source: NMFS MRFSS/MRIP and SERO.

Table 3.3.1.6. Average annual (calendar year) recreational effort (thousand trips) in the South Atlantic, by species and by mode, across all states, 2007-2011.

	Target Trips				
	Shore	Charter	Private	Total	All Trips
Spanish Mackerel	231	8	273	512	19,842
	Catch Trips				
	Spanish Mackerel	189	22	294	505

Source: NMFS MRFSS/MRIP and SERO.

Table 3.3.1.7 contains estimates of the average annual (2007-2011) target trips and catch trips for Spanish mackerel, by state and mode. For each fishing mode, West Florida dominates all other areas in both types of effort for Spanish mackerel.

Table 3.3.1.7. Average annual (calendar year) recreational effort (thousand trips) for Spanish mackerel, by state and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
Mississippi	0	1	0	6	0	6	1	13
Louisiana	0	1	0	2	0	15	0	18
Alabama	38	36	2	7	28	40	68	83
West Florida	495	491	15	40	252	539	762	1,070
East Florida	119	116	1	3	67	123	186	242
Georgia	2	2	0	1	2	7	4	9
South Carolina	43	31	3	7	17	16	64	54
North Carolina	67	41	4	12	187	148	258	200

Source: NMFS MRFSS/MRIP and SERO.

Similar analysis of recreational effort is not possible for the headboat sector because the headboat data are not collected at the angler level. Estimates of effort in the headboat sector are provided in terms of angler days, or the number of standardized 12-hour fishing days that account for the different half-, three-quarter-, and full-day fishing trips by headboats.

Headboat effort and harvest data, however, is collected through the NMFS Southeast Fisheries Science Center Headboat Survey (Headboat Survey) program. The average annual (2007-2011) number of headboat angler days is presented in **Table 3.3.1.8**. Due to confidentiality issues, Georgia estimates are combined with those of East Florida on the Atlantic, while Alabama is combined with West Florida as part of the summarization process for the Gulf (i.e., as part of the estimation process and not a result of confidentiality merging). As shown in **Table 3.3.1.8**, in both regions, Florida dominates, followed by Texas in the Gulf and South Carolina in the South Atlantic.

Table 3.3.1.8. Southeast headboat angler days, 2007-2011.

	Gulf of Mexico				
	Louisiana	Mississippi	Texas	West Florida/Alabama	Total
2007	2,522	0	63,764	136,880	203,166
2008	2,945	0	41,188	130,176	174,309
2009	3,268	0	50,737	142,438	196,443
2010	217	*	47,154	111,018	158,389
2011	1,886	1,771	47,284	157,025	207,966
5-year Average	2,168	1,771**	50,025	135,507	189,471
	South Atlantic				
	East Florida/Georgia	North Carolina	South Carolina	Total	
2007	157,150	29,002	60,729	246,881	
2008	124,119	16,982	47,287	188,388	
2009	136,420	19,468	40,919	196,807	
2010	123,662	21,071	44,951	189,684	
2011	124,041	18,457	44,645	187,143	
5-year Average	133,078	20,996	47,706	201,781	

Source: Headboat Survey, NMFS, SEFSC, Beaufort Lab.

*Confidential.

**Because the average totals are used to represent expectations of future activity, the 2011 number of trips is provided as best representative of the emergent headboat sector in Mississippi.

Economic Value, Expenditures, and Economic Activity

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

The estimated consumer surplus per fish kept for king mackerel to anglers in both the Gulf and South Atlantic, based on the estimated willingness-to-pay to avoid a reduction in the bag limit, is \$7 (assumed 2006 dollars; Whitehead 2006). A comparable estimate has not been identified for Spanish mackerel.

While anglers receive economic value as measured by the consumer surplus associated with fishing, for-hire businesses receive value from the services they provide. Producer surplus is the

measure of the economic value these operations receive. Producer surplus is the difference between the revenue a business receives for a good or service, such as a charter or headboat trip, and the cost the business incurs to provide that good or service. Estimates of the producer surplus associated with for-hire trips are not available. However, proxy values in the form of net operating revenues are available (D. Carter, NMFS SEFSC, personal communication, August 2010). These estimates were culled from several studies – Liese and Carter (2011), Dumas et al. (2009), Holland et al. (1999), and Sutton et al. (1999). Estimates of net operating revenue per angler trip (2009 dollars) on representative charter trips (average charter trip regardless of area fished) are \$146 for Louisiana through east Florida, \$135 for east Florida, \$156 for northeast Florida, and \$128 for North Carolina. For charter trips into the EEZ only, net operating revenues are \$141 in east Florida and \$148 in northeast Florida. For full-day and overnight trips only, net operating revenues are estimated to be \$155-\$160 in North Carolina. Comparable estimates are not available for Georgia, South Carolina, or Texas.

Net operating revenues per angler trip are lower for headboats than for charter boats. Net operating revenue estimates for a representative headboat trip are \$48 in the Gulf (all states and all of Florida), and \$63-\$68 in North Carolina. For full-day and overnight headboat trips, net operating revenues are estimated to be \$74-\$77 in North Carolina. Comparable estimates are not available for other states.

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

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

Estimates of the regional economic activity (impacts) associated with the recreational fishery for Spanish mackerel were derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009a) and are provided in **Tables 3.3.1.9-10**. Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

Estimates of the average expenditures by recreational anglers are provided in NMFS (2009b) and are incorporated herein by reference. Estimates of the average recreational effort (2007-2011) and associated economic impacts (2008 dollars) are provided in **Table 3.3.1.9**. Target trips were used as the measure of recreational effort. As previously discussed, more trips may catch some species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent. For example, if the number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the associated activity would equal three times the estimate associated with target trips. **Tables 3.3.1.9** and **3.3.1.10** contain summaries of the average annual (2007-2011) target trips for each state and mode, and associated economic activity.

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

Table 3.3.1.9. Summary of Spanish mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), Gulf states. Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
Shore Mode					
Target Trips	37,870	495,146	380	151	unknown
Output Impact	\$2,954,402	\$35,782,871	\$28,628	\$2,168	
Value Added Impact	\$1,589,297	\$20,788,675	\$14,451	\$1,081	
Jobs	34	356	0	0	
Private/Rental Mode					
Target Trips	27,594	251,992	0	237	unknown
Output Impact	\$1,712,022	\$12,200,175	\$0	\$7,207	
Value Added Impact	\$937,293	\$7,254,682	\$0	\$3,454	
Jobs	17	114	0	0	
Charter Mode					
Target Trips	2,153	14,793	0	165	unknown
Output Impact	\$1,195,368	\$4,953,425	\$0	\$54,669	
Value Added Impact	\$658,010	\$2,936,871	\$0	\$30,806	
Jobs	15	48	0	1	
All Modes					
Target Trips	67,617	761,931	380	553	unknown
Output Impact	\$5,861,791	\$52,936,471	\$28,628	\$64,044	
Value Added Impact	\$3,184,600	\$30,980,228	\$14,451	\$35,341	
Jobs	66	518	0	1	

Source: effort data from the NMFS MRFSS/MRIP, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009a).

Table 3.3.1.10. Summary of Spanish mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), South Atlantic states. Output and value added impacts are not additive.

	North Carolina	South Carolina	Georgia	East Florida
Shore Mode				
Target Trips	66,917	43,394	1,623	118,706
Output Impact	\$17,872,953	\$4,712,022	\$27,878	\$3,616,236
Value Added Impact	\$9,952,630	\$2,623,766	\$16,717	\$2,099,424
Jobs	202	54	0	36
Private/Rental Mode				
Target Trips	187,165	17,139	2,113	66,616
Output Impact	\$10,894,222	\$804,136	\$35,204	\$2,686,302
Value Added Impact	\$6,142,915	\$469,203	\$21,354	\$1,605,208
Jobs	110	9	0	26
Charter Mode				
Target Trips	4,404	3,000	89	595
Output Impact	\$1,828,200	\$1,078,834	\$5,966	\$248,659
Value Added Impact	\$1,025,990	\$609,497	\$3,482	\$146,393
Jobs	22	13	0	2
All Modes				
Target Trips	258,486	63,533	3,825	185,917
Output Impact	\$30,595,375	\$6,594,993	\$69,049	\$6,551,197
Value Added Impact	\$17,121,534	\$3,702,465	\$41,553	\$3,851,024
Jobs	334	76	1	65

Source: effort data from the NMFS MRFSS/MRIP, economic activity results calculated by NMFS SERO using the model developed for NMFS (2009a).

As previously noted, the values provided in **Tables 3.3.1.11** and **3.3.1.12** only reflect effort derived from the MRFSS/MRIP. Because the headboat sector in the Southeast Region is not covered by the MRFSS/MRIP, the results in **Tables 3.3.1.11** and **3.3.1.12** do not include estimates of the economic activity associated with headboat anglers. While estimates of headboat effort are available, species target information is not collected in the Headboat Survey, which prevents the generation of estimates of the number of headboat target trips for individual species. Further, because the model developed for NMFS (2009a) was based on expenditure data collected through the MRFSS/MRIP, expenditure data from headboat anglers was not available and appropriate economic expenditure coefficients have not been estimated. As a result, estimates of the economic activity associated with the headboat sector comparable to those of the other recreational sector modes cannot be provided.

3.3.2 Social Environment

Descriptions of the social environment of the CMP fishery and associated coastal communities are contained in Amendment 20A to the CMP FMP (GMFMC/SAFMC 2013) and are incorporated herein by reference where appropriate. The referenced description focuses on available geographic and demographic data to identify communities with strong relationships with harvest of coastal migratory pelagic species (i.e., significant landings and revenue). This section focuses on communities that are the most likely to experience positive or negative impacts from regulatory changes for Spanish mackerel.

The descriptions include information about the top communities based upon a regional quotient of commercial landings and value for Spanish mackerel. These top communities are referred to in this document as “Spanish mackerel communities” because these are the areas that would be most likely to experience the effects of proposed actions that could change the Spanish mackerel fishery and impact the participants and associated businesses and communities within the regions. Additionally, the descriptions in Amendment 20A (GMFMC/SAFMC 2013) for the Gulf and the South Atlantic and Mid-Atlantic regions also include reliance and engagement indices to identify other areas in which Spanish mackerel fishing is important, and provide information of how a community overall is involved with commercial and recreational fishing and could experience effects from regulatory actions for any species (see Amendment 20A for more details about the reliance and engagement indices). The identified communities in this section are referenced in Sections 4.1.3 and 4.2.3 in order to provide information on how the alternatives could affect specific areas.

Gulf of Mexico Region

Commercial Spanish Mackerel Communities

Using the regional quotient to identify Spanish mackerel communities, as detailed in Amendment 20A (GMFMC/SAFMC 2013), Destin, Florida, lands one quarter of all Spanish mackerel landings in the Gulf and those landings represent over 25% of the value. The second ranked community of Bayou La Batre, Alabama, includes about 20% of the landings and about 15% of the value of Spanish mackerel. Ten other Florida communities make up the top fifteen (including two Florida Keys communities), three additional Alabama communities, and one Louisiana community. No Texas or Mississippi communities are included in the top 15 for Spanish mackerel.

Reliance on and Engagement with Commercial and Recreational Fishing in the South Atlantic

The reliance and engagement indices provide information of how a community overall is involved with commercial and recreational fishing and could experience effects from regulatory actions for any species (see Amendment 20A for more details, GMFMC/SAFMC 2013). The primary commercial communities that could be affected by change in the Spanish mackerel fishery include Bayou La Batre and Houma, LA. Florida communities include Destin, Everglades, Key West, Marathon, St. Petersburg, and Tarpon Springs. The primary recreational

communities in the Spanish mackerel fishery are all in Florida and include Destin, Key West, Marathon, Port St. Joe, St. Petersburg, and Tarpon Springs.

South Atlantic Region

Commercial Spanish Mackerel Communities in the South Atlantic

Using the regional quotient to identify Spanish mackerel communities, as detailed in Amendment 20A (GMFMC/SAFMC 2013), Fort Pierce, Florida, has almost 32% of the landings and over 25% of the value. Cocoa, Florida, is second with about 17% of landings and 17% of value. Although Hatteras, North Carolina ranked third for value, the community had lower landings than Palm Beach Gardens, Florida. No South Carolina or Georgia communities are included in the top fifteen for Spanish mackerel.

Reliance on and Engagement with Commercial and Recreational Fishing in the South Atlantic

The reliance and engagement indices provide information of how a community overall is involved with commercial and recreational fishing and could experience effects from regulatory actions for any species (see Amendment 20A for more details, GMFMC/SAFMC 2013). The primary commercial communities in the Spanish mackerel fishery include Fort Pierce, Florida; Marathon, Florida; Miami, Florida; Sebastian, Florida; Stuart, Florida; and Wanchese, North Carolina. The primary recreational communities in the Spanish mackerel fishery are Fort Pierce, Florida; Marathon, Florida; Miami, Florida; Sebastian, Florida; and Wanchese, North Carolina.

Mid-Atlantic Region

The South Atlantic Council manages Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia through the Mid-Atlantic region as well as in the South Atlantic region. Overall, landings of these species in the Mid-Atlantic region are very low, and management actions by the South Atlantic Council likely have minimal impacts on Mid-Atlantic communities. More detailed information about these communities and how they were identified is described in Amendment 20A (GMFMC/SAFMC 2013).

Commercial Spanish Mackerel Communities in the Mid-Atlantic

For Spanish mackerel in the Mid-Atlantic the primary community with the relatively highest level of landings of at the regional level is Virginia Beach, Virginia. The Virginia counties of Gloucester, Northampton, and Northumberland also include communities with higher levels of landings in the Mid-Atlantic region. Some communities in Maryland reported landings of Spanish mackerel (minimal), but no communities in New York, New Jersey, Pennsylvania, or Delaware are included in the top communities for Spanish mackerel.

Reliance on and Engagement with Commercial and Recreational Fishing in the Mid-Atlantic

The primary communities that demonstrate relatively high levels of commercial fishing engagement and reliance are Montauk, New York, and Hampton Bays, New York. Communities with relatively substantial recreational engagement and reliance include Montauk, New York; Virginia Beach, Virginia; Chincoteague, Virginia; and Freeport, New York.

3.3.3 Environmental Justice Considerations

Executive Order 12898 requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. This executive order is generally referred to as environmental justice (EJ).

To evaluate EJ considerations for the proposed actions, information on poverty and minority rates is examined at the county level. Information on the race and income status for groups at the different participation levels (vessel owners, crew, dealers, processors, employees, employees of associated support industries, etc.) is not available. Because the proposed actions would be expected to affect fishermen and associated industries in several communities along the Gulf and South Atlantic coasts and not just those profiled, it is possible that other counties or communities have poverty or minority rates that exceed the EJ thresholds.

In order to identify the potential for EJ concern, the rates of minority populations (non-white, including Hispanic) and the percentage of the population that was below the poverty line were examined. The threshold for comparison that was used was 1.2 times the state average for minority population rate and percentage of the population below the poverty line. If the value for the community or county was greater than or equal to 1.2 times the state average, then the community or county was considered an area of potential EJ concern. Census data for the year 2010 was used. Estimates of the state minority and poverty rates, associated thresholds, and community rates are provided in **Tables 3.3.3.1** and **3.3.3.2**; note that only communities that exceed the minority threshold and/or the poverty threshold are included in the table.

Table 3.3.3.1. Environmental justice thresholds (2010 U.S. Census data) for counties in the Gulf region. Only coastal counties (west coast for Florida) with minority and/or poverty rates that exceed the state threshold are listed.

State	County/Parish	Minority Rate	Minority Threshold*	Poverty Rate	Poverty Threshold*
Florida		47.4	56.88	13.18	15.81
	Dixie	8.7	38.7	19.6	-3.79
	Franklin	19.2	28.2	23.8	-7.99
	Gulf	27	20.4	17.5	-1.69
	Jefferson	38.5	8.9	20.4	-4.59
	Levy	17.9	29.5	19.1	-3.29
	Taylor	26.2	21.2	22.9	-7.09
Alabama		31.5	37.8	16.79	20.15
	Mobile	39.5	-1.7	19.1	1.05
Mississippi		41.9	50.28	15.82	18.98
Louisiana		39.1	46.92	15.07	18.08
	Orleans	70.8	-25	23.4	-1.29
Texas		39.1	46.92	15.07	18.08
	Cameron	87.4	-24.7	35.7	-15.57
	Harris	63.5	-0.8	16.7	3.43
	Kenedy	71.7	-9	52.4	-32.27
	Kleberg	75	-12.3	26.1	-5.97
	Matagorda	51.9	10.8	21.9	-1.77
	Nueces	65.5	-2.8	19.7	0.43
	Willacy	89	-26.3	46.9	-26.77

*The county minority and poverty thresholds are calculated by comparing the county minority rate and poverty estimate to 1.2 times the state minority and poverty rates. A negative value for a county indicates that the threshold has been exceeded. No counties in Mississippi exceed the state minority or poverty thresholds.

Table 3.3.3.2. Environmental justice thresholds (2010 U.S. Census data) for counties in the South Atlantic region. Only coastal counties (east coast for Florida) with minority and/or poverty rates that exceeded the state threshold are listed.

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

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

Another type of analysis uses a suite of indices created to examine the social vulnerability of coastal communities and is depicted in **Figures 3.3.3.1** and **3.3.3.2**. 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. Indicators such as increased poverty rates for different groups; more single female-headed households; more households with children under the age of 5; and disruptions like higher separation rates, higher crime rates, and unemployment all are signs of populations experiencing vulnerabilities. The data used to create these indices are from the 2005-2009 American Community Survey estimates at the U.S. Census Bureau. The thresholds of 1 and ½ standard deviation are the same for these standardized indices. Again, for those communities that exceed the threshold for all indices it would be expected that they would

exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

Similar to the reliance index discussed in **Section 3.3.2**, the vulnerability indices also use normalized factor scores. Comparison of vulnerability scores is relative, but the score is related to the percent of communities with similar attributes. The social vulnerability indices provide a way to gauge change over time with these communities but also provides a comparison of one community with another.

With regard to social vulnerabilities, the following South Atlantic and Gulf communities exceed the threshold of 0.5 standard deviation for at least one of the social vulnerability indices (**Figure 3.3.3.1**): Bayou La Batre, Alabama; Cocoa, Fort Pierce, Miami and Stuart in Florida; Golden Meadow and Grand Isle in Louisiana; and Wanchese, North Carolina. The communities of Bayou La Batre and the Florida communities of Cocoa, Fort Pierce and Miami all exceed the thresholds on all three social vulnerability indices. These communities are expressing substantial vulnerabilities and may be susceptible to further effects from any regulatory change depending upon the direction and extent of that change.

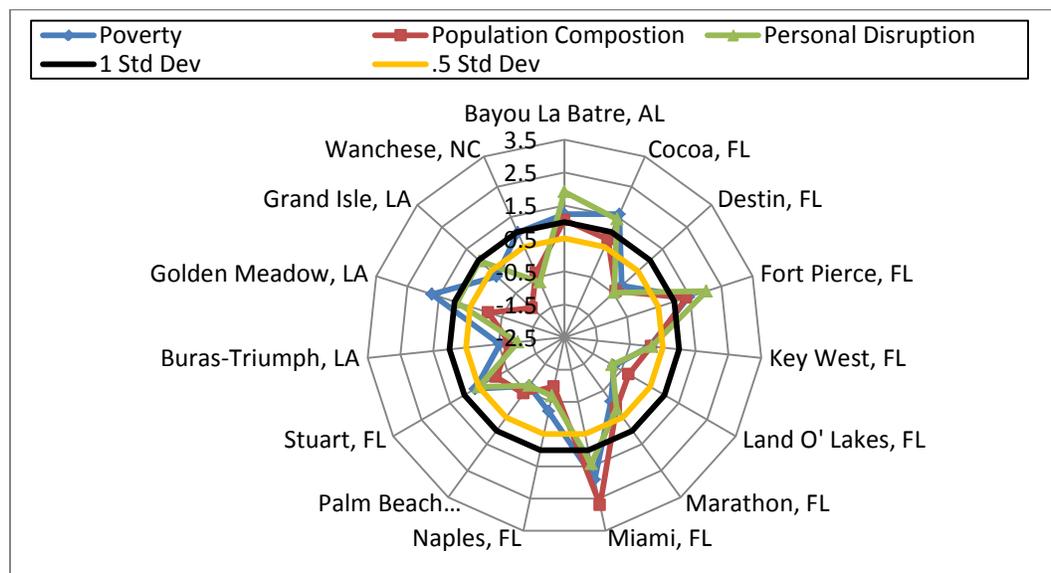


Figure 3.3.3.1. Social vulnerability indices for fifteen communities with the top regional quotients for coastal pelagics in the Gulf and South Atlantic regions. Source: SERO Social Indicator Database 2013

With regard to social vulnerabilities for the Mid-Atlantic Region, the following communities exceed the threshold of 0.5 standard deviation for at least one of the social vulnerability indices (**Figure 3.3.3.2**): Norfolk, Virginia; Hampton, Virginia; Chincoteague, Virginia; and Freeport, New York. The Virginia communities of Norfolk and Hampton exceed at least two thresholds on all three social vulnerability indices, but no communities exceed thresholds of all three indices. These communities are expressing substantial vulnerabilities and may be susceptible to

further effects from any regulatory change depending upon the direction and extent of that change.

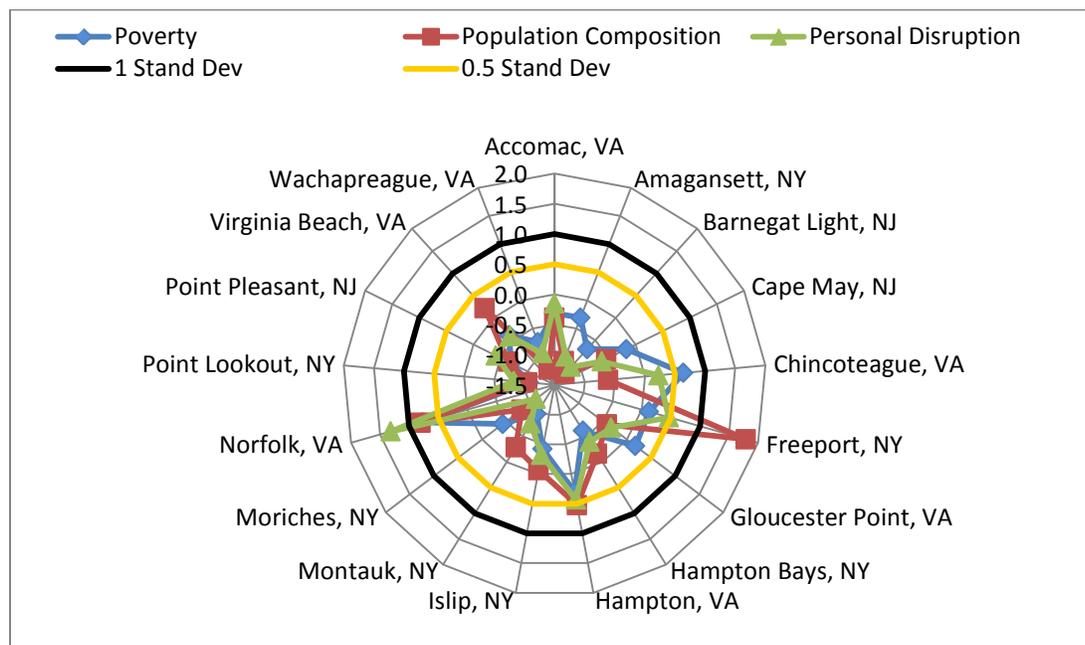


Figure 3.3.3.2. Social vulnerability indices for fifteen communities with the top regional quotients for coastal pelagics in the Mid-Atlantic region.

Source: SERO Social Indicator Database 2013

While some communities expected to be affected by this proposed action may have minority or economic profiles that exceed the EJ thresholds and, therefore, may constitute areas of concern, significant EJ issues are not expected to arise as a result of this proposed amendment. No adverse human health or environmental effects are expected to accrue to this proposed amendment, nor are these measures expected to result in increased risk of exposure of affected individuals to adverse health hazards. The proposed management measures would apply to all participants in the affected area, regardless of minority status or income level, and information is not available to suggest that minorities or lower income persons are, on average, more dependent on the affected species than non-minority or higher income persons.

Spanish mackerel are part of an important commercial fishery throughout the South Atlantic and Gulf regions, and specifically in Florida, and the fish are also targeted by recreational fishermen. The actions in this proposed action are expected to incur social and economic benefits to users and communities by implementing management measures that would contribute to conservation of the coastal pelagic stocks and to maintaining the commercial and recreational sectors of the fishery. Although there will be some short-term impacts due to some of the proposed management measures, the overall long-term benefits are expected to contribute to the social and

economic health of South Atlantic and Gulf coastal communities. Impacts (positive and negative) are expected to be minimal for fishermen and communities in the Mid-Atlantic region.

Finally, the general participatory process used in the development of fishery management measures (e.g., public hearings, and open South Atlantic and Gulf Council meetings) is expected to provide sufficient opportunity for meaningful involvement by potentially affected individuals to participate in the development process of this action and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the action. Additionally, to provide individuals in the Mid-Atlantic region an opportunity to comment on the proposed actions, information was publicized in the Mid-Atlantic about public hearings dates and locations, briefing materials and presentations that are available online, and information on how to submit written comments (via mail, fax, and email).

3.4 Administrative Environment

3.4.1 The Fishery Management Process and Applicable Laws

3.4.1.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 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.

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nautical miles from the seaward boundary of each of the

coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the EEZ.

The Gulf Council is responsible for fishery resources in federal waters of the Gulf of Mexico. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. The Gulf Council consists of 17 voting members, 11 of whom are appointed by the members appointed by the Secretary, the NMFS Regional Administrator, and one each from each of five Gulf states marine resource agencies. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard (USCG), and Gulf States Marine Fisheries Commission (GSMFC).

The South Atlantic Council is responsible for conservation and management of fishery resources in federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 miles offshore from the seaward boundary of the States of North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has 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, 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 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 Councils use their respective Scientific and Statistical Committees 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, 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 few exceptions for discussing personnel matters, 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.

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

More information about these agencies can be found from the following web pages:

Texas Parks & Wildlife Department - <http://www.tpwd.state.tx.us>

Louisiana Department of Wildlife and Fisheries <http://www.wlf.state.la.us/>

Mississippi Department of Marine Resources <http://www.dmr.state.ms.us/>

Alabama Department of Conservation and Natural Resources <http://www.dcnr.state.al.us/>

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 and Natural Resources

<http://portal.ncdenr.org/web/guest/>

3.4.1.3 Enforcement

Both the NMFS Office for Law Enforcement (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 and Comparison of Alternatives

4.1 Action 1. Modify the Annual Catch Limit (ACL) for Atlantic migratory group Spanish mackerel

Alternative 1 (No Action). Retain the ACL, optimum yield (OY), and annual catch target (ACT) for Atlantic migratory group Spanish mackerel:

ACL = OY = ABC = 5.69 mp
Commercial ACL (55%) = 3.13 mp
Recreational ACL (45%) = 2.56 mp
Recreational ACT = 2.32 mp

South Atlantic Preferred/ Gulf Preferred Alternative 2. Revise the ACL (including sector ACLs), OY and ACT for Atlantic migratory group Spanish mackerel for 2014-2016. The ABC recommended by the SSC is 6.063 mp. Set ACL = ABC, and the recreational ACT = $ACL[(1 - PSE) \text{ or } 0.5]$, whichever is greater.

ACL = OY = ABC = 6,063,000 lbs (6.063 mp)
Commercial ACL (55%) = 3,330,000 lbs (3.330 mp)
Recreational ACL (45%) = 2,727,000 lbs (2.727 mp)
Recreational ACT = 2,364,388 lbs (2.363 mp)

4.1.1 Biological Effects

Amendment 18 to the CMP FMP established an acceptable biological catch (ABC) control rule for Atlantic migratory group Spanish mackerel. In accordance with National Standard (NS) 1 guidelines, the control rule takes into account scientific and data uncertainty. The South Atlantic Fishery Management Council's (South Atlantic Council) Scientific and Statistical Committee (SSC) reviewed the 2012 assessment in April 2013 and again in October 2013, and determined the Atlantic group Spanish mackerel stock is neither overfished nor undergoing overfishing.

The SSC is the responsible entity for recommending an ABC for managed species. Section 600.310(b)(2)(v)(B) of the NS 1 guidelines state that "each SSC shall provide its Regional Fishery Management Council recommendations for ABC as well as other scientific advice, as described in Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) section 302(g)(1)(B)." Because the ABC is recommended by the SSC based on the approved ABC control rule, and was accepted by the South Atlantic Council at their September 2013 meeting, no alternatives are presented for choosing an ABC. The ABC is an established

value from which other management references points such as the ACL, OY, and ACT are based. The new ABC recommendation and subsequent proposed annual ACLs are based on biologically sound principals and an ABC control rule accepted by the SSC and the South Atlantic Council. As the new ABC recommended by the SSC is larger than the current ABC in **Alternative 1 (No Action)**, a corresponding increase in the ACLs may be justified.

Alternative 1 (No Action) would maintain the current harvest limit (the total ACL), which would cap total harvest at 5.69 million pounds (mp). **Alternative 1 (No Action)** would not update the ACL for Atlantic migratory group Spanish mackerel, and the total ACL and OY would remain. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would update the ACL and OY based on the ABC recommended by the SSC resulting in the total ACL increasing to 6.063 mp in 2014 and 2015. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would specify the ACL and OY using the status quota formula of $ACL=ABC=OY$, which was established in Amendment 18 to the CMP FMP.

Because **Alternative 1 (No Action)** would constrain harvest to a lower level than **South Atlantic Preferred/ Gulf Preferred Alternative 2**, the biological benefits under **Alternative 1 (No Action)** would be expected to be greater than **South Atlantic Preferred/ Gulf Preferred Alternative 2**. However, results of the most recent assessment for the Atlantic migratory group of Spanish mackerel indicate the stock is not overfished or undergoing overfishing. Therefore, there is no biological need to constrain harvest at a level lower than that determined to be appropriate by the SSC.

The Magnuson-Stevens Act NS 1 establishes the relationship between conservation and management measures, preventing overfishing, and achieving OY from each stock, stock complex or fishery. The NS 1 guidelines discuss the relationship of overfishing limit (OFL) to the maximum sustainable yield (MSY) and ACT or ACL to OY. The OFL is an annual amount of catch that corresponds to the estimate of maximum fishing mortality threshold applied to a stock or complex's abundance; MSY is the long-term average of such catches. The ACL is the limit that triggers accountability measures (AMs), and ACT, if specified, would be the management target for a species. Management measures for a species should, on an annual basis, prevent the ACL from being exceeded.

The long-term objective is to achieve OY through annual achievement of an ACL or ACT. Amendment 18 to the CMP FMP set OY equal to the ACL. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would maintain this formula; thereby providing greater assurance that OY is achieved, overfishing is prevented.

The South Atlantic Council and their SSC have established an ABC control rule that takes into consideration scientific and management uncertainty to ensure catches are maintained below a MSY level. Setting the ACL equal to the ABC leaves no buffer between the two harvest parameters, which may increase risk that harvest could exceed the ABC. The South Atlantic Council considered alternatives in the Amendment 18 to the CMP FMP that would set the ACL below the ABC but selected $ACL=ABC=OY$ as their preferred alternative because the South Atlantic Council's SSC ABC control rule takes into account scientific uncertainty. Furthermore,

the NS 1 Guidelines indicate ACL may typically be set very close to the ABC. Setting a buffer between the ACL and ABC would be appropriate in situations where there is uncertainty in whether or not management measures are constraining fishing mortality to target levels. The South Atlantic Council did not feel that there was a great deal of uncertainty in commercial landings, and recreational landings were below the recreational ACL being proposed.

ACTs, which are not required, can also be set below the ACLs to account for management uncertainty and provide greater assurance overfishing does not occur. An ACT is in place for the recreational sector to serve as a performance standard to measure the effectiveness of ACLs and AMs. According to the NS 1 Guidelines, if catch exceeds the ACL for a given stock or stock complex more than once in the last four years, the system of ACLs and AMs should be re-evaluated, and modified if necessary, to improve its performance and effectiveness (74 FR 3178). If the ACL is exceeded more than once over the course of four years, the South Atlantic Council would reassess the system of ACLs and AMs for Spanish mackerel.

With the proposed requirements for mackerel dealers to obtain a dealer permit, improved commercial monitoring mechanisms recently implemented, and proposed improvements to dealer reporting, it is unlikely that repeated commercial ACL overages would occur. The Southeast Fisheries Science Center (SEFSC) worked with NMFS Southeast Regional Office (SERO), the Gulf of Mexico Fishery Management Council (Gulf of Mexico Council), and South Atlantic Council to develop a Joint Dealer Reporting Amendment, which has been approved by Gulf of Mexico Council and South Atlantic Council (Councils) and submitted for formal review. The Joint Dealer Reporting Amendment would be expected to enhance reporting of commercial data by requiring dealers have a federal permit to purchase mackerel. Further, the Joint Dealer Reporting Amendment would increase required reporting frequency for dealers to once per week, and require a single dealer permit for all finfish dealers in the Southeast Region. Currently there is no dealer permit requirement for CMP species, but the new regulations would require dealers who purchase CMP species to obtain the universal dealer permit.

The Commercial Landings Monitoring (CLM) system was implemented in June 2012 and is now being used to track commercial landings of federally managed fish species. This system is able to track individual dealer reports, track compliance with reporting requirements, project harvest closures using five different methods, and analyze why ACLs are exceeded. The CLM performs these tasks by taking into account: 1) spatial boundaries for each stock based on fishing area; 2) variable quota periods such as overlapping years or multiple quota periods in one year; and 3) overlapping species groups for single species as well as aggregated species. Data sources for the CLM system include the Standard Atlantic Fisheries Information System for Georgia and South Carolina, and the Bluefin Data file upload system for Florida and North Carolina. The CLM system is also able to track dealer reporting compliance with a direct link to the permits database in SERO.

The CLM and the new dealer reporting requirements constitute major improvements to how commercial fisheries are monitored, and go far beyond monitoring efforts that were in place when the NS 1 guidelines were developed. The new CLM quota monitoring system and actions

in the Joint Generic Dealer Reporting amendment are expected to provide more timely and accurate data reporting and would thus reduce the incidence of commercial quota overages.

In early 2013, a new headboat electronic reporting system came online and headboats are reporting their landings electronically rather than through paper logbooks. Additionally, the Councils jointly developed and approved generic amendments and implemented by NMFS requiring all headboats to report their landings on a weekly basis using the new electronic reporting system. The SEFSC is also developing an electronic reporting system for charter boats operating in the Southeast Region. When the charterboat reporting system is close to being finalized, the Councils would develop an amendment that would require electronic reporting for charter boats with a set reporting frequency. These recreational harvest-monitoring efforts could substantially increase the accuracy and timeliness of in-season reporting and reduce the risk of recreational ACL overages, which would be biologically beneficial for the Spanish mackerel stock. Therefore, there is a low risk of exceeding the increased ACL, and setting ACL equal to ABC is appropriate.

Alternative 1 (No Action), and **South Atlantic Preferred/ Gulf Preferred Alternative 2** is unlikely to result in any direct adverse impacts on protected species such as endangered or threatened whales, sea turtles, corals, or protected habitat areas of particular concern (HAPCs). Although **South Atlantic Preferred/ Gulf Preferred Alternative 2** would increase the ACL from the status quo, this option would not change current fishing practices for Spanish mackerel. An increase the ACL would increase fishing opportunities for Spanish mackerel without negatively affecting the Spanish mackerel stock. Total harvest would be restrained by the commercial and recreational ACLs, and AMs would still be used to help prevent overfishing. It is unlikely the action would result in significantly increased fishing effort for Spanish mackerel; therefore, no adverse biological impact on protected species or HAPCs is expected under this action.

4.1.2 Economic Effects

In principle, ACL increases for Gulf and South Atlantic Groups of Spanish mackerel would be accompanied by increases in economic benefits as more revenues (and possibly profits) would be derived by the commercial sector from increases in landings and as more fishing opportunities would be available to the recreational sector. Both short-term and long-term economic consequences would ensue from increasing the ACLs.

According to Table 3.3.1, since the 2002/2003 fishing season, the commercial sector landings have exceeded its current ACL of 3.13 mp for Atlantic Migratory Group Spanish Mackerel every season except the 2007/2008 season. Although there is an accountability measure that would in effect close commercial fishing for Spanish mackerel, no quota closure has been implemented in the last few years. For the current fishing year (March 1, 2013-February 28, 2014, the current commercial ACL of 3.130 mp has not been met as of February 11, 2014. There is a good possibility this ACL would not be met. If commercial landings remained below the ACL in the next few years, or no quota closure were implemented even if the ACL is exceeded, then both Alternative 1 (No Action) and **South Atlantic Preferred/ Gulf Preferred Alternative 2** would

have about the same short-term economic implications for the commercial sector. However, the **South Atlantic Preferred/ Gulf Preferred Alternative 2** would allow commercial vessels more time to harvest at a higher trip limit before 75 percent of the ACL is reached. This would lead to higher revenues and profits per trip during that extra time before the lower trip limit applies. In the event that quota closures are implemented, vessel revenues would likely be higher under the **South Atlantic Preferred/ Gulf Preferred Alternative 2** as there would likely be extra fishing days afforded by the higher ACL even under a lower trip limit. Because the stock is not overfished (and not undergoing overfishing), no payback would be required in case of quota overages.

As shown in Table 3.3.2, the recreational sector has not exceeded its current ACL of 2.56 mp at least since the 2000/2001 fishing season. If recreational harvests of Atlantic Group of Spanish mackerel remained at about the same level as in the last ten years or so, both **Alternative 1 (No Action)** and **South Atlantic Preferred/ Gulf Preferred Alternative 2** would have the same short-term economic effects on the recreational sector. At any rate, the latter alternative would provide a larger buffer before the recreational ACL is reached, thus providing more assurance that the accountability measure, which would reduce the following year's season or bag limit, would not be triggered. Given the historically low recreational harvests of Atlantic Group of Spanish mackerel, the effects of the **South Atlantic Preferred/ Gulf Preferred Alternative 2** would likely remain as potential economic benefits for quite some time in the future. In the rather remote possibility that the harvest overages occur in the recreational sector, no payback would be required as the stock is not overfished.

Considering that the South Atlantic Group of Spanish mackerel is not overfished and not undergoing overfishing, the economic benefits (should they occur) under the **South Atlantic Preferred/ Gulf Preferred Alternative 2** would likely remain in the medium term and possibly in the long term as well. Future stock assessments would provide some guidance on whether the potential benefits under the **South Atlantic Preferred/ Gulf Preferred Alternative 2** would hold true in the long term.

4.1.3 Social Effects

Changes in the ACL for any stock would not directly affect resource users unless the ACL is met or exceeded, in which case AMs that restrict or close harvest could negatively impact the commercial fleet, for-hire fleet, and private anglers. In general, the higher the ACL, the greater the short-term social and economic benefits that would be expected to accrue, assuming information is up-to-date and accurate in order to allow sustainable harvest. Adhering to harvest below the OFL designated by the SSC would result in net long-term positive social and economic benefits. Additionally, adjustments to an ACL based on updated information from a stock assessment would be the most beneficial in the long term to fishermen and communities, because ACLs would be based on the current conditions.

Alternative 1 (No Action) would not incorporate the results of the recent stock assessment and the current ACL may not best reflect the stock status at this time. Additionally, this alternative could prevent fish that could be harvested from being landed, which would eliminate the social

benefits associated with economic benefits of achieving OY. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would increase and update the ACL and based on the best information available, which would be beneficial to fishermen by allowing additional Spanish mackerel to be harvested but without negatively affecting the stock.

Figure 2.2 shows that in the last few fishing years, commercial landings have exceeded the proposed commercial ACLs for both alternatives. However, **Figure 2.3** shows that recreational landings are lower than the proposed recreational ACLs for both alternatives in this action. Because the current AMs do not require a payback of any sector overages if the total ACL is not exceeded because the stock is not overfished, no negative effects on the commercial fleet would be expected. However, in-season closures for the commercial fleet could affect some businesses and communities that depend on access to the Atlantic migratory group Spanish mackerel resource.

4.1.4 Administrative Effects

Administrative impacts of this action are likely to be minimal. **Alternative 1 (No Action)** could result in slightly higher administrative impacts because the lower ACLs are more likely to cause AMs to be triggered in-season, which would require development of outreach materials and internal agency documents to close the commercial sector and assess whether or not the recreational ACL has been exceeded. **South Atlantic Preferred/ Gulf Preferred Alternative 2** would not result in significant additional administrative cost or time burdens other than notifying fishery participants of the increase in the sector ACLs and continued monitoring of the sector ACLs. The burden on law enforcement would not change under either alternative because commercial quota closures implemented when the commercial ACLs are projected to be met are currently enforced.

4.2 Action 2. Modify the ACL for Gulf of Mexico migratory group Spanish mackerel

Alternative 1 (No Action). Retain the current ACL for Gulf migratory group Spanish mackerel:

Current ABC = 5.15 mp

ACL= ABC =5.150 mp (commercial and recreational sectors combined into a single Gulf-wide ACL).

Gulf Preferred Alternative 2. Revise ACL for Gulf migratory group Spanish mackerel for 2014 through 2016 as shown below, and set ACL = ABC.

Year	ABC	Total ACL
2014	12.7 mp	12.7 mp
2015	11.8 mp	11.8 mp
2016	11.3 mp	11.3 mp

4.2.1 Biological Effects

Spanish mackerel are typically caught at the ocean surface and therefore neither hook-and-line nor run-around gillnet gear typically encounter bottom habitat. Fishing gears still have the potential to snag and entangle bottom structures and cause tear-offs or abrasions (Barnette 2001). If gear is lost or improperly disposed of, it can entangle marine life. Entangled gear often becomes fouled with algal growth. If fouled gear becomes entangled on corals, the algae may eventually overgrow and kill the coral. If an increase in the ACL for Gulf of Mexico (Gulf) migratory group Spanish mackerel results in an increase in overall fishing effort, the amount of fishing gear lost in pursuit of Spanish mackerel may also increase.

Amendment 18 to the CMP FMP established an ABC control rule for Gulf migratory group Spanish mackerel. The ABC is recommended by the SSC based on the approved ABC control rule, and was accepted by the Gulf Council. Because the current management strategy has the ACL set equal to the ABC, no alternatives are presented for explicitly choosing an ABC. As the new ABC recommended by the SSC is larger than the current ABC, a corresponding increase in the ACLs may be justified, since there is currently no buffer between ABC and ACL for Gulf migratory group Spanish mackerel.

Management actions that affect the biological environment mostly relate to the impacts of fishing on a species' population size, life history, and the role of the species within its habitat.

Removal of fish from the population through fishing can reduce the overall population size if fishing mortality is not retained at sustainable levels. However, biomass is expected to remain stable if fishing effort restricts catch levels to the yield at F_{MSY} . **Alternative 1 (No Action)** would not update ACLs based on results from the recent stock assessment, and would therefore not result in a change to the current biological environment. **Gulf Preferred Alternative 2** proposes to increase the ACL, which could lead to additional removals from the population. **Gulf Preferred Alternative 2** would employ the same formula as specified in Amendment 18 and set the $ACL = ABC$.

The Gulf of Mexico Fishery Management Council (Gulf Council) and their SSC have established an ABC control rule that takes into consideration scientific and management uncertainty to ensure catches are maintained below a MSY level. Setting the ACL equal to the ABC leaves no buffer between the two harvest parameters, which may increase risk that harvest could exceed the ABC. The Gulf Council considered alternatives in Amendment 18 to the CMP FMP that would set the ACL below the ABC but selected $ACL = ABC$ as their preferred alternative because they thought both current measures, and those proposed in the near future, would be sufficient to ensure the stock ACL is not exceeded.

The NS 1 Guidelines indicate ACL may typically be set very close to the ABC. Setting a buffer between the ACL and ABC would be appropriate in situations where there is uncertainty in whether management measures are constraining fishing mortality to target levels. As detailed in Section 4.1.1 of this amendment, setting ACL equal to ABC is appropriate because recent Council actions have improved the ability of NMFS to constrain landings within the ACL.

Alternative 1 (No Action) and **Gulf Preferred Alternative 2** are unlikely to result in any direct adverse impacts on protected species such as endangered or threatened whales, sea turtles, corals, or protected HAPCs. Although **Gulf Preferred Alternative 2** would increase the ACL from the status quo, this option would not change current fishing practices for Spanish mackerel. An increase in the ACL would increase fishing opportunities for Spanish mackerel without negatively affecting the Spanish mackerel stock. Total harvest would be restrained by the commercial and recreational ACLs, and AMs would still be used to help prevent overfishing. It is unlikely the action would result in significantly increased fishing effort for Spanish mackerel; therefore, no adverse biological impact on protected species or HAPCs is expected under this action.

4.2.2 Economic Effects

Alternative 1 (No Action) would maintain a Gulf migratory group Spanish mackerel ACL of 5.15 mp and would not be expected to result in changes to the harvest or other customary uses of Gulf migratory group Spanish mackerel. Therefore, economic effects are not expected to result from **Alternative 1**. **Gulf Preferred Alternative 2** would increase the Gulf migratory group Spanish mackerel to 12.7 mp in 2014. In 2015 and 2016, **Gulf Preferred Alternative 2** would set the ACL to 11.8 mp and 11.3 mp, respectively. Although ACL increases are typically expected to result in direct economic benefits stemming from additional fishing opportunities,

Gulf Preferred Alternative 2 would not be expected to result in economic effects in the foreseeable future due to the relative magnitude of the Gulf group Spanish mackerel ACL and observed landings. Between 2000 and 2011, Gulf Spanish mackerel landings averaged 3.93 mp annually. During the same time interval, maximum harvest levels were 4.88 mp. These values are all well below the 5.15 mp current ACL. It is therefore highly unlikely that economic benefits that could result from ACL increases under consideration in **Gulf Preferred Alternative 2** would materialize. In the future, should commercial and recreational fishermen elect to take advantage of the additional fishing opportunities provided by **Gulf Preferred Alternative 2**, economic benefits proportional to the ACL increase could be realized.

Considering that the Gulf Group of Spanish mackerel is not overfished and not undergoing overfishing, the economic benefits (should they occur) under the **Gulf Preferred Alternative 2** would likely remain in the medium term and possibly in the long term as well. Future stock assessments would provide some guidance on whether the potential benefits under **Gulf Preferred Alternative 2** would hold true in the long term.

4.2.3 Social Effects

The general social effects of changing ACLs and associated AMs are discussed in Section 4.1.3. **Alternative 1 (No Action)** would not incorporate the results of the recent stock assessment and under this alternative; therefore, the current Gulf migratory group Spanish mackerel ACL may not best reflect the stock status at this time. Additionally, this alternative could prevent fish from not being landed, which would eliminate the social and economic benefits associated with achieving OY. **Gulf Preferred Alternative 2** would increase and update the ACL based on the best scientific information available, which would be beneficial to fishermen by allowing additional harvest of Spanish mackerel without negatively affecting the stock.

Overall, landings of Gulf migratory group Spanish mackerel usually do not meet the current ACL under **Alternative 1**. The proposed increase in the ACL under **Gulf Preferred Alternative 2** is not expected to change fishing behavior or access to the resource, and would likely be beneficial to the fleet while maintaining sustainable harvest.

4.2.4 Administrative Effects

Administrative impacts of this action are likely to be minimal. **Alternative 1** could result in slightly higher administrative impacts because the lower ACLs are more likely to cause AMs to be triggered in-season, which would require development of outreach materials and internal agency documents to close the commercial sector and assess whether the recreational ACL has been exceeded. However, landings have been well below the current ACL and no closures have been implemented. **Gulf Preferred Alternative 2** would increase the ACL, without resulting in significant additional administrative costs or time burdens, other than notifying fishery participants of the increase in, and continued monitoring of, the ACLs. The burden on law enforcement would not change under either alternative since commercial quota closures implemented when the commercial ACLs are projected to be met are currently enforced.

Chapter 5. Councils' Choice for the Preferred Alternatives

5.1 Action 1. Modify the ABC and ACL for Atlantic migratory group Spanish mackerel

5.1.1 Public Comments and Recommendations

All public comment received indicated support for Preferred Alternative 2.

5.1.2 Councils' Choice for Preferred Alternative

5.2 Action 2. Modify the ABC and ACL for Gulf of Mexico migratory group Spanish mackerel

5.2.1 Public Comments and Recommendations

5.2.2 Councils' 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 impacts, but cumulative impacts of actions as well. The NEPA defines a cumulative impact 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 impacts 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 affect the environment in the area where the Coastal Migratory Pelagics (CMP) fishery is prosecuted. The history of management for the CMP fishery can be found in **Appendix C**.

The immediate impact area would be the federal 200-mile limit of the Atlantic off the coasts of North Carolina, South Carolina, Georgia, and east Florida to Key West, which is also the South Atlantic Fishery Management Council’s (South Atlantic Council) area of jurisdiction, and the federal 200-mile limit in the Gulf of Mexico (Gulf) off the coasts of Texas, Louisiana, Mississippi, Alabama, and Florida, which is also the Gulf of Mexico Fishery Management Council’s (Gulf Council) area of jurisdiction. The ranges of affected species are described in **Section 3.2.1**.

Past Actions

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 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 was dispersed on the surface, and because of the heavy use of dispersants, oil was 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 of Mexico (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. In a study conducted during the summer of 2011, University of South Florida researchers found more unhealthy fish in the area of the 2010 oil spill compared to other areas. Although some scientists have suggested that these incidences of sick fish may be related to the spill, others have pointed out that there is no baseline from which to judge the prevalence of sick fish, and no connection has been determined. Studies are continuing to check whether the sick fish suffer from immune system and fertility problems (Tampa Bay Times 2012).

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. The oil spill occurred during spawning months for both king and Spanish mackerel; however, both species have a protracted spawning period that extends beyond the months of the oil spill. Further, mackerels are migratory and move into specific areas to spawn. King mackerel, for example, move from the southern portion of their range to more northern areas for the spawning season. In the Gulf, that movement is from Mexico and south Florida to the northern Gulf (Godcharles and Murphy 1986). However, environmental factors, such as temperature can change the timing and extent of their migratory patterns (Williams and Taylor 1980). The possibility exists that mackerels would be able to detect environmental cues when moving toward the area of the oil spill that would prevent them from entering the area. These fish might then remain outside the area where oil was in high concentrations, but still spawn.

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 encountered oil. In addition, oil exposure could create sub-lethal effects on the eggs, larva, and early life stages. The stressors could potentially be additive, and each stressor may increase susceptibility to the harmful effects of the other. If eggs and larvae were affected, impacts on harvestable-size coastal migratory pelagic fish may begin to be seen when the 2010 year class becomes large enough to enter the fishery and be retained. Spanish mackerel mature at 1-2 years (Powell 1975); therefore, a year class failure in 2010 may have been felt by the fishery as early as 2011 or 2012. However, no obvious decreases in CMP stocks in the Gulf have been recorded at this time.

Indirect and inter-related effects on the biological and ecological environment of the CMP fishery 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. Impacts to mackerels from the oil spill may similarly impact other species that may be preyed upon by mackerel, or that might benefit from a reduced stock.

Participation in and the economic performance of the CMP fishery addressed in this document have been affected by a combination of regulatory, biological, social, and external economic factors. Regulatory measures have obviously affected the quantity and composition of harvests of species addressed in this document, through the various size limits, seasonal restrictions, trip or bag limits, and quotas. In addition to a complex boundary and quota system the coastal migratory pelagic fishery also exists under regulations on bag limits, size limits, trip limits, and gear restrictions.

The Spanish mackerel portion of the CMP fishery is open access. The commercial king mackerel permit, king mackerel gill net endorsement, and the Gulf Charter/Headboat CMP permit are all under limited entry permit systems. New participation in the king mackerel

commercial fishery and the for-hire CMP sector in the Gulf require access to additional capital and an available permit to purchase, which may limit opportunities for new entrants. Additionally, almost all fishermen or businesses with one of the limited entry permits also hold at least one (and usually multiple) additional commercial or for-hire permit to maintain the opportunity to participate in other fisheries. Commercial fishermen, for-hire vessel owners and crew, and private recreational anglers commonly participate in multiple fisheries throughout the year. Even within the coastal migratory pelagics fishery, effort can shift from one species to another due to environmental, economic, or regulatory changes. Overall, changes in management of one species in the coastal migratory pelagics fishery can impact effort and harvest of another species (in the coastal migratory pelagics fishery or in another fishery) because of multi-fishery participation that is characteristic in the South Atlantic region.

Biological forces that either motivate certain regulations or simply influence the natural variability in fish stocks have likely played a role in determining the changing composition of the fisheries addressed by this document. Additional factors, such as changing career or lifestyle preferences, stagnant to declining prices due to imports, increased operating costs (gas, ice, insurance, dockage fees, etc.), and increased waterfront/coastal value leading to development pressure for other than fishery uses have impacted both the commercial and recreational fishing sectors. In general, the regulatory environment for all fisheries has become progressively more complex and burdensome, increasing the pressure on economic losses, business failure, occupational changes, and associated adverse pressures on associated families, communities, and businesses. Some reverse of this trend is possible and expected through management. However, certain pressures would remain, such as total effort and total harvest considerations, increasing input costs, import induced price pressure, and competition for coastal access.

Present Actions

Currently a formal consultation is underway for the CMP fishery, triggered by the listing in 2012 of the Carolina and South Atlantic distinct population segments (DPSs) of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) as endangered under the ESA. Additionally, in December 2012, the National Marine Fisheries Service (NMFS) issued a proposal to list 82 coral species as threatened or endangered, including seven species found in the South Atlantic region, including a proposal to relist two *Acropora* species (elkhorn and staghorn coral) as endangered.

Generic amendments have been implemented requiring headboats in the South Atlantic and Gulf to report each week through electronic means. Regulations in the South Atlantic went into place on January 27, 2014, and regulations in the Gulf went into place on March 5, 2014.

Recent increases in fishing effort and resultant management actions, particularly in the South Atlantic, have restricted access to other species that provide income for mackerel fishermen. In 2013, fishing for 9 species or species groups in the South Atlantic was prohibited before the end of the year due to ACLs being met. Many commercial mackerel fishermen only fish for mackerel part time. With reduced income from other fishing, some fishermen that have not been very active in the CMP fishery may shift effort to fish for mackerel.

Reasonably Foreseeable Future Actions

The following are actions affecting the CMP fishery that have been implemented recently or are expected to be implemented within the next year.

- Amendment 20A to the CMP FMP (GMFMC/SAFMC 2013) contains actions that would prohibit some sale of king and Spanish mackerel harvested under the bag limit and would remove the income requirement for king and Spanish mackerel commercial permits.
- Amendment 20B would modify fishing years, trip limits, establish regional quotas for king and Spanish mackerel in the South Atlantic, adjust the framework, revise ACLs and establish regional allocations between the Gulf of Mexico and South Atlantic for cobia, and establish transit provisions. If both Framework Amendment 1 and Amendment 20B are implemented, the ACL increases proposed in this amendment will be divided based on the regional quotas specified in Amendment 20B.
- A South Atlantic framework action addresses to allow transfer at sea of Spanish mackerel.
- A generic amendment would require for the first time a federal dealer permit (and associated reporting requirements) for individuals buying CMP species.
- Amendment 24 would consider re-allocating allowable catch between the commercial and recreational sector for Gulf group king mackerel and Atlantic group Spanish mackerel.
- Amendment 26 would consider establishing separate regional commercial permits for king and Spanish mackerel; currently, commercial permits are valid in both the Gulf of Mexico and South Atlantic regions.
- A stock assessment for South Atlantic and Gulf king mackerel will be completed in the 2014, and the results could increase or decrease the available fish for harvest.
- Framework Amendment 1 considers increased ACLs for Spanish mackerel in the Gulf and South Atlantic based on the results from recent assessments that indicates the stocks are neither overfished nor undergoing overfishing.

Although numerous regulatory changes have been proposed for the CMP fishery, the cumulative effects are likely not significant because of the nature of the CMP fishery, which is very different from many other fisheries. For example, in the Gulf Reef Fish and South Atlantic Snapper Grouper fisheries, all species are landed under one permit and in the same area, and each fisherman might be affected by all new regulations imposed on reef fish fishermen. However, under the CMP FMP, one single universe of fishermen cannot be assumed. Separate commercial permits are issued to king mackerel and Spanish mackerel fishermen, and no permits are required for cobia fishermen. In addition, king mackerel commercial permits are limited access and can only be purchased from existing permit holders. Some overlap of these groups most certainly occurs; however, different gear types are primarily used to fish for king mackerel and Spanish mackerel, and many fishermen do not switch between gear types. Further, each species is managed under two different sets of regulations, one for each migratory group. A large portion of commercial king mackerel fishermen fish in both the Gulf and South Atlantic, but it is unlikely, for example, that a cobia fisherman in the South Atlantic would also fish for Spanish mackerel in the Gulf. Recreational fishermen are also unlikely to move between the Gulf and South Atlantic, except perhaps in the Florida Keys.

The Environmental Protection Agency's climate change webpage (<http://www.epa.gov/climatechange/>) provides basic background information on measured or anticipated effects from global climate change. A compilation of scientific information on climate change can be found in the United Nations Intergovernmental Panel on Climate Change's Fourth Assessment Report (Solomon et al. 2007). Those findings are incorporated here by reference and are summarized. Global climate change can affect marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, and through increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic carbon dioxide emissions may affect a wide range of organisms and ecosystems. These influences could affect biological factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. Currently, the level of impacts cannot be quantified, nor is the time frame known in which these impacts would occur. These climate changes could have significant effects on southeastern fisheries; however, the extent of these effects is not known at this time (IPCC 2007).

In the southeast, general impacts of climate change have been predicted through modeling, with few studies on specific effects to species. Warming sea temperature trends in the southeast have been documented, and animals must migrate to cooler waters, if possible, if water temperatures exceed survivable ranges (Needham et al. 2012). Mackerels and cobia are migratory species, and may shift their distribution over time to account for the changing temperature regime. However, no studies have shown such a change yet. Higher water temperatures may also allow invasive species to establish communities in areas they may not have been able to survive previously. An area of low oxygen, known as the dead zone, forms in the northern Gulf each summer, which has been increasing in recent years. Climate change may contribute to this increase by increasing rainfall that in turn increases nutrient input from rivers. This increased nutrient load causes algal blooms that, when decomposing, reduce oxygen in the water (Needham et al. 2012; Kennedy et al. 2002). Other potential impacts of climate change to the southeast include increases in hurricanes, decreases in salinity, altered circulation patterns, and sea level rise. The combination of warmer water and expansion of salt marshes inland with sea-level rise may increase productivity of estuarine-dependent species in the short term. However, in the long term, this increased productivity may be temporary because of loss of fishery habitats due to wetland loss (Kennedy et al. 2002). Actions from this amendment are not expected to significantly contribute to climate change through the increase or decrease in the carbon footprint from fishing.

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. However, while these effects may be temporary, those fishing-related businesses whose profitability is marginal may go out of business if a hurricane strikes.

Overall Impacts Expected from Past, Present, and Future Actions

The cumulative social and economic effects of past, present, and future amendments may be described as limiting fishing opportunities in the short term, with some exceptions of actions that alleviate some negative social and economic impacts. The intent of these amendments is to improve prospects for sustained participation in the respective fisheries over time and the proposed actions in this amendment are expected to result in some important long-term benefits to the commercial and for-hire fishing fleets, fishing communities and associated businesses, and private recreational anglers. The proposed changes in management for CMP species will contribute to changes in the fishery within the context of the current economic and regulatory environment at the local and regional level.

Monitoring

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by NMFS, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. Landings data for the recreational sector in the Gulf are collected through the Marine Recreational Information Program, NMFS' Headboat Survey, and the Texas Marine Recreational Fishing Survey. Commercial data are collected through trip ticket programs, port samplers, and logbook programs. Currently, a Southeast Data Assessment and Review assessment of king mackerel is scheduled to be completed in 2014. In response to the Deepwater Horizon MC252 incident, increased frequency of surveys of the recreational sector's catch and effort, along with additional fishery-independent information regarding the status of the stock, were conducted. This will allow future determinations regarding the impacts of the Deepwater Horizon MC252 incident on various fishery stocks. Such determinations are currently not possible.

The proposed action relates to the harvest of an indigenous species in the Gulf and Atlantic, and the activity being altered 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, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non-indigenous species.

None of the impacts from the proposed management actions (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. None of the actions in Framework Amendment 1 would have significant biological, social, or economic effects because even though the actions could extend fishing opportunities, accountability measures are also considered, and are in place to ensure overfishing does not occur. Therefore, the cumulative effects of the actions proposed in Framework Amendment 1 are not expected to affect the magnitude bycatch, diversity and ecosystem structure of fish communities, or safety at sea of fishermen targeting CMP species, and other species managed by the Gulf and South Atlantic Councils. Based on the cumulative effects analysis presented herein, the proposed actions will not have any significant cumulative impacts compared to 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/Fishery Biologist
Karla Gore	SERO /SF	IPT Lead/Fishery Biologist
Brian Chevront	SAFMC	Fishery Economist
Anik Clemens	SERO	Technical Writer and Editor
David Dale	SERO /HC	EFH Specialist
Assane Diagne	GMFMC	Economist
Susan Gerhart	SERO/SF	Fishery Biologist
David Keys	NMFS/SER	Regional NEPA Coordinator
Michael Jepson	SERO/SF	Anthropologist
Tony Lamberte	SERO/SF	Economist
Michael Larkin	SERO	Biologist
Ava Lasseter	GMFMC	Fishery Anthropologist
Jennifer Lee	SERO/PR	Fishery Biologist
Christopher Liese	SEFSC	Economist
Anna Martin	SAFMC	Coral Biologist
Christina Package-Ward	SERO/SF	Fishery Social Scientist
Katie Siegfried	SEFSC	Statistician
Carrie Simmons	GMFMC	Deputy Director
Monica Smit-Brunello	NOAA GC	General Counsel
Jack McGovern	SERO/SF	Fishery Biologist
Gregg Waugh	SAFMC	Deputy Director

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

Coastal Migratory Pelagics Framework Amendment 1

South Atlantic Fishery Management Council (Administrative Lead)

4055 Faber Place Drive, Suite 201

Charleston, South Carolina 29405

843-571-4366/ 866-SAFMC-10 (TEL)

843-769-4520 (FAX)

www.safmc.net

Gulf of Mexico Fishery Management Council

2203 North Lois Avenue, Suite 1100

Tampa, Florida 33607

813-348-1630/ 888-833-1844 (TEL)

www.gulfcouncil.org

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 Kind and Spanish Mackerel Advisory Panel

SAFMC Scientific and Statistical Committee

North Carolina Coastal Zone Management Program

South Carolina Coastal Zone Management Program

Georgia Coastal Zone Management Program

Florida Coastal Zone Management Program

Florida Fish and Wildlife Conservation Commission

Georgia Department of Natural Resources

South Carolina Department of Natural Resources

North Carolina Division of Marine Fisheries

Texas Parks and Wildlife Department

Alabama Department of Conservation and Natural Resources/Marine Resources Division

Louisiana Department of Wildlife and Fisheries

Mississippi Department of Marine Resources

Gulf States Marine Fisheries Commission

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.

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

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

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

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

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

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

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

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

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

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

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

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

Discards: Fish captured, but released at sea.

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

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

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

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

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

F: Fishing mortality.

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

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

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

Fishery Management Plan: Management plan for fisheries operating in 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.

Fishing Mortality: A measurement of the rate at which fish are removed from a population by fishing. Fishing mortality can be reported as either annual or instantaneous. Annual mortality is

the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B. **Actions and Alternatives Considered but Rejected**

No Actions or Alternatives were considered but rejected in this amendment.

Appendix C. History of Management

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

FMP Amendments

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

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

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

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

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

- Extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- Revised problems in the fishery and plan objectives;
- Revised the fishing year for Gulf Spanish mackerel from July-June to April-March;
- Revised the definition of "overfishing";

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

Amendment 6, with EA, implemented in November of 1992, made the following changes:

- Identified additional problems and an objective in the fishery;
- Provided for rebuilding overfished stocks of mackerels within specific periods;
- Provided for biennial assessments and adjustments;
- Provided for more seasonal adjustment actions;
- Allowed for Gulf migratory group king mackerel stock identification and allocation when appropriate;
- Provided for commercial Atlantic migratory group Spanish mackerel possession limits;
- Changed commercial permit requirements to allow qualification in one of three preceding years;
- Discontinued the reversion of the bag limit to zero when the recreational quota is filled;
- Modified the recreational fishing year to the calendar year; and
- Changed the minimum size limit for king mackerel to 20 in FL, and changed all size limit measures to FL only.

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

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

- Clarified ambiguity about allowable gear specifications for the Gulf migratory group king mackerel fishery by allowing only hook-and-line and run-around gillnets. However, catch by permitted, multi-species vessels and bycatch allowances for purse seines were maintained;

- Established allowable gear in the South Atlantic and Mid-Atlantic areas as well as providing for the Regional Administrator to authorize the use of experimental gear;
- Established the Gulf of Mexico and South Atlantic Councils' intent to evaluate the impacts of permanent jurisdictional boundaries between the Gulf of Mexico and South Atlantic Councils and development of separate FMPs for coastal pelagic species in these areas;
- Established a moratorium on commercial king mackerel permits until no later than October 15, 2000, with a qualification date for initial participation of October 16, 1995;
- Increased the income requirement for a king or Spanish mackerel permit to 25% of earned income or \$10,000 from commercial sale of catch or charter or head boat fishing in one of the three previous calendar years, but allowed for a one-year grace period to qualify under permits that are transferred;
- Legalized retention of up to five cut-off (damaged) king mackerel on vessels with commercial trip limits;
- Set an optimum yield target at 30% static spawning potential ratio for the Gulf and 40% static SPR for the Atlantic;
- Provided the South Atlantic Council with authority to set vessel trip limits, closed seasons or areas, and gear restrictions for Gulf migratory group king mackerel in the North Area of the Eastern Zone (Dade/Monroe to Volusia/Flagler County lines);
- Established various data consideration and reporting requirements under the framework procedure;
- Modified the seasonal framework adjustment measures and specifications (see Appendix A);
- Expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

Amendment 9, with EA, implemented in April 2000, made the following changes to the management regime:

- Reallocated the percentage of the commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retained the recreational and commercial allocations of TAC at 68% recreational and 32% commercial;
- Subdivided the commercial hook-and-line king mackerel allocation for the Gulf migratory group, Eastern Zone, South/West Area (Florida west coast) by establishing two subzones with a dividing line between the two subzones at the Collier/Lee County line;
- Established regional allocations for the west coast of Florida based on the two subzones with 7.5% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.5% being allocated as follows:
 - 50% - Florida east coast
 - 50% - Florida west coast that is further subdivided:
 - 50% - Net Fishery
 - 50% - Hook-and-Line Fishery
- Established a trip limit of 3,000 pounds per vessel per trip for the Western Zone;

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

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

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

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

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

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

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

Amendment 16, was not developed.

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

Amendment 18, with EA, established annual catch limit, annual catch targets, and accountability measures for king mackerel, Spanish mackerel, and cobia. The amendment also established both Atlantic and Gulf migratory groups for cobia; modified the framework procedures; and removed the following species from the fishery management unit: cero, little tunny, dolphin and bluefish. The South Atlantic and Gulf of Mexico Councils approved the amendment for formal review in August, 2011. The amendment was approved by the Secretary of Commerce in December 2011

Appendix D. **Bycatch Practicability Analysis**

Bycatch Practicability Analysis

1.1 Population Effects for the Bycatch Species

Background

The Joint Coastal Migratory Pelagics (CMP) Framework Amendment 1 (Framework Amendment 1) includes actions that would increase the allowable biological catch (ABC) and annual catch limit (ACL) of Atlantic migratory group Spanish mackerel and Gulf migratory group Spanish mackerel and the recreational annual catch target for the Atlantic Spanish mackerel based on a revised stock assessment.

A Southeast Data, Assessment, and Review (SEDAR) stock assessment for Gulf of Mexico (Gulf) and Atlantic Spanish mackerel, and cobia was completed in 2012. The South Atlantic Fishery Management Council (South Atlantic Council)'s Scientific and Statistical Committee (SSC) reviewed the result of the stock assessment in April 2013 and requested projections from the Southeast Fisheries Science Center (SEFSC). In June 2013, the South Atlantic Council received the SSC's recommendations for the Atlantic Spanish mackerel ABC, but the South Atlantic Council requested that the SSC review the Spanish mackerel projections and revisit recommendations for the overfishing limit (OFL) and the ABC. In October 2013, the SSC reviewed the projections again and recommended an OFL value of 7.03 million pounds (mp) in 2014, 6.62 mp in 2015, and 6.519 mp in 2016. The SSC also recommended a revised ABC value of 6.063 mp for 2014-2016.

The Gulf of Mexico Fishery Management Council (Gulf Council)'s SSC reviewed the results of the Gulf Spanish mackerel stock assessment in May 2013 and requested projections from the SEFSC. In August 2013, the Gulf Council received and accepted the SSC recommendations for the Gulf Spanish mackerel OFL and ABC for 2013-2016. OFL was set at 14.4 mp for 2013, 12.9 mp for 2014, 12.0 mp for 2015, and 11.5 mp for 2016. Likewise, using a P* value of 0.434, ABC was set at 14.2 mp for 2013, 12.7 mp for 2014, 11.8 mp for 2015, and 11.3 mp for 2016.

In the 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 commercial permit holders in the 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 2008-2012, the commercial sector for Spanish mackerel in both the Gulf and Atlantic landed 5,131,508 lbs whole weight (ww) and discarded 1,712 fish (Table 1).

Recreational Sector

For the recreational sector, during 2008-2012, estimates of the number of recreational discards were available from Marine Recreational Fisheries Statistical Survey (MRFSS) and the National Marine Fisheries Service (NMFS) headboat survey. The MRFSS system classifies recreational catch into three categories:

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

For the CMP FMP during 2008-2012, the private recreational landings and discards for CMP species in the Gulf of Mexico and U.S. Atlantic Ocean (Florida to New York) were also higher than those in the headboat/charterboat category (**Table 1**). Landings (number of fish) and subsequent discards for the private recreational category for Spanish mackerel were 2,708,586 and 2,541,893, respectively (**Table 1**). In the charter boat category, landings of Spanish mackerel were 334,701 and discards were 102,409 (**Table 1**). However, in the headboat category, landings were 11,997 for Spanish mackerel with discards at 1,458 (**Table 1**).

During 2008-2012, for-hire charter vessels in 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 MRFSS. Since 2000, a 10% sample of charter vessel captains were called weekly to obtain trip level information. In addition, the standard dockside intercept data were collected from charter vessels, and charter vessel clients were sampled through the standard random digital dialing of coastal households. Precision of charter vessel effort estimates has improved by more than 50% due to these changes (Van Voorhees *et al.* 2000).

Harvest from headboats is monitored by NMFS at the SEFSC Beaufort Laboratory. Collection of discard data began in 2004. Daily catch records (trip records) are filled out by the headboat operators, or in some cases by NMFS approved headboat samplers based on personal communication with the captain or crew. In addition, headboats are now required to report the

catch and discard information each week through electronic means. Headboat trips are subsampled for data on species lengths and weights. Biological samples (scales, otoliths, spines, reproductive tissues, and stomachs) are obtained as time allowed. Lengths of discarded fish are occasionally obtained but these data are not part of the headboat database.

Recent improvements were made to the MRFSS program, now called Marine Recreational Information Program (MRIP). Beginning in 2013, samples are drawn from a known universe of fishermen rather than randomly dialing coastal households. Other improvements have been and/or will be made that intend to better estimate recreational catches and the variances around those catch estimates.

Table 1. Mean Headboat, MRFSS, and commercial estimates of landings and discards in the Gulf of Mexico and U.S. Atlantic Ocean (Florida to New York) during 2008-2012. Headboat, MRFSS (charter and private) landings are in numbers of fish (N); commercial landings are in pounds whole weight (lbs ww). Discards represent numbers of fish that were caught and released alive (B2).

	HEADBOAT				MRFSS CHARTER				MRFSS 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
Spanish Mackerel	13,454	11,997	1,458	12%	437,110	334,701	102,409	31%	5,250,479	2,708,586	2,541,893	94%	5,131,508	1,712	<1%

Sources: MRFSS data from SEFSC Recreational ACL Dataset (May 2013); Headboat data from SEFSC Headboat Logbook CRNF files (expanded; May 2013); Commercial landings data from SEFSC Commercial ACL Dataset (July 10, 2013) with discard estimates from expanded SEFSC Commercial Discard Logbook (Jun 2013).

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.

Finfish Bycatch Mortality

Release mortality rates are unknown for most managed species. Recent SEDAR assessments include estimates of release mortality rates based on published studies. Stock assessment reports can be found at <http://www.sefsc.noaa.gov/sedar/>.

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 (2013) determined that Spanish mackerel and cobia stocks in the South Atlantic and the Gulf of Mexico are neither overfished nor undergoing overfishing. SEDAR 28 (2013) recommended identical discard mortality for Spanish mackerel as SEDAR 17 (2008) gillnets and shrimp trawls (100%), but recommended a 10% discard mortality rate for commercial handlines, and 20% for recreational handlines.

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

Bycatch information is currently being collected in the CMP fishery. The anticipated effects on bycatch mortality of target and non-target species as a result of the actions contained in Framework Amendment 1 are likely to be negligible. Current harvest is not being constrained by the existing ACLs, and increasing the ACLs through this amendment is not expected to have an immediate change on harvest.

This action is not expected to modify the way in which the Spanish mackerel portion of the CMP fishery is prosecuted, however it may lead to an increased fishing effort in the future due to the increase of ACL.

According to the bycatch information for mackerel gill nets, menhaden, smooth dogfish sharks, and spiny dogfish sharks were the three most frequently discarded species (SAFMC 2004). There were no interactions of sea turtles or marine mammals reported (Poffenberger 2004). The Southeast Region Current Bycatch Priorities and Implementation Plan FY04 and FY05 reported the South Atlantic Spanish mackerel portion of the CMP fishery has 51 species reported as bycatch with approximately 81% reported as released alive. Bycatch was not reported for the Gulf Spanish mackerel sector. Additionally, the supplementary discard program to the logbook reporting requirement shows no interactions of gill-net gear with marine mammals or birds. **Table 2** and **Table 3** lists the species most often caught with Spanish mackerel in the South Atlantic. There is very little bycatch in the Spanish mackerel sector with gillnet gear, and the king mackerel portion of the CMP fishery is also associated with a low level of bycatch. The Framework Amendment 1 would not modify the gear types or fishing techniques in the mackerel segments of the CMP fishery. Therefore, bycatch and subsequent bycatch mortality in the CMP fishery is likely to remain very low if the amendment is implemented.

Table 2. Top six species caught on trips also landing at least one pound of Spanish mackerel with gillnet gear in the South Atlantic for 2008 and 2012.

Species	Percent Caught with Spanish Mackerel Gillnets
Spanish mackerel	91.16%
Blue runner	4.14%
King & Cero mackerel	3.91%
Unclassified jacks	0.58%
Crevalle jack	0.14%
Black sea bass	0.03%
Sheepshead	0.02%

Source: Southeast Fisheries Science Center Commercial Logbook (June 2013)

Table 3. Top three species caught on trips where at least one pound of Spanish mackerel was caught with all gear types in the South Atlantic from 2008-2012.

Species	Percent Caught with Spanish Mackerel All Gear Types
Spanish mackerel	88%
King & Cero mackerel	8%
Blue runner	2%
Crevalle jack	1%

Source: Southeast Fisheries Science Center Commercial Logbook (June 2013)

Additional information on fishery related actions from the past, present, and future considerations are in **Chapter 6** (Cumulative Effects) of Framework Amendment 1.

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 improperly managed, either form of mortality could potentially reduce stock biomass to an unsustainable level. The Gulf and South Atlantic Councils and NMFS are in the process of developing actions that would improve bycatch monitoring in all fisheries including the CMP fishery. 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 understood. Most species are migratory, interacting in various combinations of species groups at different

levels on a seasonal basis. With the current state of knowledge, it is not possible to evaluate the potential ecosystem-wide impacts of these species interactions, or the ecosystem impacts from the limited mortality estimated to occur from mackerel fishing effort.

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

The Framework Amendment 1 is not expected to affect bycatch of other, non-mackerel, fish species. Measures proposed in the amendment are intended to respond to the most recent stock assessment and modify the ABC, ACL and recreational ACT for the South Atlantic and Gulf migratory groups of Spanish mackerel. Although this action could lead to an increase in fishing effort in the future, the Spanish mackerel portion of the CMP, the fishery has low bycatch rates and a significant increase in bycatch of non-target fish species is not expected.

1.3 Effects on Marine Mammals and Birds

Under Section 118 of the Marine Mammal Protection Act (MMPA), NMFS must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. The 2013 proposed List of Fisheries classifies the Gulf and South Atlantic coastal migratory pelagic hook-and-line fishery as a Category III fishery (78 FR 53336, August 29, 2013). Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities. The Gulf and South Atlantic coastal migratory pelagic gillnet portion of the CMP fishery is classified as 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 gillnet portion of the CMP fishery has no documented interaction with marine mammals; NMFS classifies gillnet portion of the CMP fishery as Category II based on analogy (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 uncommon and neither have been described as associating with vessels nor having interacted with the snapper grouper fishery. Thus, it is thought that the CMP fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

Spanish mackerel are among species targeted with gillnets in North Carolina state waters. Observer coverage for gillnet is up to 10% and provided by the North Carolina Division of Marine Fisheries, primarily during the fall flounder fishery in Pamlico Sound. Gillnets are also used from the North Carolina/South Carolina border and south and east of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico. In this area gillnets are used to target finfish including, but not limited to king mackerel, Spanish mackerel, whiting, bluefish, pompano, spot, croaker, little tunny, bonita, jack crevalle, cobia, and striped mullet. The majority of fishing effort occurs in federal waters because South Carolina, Georgia, and Florida prohibit the use of gillnets, with limited exceptions, in state waters.

There is some observer coverage of CMP targeted trips by vessels with an active directed shark permit. The Shark Gillnet Observer Program is a mandate of the Atlantic Highly Migratory Species FMP, the Atlantic Large Whale Take Reduction Plan (ALWTRP) (50 CFR Part 229.32), and the Biological Opinion for the Continued Authorization of the Atlantic Shark Fishery under Section 7 of the Endangered Species Act. Observers are deployed on any active fishing vessel reporting shark drift gillnet effort. In 2005, this program also began to observe sink gillnet fishing for sharks along the southeastern U.S. coast.

The shark gillnet observer program now covers all anchored (sink, stab, set), strike, or drift gillnet fishing by vessels that fish from Florida to North Carolina year-round. The observed fleet includes vessels with an active directed shark permit and fish with sink gillnet gear.

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

The Framework Amendment 1 would increase the ABC and ACL for the Atlantic and Gulf migratory groups and the recreational ACT for Atlantic migratory group. Harvest in the Gulf and South Atlantic has not been constrained by the existing ACLs; thus, increasing the ACLs in this amendment is not expected to result in an immediate increase in harvest. Therefore, actions in this amendment are not expected to lead to changes in fishing processing, disposal or marketing costs. Chapter 4 of this amendment analyzes potential economic and social impacts of these actions.

1.5 Changes in Fishing Practices and Behavior of Fishermen

Actions proposed in Framework Amendment 1 are not expected to result in a modification of fishing practices by commercial fishermen. Measures proposed in the amendment are intended to respond the most recent stock assessment. Catch is currently not being constrained by the existing ACLs; however, there is the potential for fishermen to increase fishing effort in order to catch the entire ACL. In some cases fish houses may tell Spanish mackerel fishing vessels how many fish they are willing to purchase to maintain price stability. Fishermen could limit their harvest in order to avoid a glut to the fish market.

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

The actions in the Framework Amendment 1 are not expected to modify research needs, administration, or management effectiveness.

Research and monitoring is ongoing to understand the effectiveness of proposed management measure and their effect on bycatch. In 1990, the SEFSC initiated a logbook program for vessels catching king and Spanish mackerel. Approximately 20% of commercial fishermen from snapper grouper, dolphin wahoo, and CMP fisheries are asked to fill out discard information in logbooks; however, a greater percentage of fishermen could be selected with emphasis on individuals that dominate landings. Recreational discards are obtained from the MRIP and logbooks from the NMFS headboat program.

Amendments have been implemented in the Gulf and South Atlantic that require weekly electronic reporting of landings and discards by headboats in the snapper grouper, dolphin wahoo, and CMP fisheries. The Councils are also developing an amendment to improve commercial logbook reporting for these fisheries. The SEFSC, Marine Fisheries Initiative, and Cooperative Research Programs (CRP) have provided some observer information for the snapper grouper fishery; however, more information is needed for the snapper grouper, dolphin wahoo, and CMP fisheries. Observer program reporting is in place for the southeast for the snapper grouper, reef fish, dolphin wahoo, and CMP fisheries. Observers in the NMFS Headboat survey collect information about numbers and total weight of individual species caught, total number of passengers, total number of anglers, location fished (identified to a 10 mile by 10 mile grid), trip duration (half, $\frac{3}{4}$, full or multiday trip), species caught, and numbers of released fish with their disposition (dead or alive). The headboat survey does not collect information on encounters with protected species. At the September 2012 South Atlantic Council meeting, the SEFSC indicates that observers are placed on about 2% of the headboat trips out of South Carolina to Florida, and about 9% of the headboat trips out of North Carolina (<http://www.safmc.net/LinkClick.aspx?fileticket=XGaVZzxLePY%3d&tabid=745>)

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

Stranding networks have been established in the Southeast Region. The NMFS SEFSC is the base for the Southeast United States Marine Mammal Stranding Program (<http://sero.nmfs.noaa.gov/pr/strandings.htm>). NMFS authorizes organizations and volunteers under the MMPA to respond to marine mammal strandings throughout the United States. These organizations form the stranding network whose participants are trained to respond to, and collect samples from live and dead marine mammals that strand along southeastern United State

beaches. The SEFSC is responsible for: coordinating stranding events; monitoring stranding rates; monitoring human caused mortalities; maintaining a stranding database for the southeast region; and conducting investigations to determine the cause of unusual stranding events including mass strandings and mass mortalities (<http://www.sefsc.noaa.gov/species/mammals/strandings.htm>).

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

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

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

Proposed management measures, and any changes in economic, social, or cultural values are discussed in Chapter 4. In summary, the social and economic impacts of both actions in the Framework Amendment 1 are expected to be positive.

1.8 Changes in the Distribution of Benefits and Costs

The distribution of benefits and costs expected from actions in the Framework Amendment 1 are discussed in Chapter 4. These actions are not associated with negative impacts or costs since they would not reduce the ability to fish for the subject species.

1.9 Social Effects

The social effects of all the measures are described in Chapter 4 of this document. In summary, the social environment would benefit from both actions in Framework Amendment 1. Fishing

opportunities would be maximized for Atlantic migratory group Spanish mackerel and Gulf migratory Spanish mackerel without negatively affecting the sustainability of either stock.

1.10 Conclusion

This section evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality using the ten factors provided at 50 CFR 600.350(d)(3)(i).

Measures proposed in the amendment are intended to respond to the most recent stock assessment and would increase the ABC and the ACL for the Atlantic and Gulf migratory groups of Spanish mackerel, and the recreational ACT for the Atlantic migratory group. These actions are not expected to significantly increase or decrease the magnitude of bycatch or bycatch mortality in the CMP fishery. Both sectors of the CMP fishery have relatively low baseline levels of bycatch, which are not expected to change as a result of implementation of this amendment.

Appendix E. **Regulatory Impact Review**

(to be completed after March 2014 meeting)

Appendix F. **Regulatory Flexibility Analysis**

(to be completed after March 2014 meeting)

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.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that 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, North Carolina, Virginia, Maryland, Delaware, New Jersey, and New York 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.

Data Quality Act

The Data Quality Act (DQA) (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 DQA directs the Office of Management and Budget (OMB) to issue government wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: 1) ensure information quality and develop a pre-dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the DQA, 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

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires federal agencies use their authorities to conserve endangered and threatened species. The ESA requires NMFS, when proposing a fishery action that “may affect” critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions may affect but are “not likely to adversely affect” endangered or threatened species or designated critical habitat. Formal consultations, including a biological opinion, are required when proposed actions may affect and are “likely to adversely affect” endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives. NMFS, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

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 2013 proposed List of Fisheries classifies the Gulf and South Atlantic coastal migratory pelagic hook-and-line fishery as a Category III fishery (78 FR 53336, August 29, 2013). Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities. The Gulf and South Atlantic coastal migratory pelagic gillnet fishery is classified as 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 (similar risk to marine mammals) with other gillnet fisheries.

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 June 20, 2013, the Small Business Administration issued a final rule revising the small business size standards for several industries effective July 22, 2013 (78 FR 37398). The rule increased the size standard for Finfish Fishing from \$4.0 to \$19.0 million, Shellfish Fishing from \$4.0 to \$5.0 million, and Other Marine Fishing from \$4.0 to \$7.0 million. In light of these new 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 3.3.4.

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.

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. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

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. An EFH consultation will be conducted for this action.