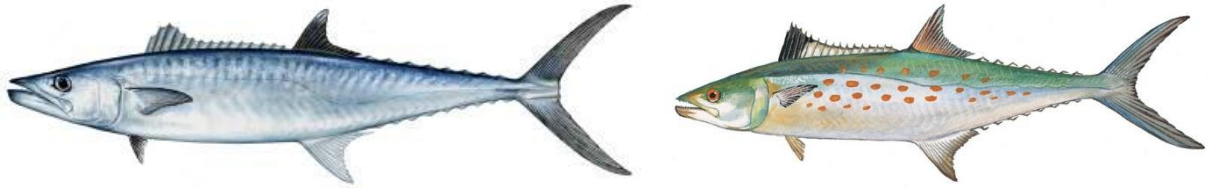
Tab C, No. 5
10/06/16

Modifications to Commercial Permit Restrictions for King and Spanish Mackerel



Framework Amendment 5
to the Fishery Management Plan
for Coastal Migratory Pelagic Resources
in the Gulf of Mexico and Atlantic Region

October 2016

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ENVIRONMENTAL ASSESSMENT COVER SHEET

Framework Amendment 5 to Modify Commercial Permit Restrictions for King and Spanish Mackerel

Type of Action

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
CMP	coastal migratory pelagics
Councils	Gulf of Mexico and South Atlantic Fishery Management Councils
EA	environmental assessment
EEZ	exclusive economic zone
FMP	fishery management plan
GMFMC	Gulf of Mexico Fishery Management Council
Gulf	Gulf of Mexico
Gulf Council	Gulf of Mexico Fishery Management Council
MRIP	Marine Recreational Information Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Agency
SAFMC	South Atlantic Fishery Management Council
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment, and Review
SEFSC	NMFS Southeast Fishery Science Center
SERO	NMFS Southeast Regional Office
South Atlantic Council	South Atlantic Fishery Management Council

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CHAPTER 1. INTRODUCTION

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- *Secretary of Commerce* – Approves, disapproves, or partially approves the amendment as recommended by the Council.

1.1 Background

Current regulations (50 CFR 622.384(e)(1)) stipulate that a person aboard a vessel with a federal commercial permit for king or Spanish mackerel may not fish for king or Spanish mackerel in the EEZ or retain king or Spanish mackerel in or from the EEZ under a bag or possession limit if commercial harvest for the species is closed (i.e., the species, migratory group, zone, subzone, or gear is closed). This regulation prevents commercial fishermen with a federal commercial permit for king mackerel or Spanish mackerel from recreationally fishing on their commercial vessel outside of the commercial season for those species. However, in the case of a vessel with both a valid charter vessel/headboat coastal migratory pelagics (CMP) permit and a valid federal commercial permit for king mackerel or Spanish mackerel, the recreational bag limit of king or Spanish mackerel may be retained on these for-hire vessels when the applicable commercial season is closed as long as the vessel is operating as a for-hire vessel (50 CFR 622.384(e)(2)). This regulation does not currently affect harvest of Spanish mackerel in the Gulf of Mexico (Gulf), which is managed under a stock annual catch limit (ACL) (50 CFR 622.388(c)(3)) without a specified quota (50 CFR 622.384(c)(1)). Under the applicable accountability measures, the Gulf Spanish mackerel commercial and recreational sectors close at the same time following an actual or projected stock ACL overage. The regulations do apply to Atlantic migratory group Spanish mackerel (Atlantic Spanish mackerel), although commercial harvest of Atlantic Spanish mackerel has not closed before the end of the fishing year in recent years.

The regulations specifying restrictions applicable after a quota closure were originally deemed as necessary when the Gulf migratory group of king mackerel (Gulf king mackerel) was thought to be overfished in the early 1990s, as a means of controlling fishing effort. The most recent stock assessment of Gulf king mackerel and Atlantic migratory group king mackerel (Atlantic king mackerel) (SEDAR 38 2014), however, has indicated that both Gulf and Atlantic of king mackerel are not overfished or experiencing overfishing.

At its November 2015 meeting, the Gulf of Mexico Fishery Management Council's (Gulf Council) CMP Advisory Panel (Gulf AP) recommended that the Gulf Council eliminate this

permit restriction on commercial king mackerel vessels. The Gulf AP noted that such a restriction does not exist under any other vessel or permit condition for other species in the Gulf Council's fishery management plans (FMPs,), and that the current restriction prevents fishermen from recreationally targeting king mackerel on their commercially permitted vessels. At its meeting in January 2016, the Gulf Council initiated this framework amendment to evaluate the change recommended by the Gulf AP. The South Atlantic Fishery Management Council voted to pursue the same modifications to the permit restrictions at its June 2016 meeting. Spanish mackerel was included for the Councils' consideration since this permit restriction also applies to Spanish mackerel, although it does not currently affect the harvest of Spanish mackerel in the Gulf, as noted above.

1.2 Purpose and Need

The purpose of this action is to eliminate permit restrictions unique to commercial king and Spanish mackerel permitted vessels. The need for this action is to standardize vessel permit restrictions applicable after a commercial quota closure, remove restrictions on recreational fishing, and reduce the potential for regulatory discards in the king mackerel and Spanish mackerel components of the CMP fishery.

1.3 History of Management

The CMP FMP, with environmental impact statement (EIS), was approved in 1982 and implemented by regulations effective in February 1983 (GMFMC and SAFMC 1982). The management unit includes king mackerel, Spanish mackerel, and cobia. The FMP treated king and Spanish mackerel as unit stocks in the Atlantic and Gulf. The following is a list of management changes relevant to this amendment. A full history of CMP management can be found in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011), and is incorporated here by reference.

Amendment 1, with EIS, implemented in September 1985, recognized separate Atlantic and Gulf migratory groups of king mackerel. The Gulf commercial allocation for king mackerel was divided into Eastern and Western Zones for the purpose of regional allocation, with 69% of the allocation provided to the Eastern Zone and 31% to the Western Zone.

Amendment 5, with environmental assessment (EA), implemented in August 1990, extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction; provided that the South Atlantic Council will be responsible for pre-season adjustments of total allowable catch and bag limits for the Atlantic migratory groups of mackerels while the Gulf Council will be responsible for Gulf migratory groups; and 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 could be determined.

Amendment 6, with EA, implemented in November 1992, allowed for Gulf migratory group king mackerel stock identification and allocation when appropriate.

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 was equally divided between commercial hook-and-line and net gear users.

Amendment 8, with EA, implemented in March 1998, 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); and modified the seasonal framework adjustment measures.

Amendment 9, with EA, implemented in April 2000, created north and south subzones on the Florida west coast and reallocated the commercial portion of the ACL among the Gulf zones.

Amendment 18, with EA, implemented in January 2012, established ACLs and accountability measures for Gulf and Atlantic migratory groups of king and Spanish mackerel. The ACLs for the Gulf and South Atlantic migratory groups of king mackerel were 10.8 million pounds in 2013 and 10.46 million pounds, respectively. The ACLs for the Gulf and South Atlantic migratory groups of Spanish mackerel were 5.15 million pounds and 5.69 million pounds, respectively.

Amendment 20A, with EA, implemented in July 2014, prohibited sale of recreationally caught king and Spanish mackerel, with an exception for sale of fish caught on for-hire trips on dual-permitted vessels in the Gulf region, and an exception for sale of fish caught in state-permitted tournaments in both the Gulf and Atlantic regions and donated to a state or federally-permitted dealer, as long as the proceeds from the dealer sale are donated to charity.

Amendment 20B, with EA, implemented in March 2015, revised Gulf king mackerel hook-and-line trip limits in the Florida West Coast zone Northern and Southern subzones and modified the Northern subzone fishing year; created a transit provision for areas closed to king mackerel; established Northern and Southern zones with separate commercial quotas for Atlantic king and Spanish mackerel.

Amendment 23, with EA, implemented in August 2014, was part of the joint Gulf/South Atlantic Dealer Reporting Amendment, and required CMP fishermen to sell to a federally permitted dealer.

South Atlantic CMP Framework Action 2013 with EA, implemented in December 2014, modified king mackerel trip limits in the Gulf Florida East Coast subzone.

Framework Amendment 1 with EA, implemented in December 2014, updated the ACLs for Gulf and Atlantic Spanish mackerel.

Framework Amendment 2 with EA, implemented in August 2015, modified commercial trip limits for Atlantic Spanish mackerel in the Atlantic Southern Zone (South Carolina, Georgia, and the Florida east coast).

Amendment 26, with EA, approved by the Councils in March and April of 2016, modified the stock boundary between the Gulf and Atlantic migratory groups of king mackerel to be at the Dade/Monroe County Line in southeastern Florida, with the Gulf Council managing king mackerel to that line year-round. For the 2016/17 fishing year, the ABC for Gulf king mackerel was set at 9.21 mp. Commercial zone allocations of the commercial king mackerel ACL in the Gulf were changed as follows: Western Zone: 40%; Northern Zone: 18%; Southern Zone Handline: 21%; and Southern Zone Gillnet: 21%. Lastly, the recreational bag limit was increased from two fish per person per day to three fish per person per day. This amendment is in the process of being transmitted for Secretarial review.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1: Modify Restrictions Applicable to Federal Commercial Permits for King and Spanish Mackerel

Alternative 1: No Action –Persons aboard a vessel with a federal commercial permit for king or Spanish mackerel may not fish for or retain the recreational bag limit if commercial harvest for the species is closed (i.e., the species, migratory group, zone, subzone, or gear is closed) except when that vessel also holds the applicable federal for-hire permit (Gulf Charter/Headboat CMP permit, Historical Captain Gulf Charter/Headboat CMP permit, or Atlantic Charter/Headboat CMP permit) and is operating in a for-hire capacity.

Preferred Alternative 2: Remove the restriction on fishing for and retaining the recreational bag limit of king mackerel on a vessel with a federal commercial permit for king mackerel when the vessel is on a recreational trip and commercial harvest of king mackerel that zone is closed.

Preferred Alternative 3: Remove the restriction on fishing for and retaining the recreational bag limit of Spanish mackerel on a vessel with a federal commercial permit for Spanish mackerel when the vessel is on a recreational trip and commercial harvest of Spanish mackerel in that zone (Atlantic) or region (Gulf) is closed.

Discussion:

Current regulations specifying restrictions applicable after a quota closure (50 CFR 622.384(e)(1)) stipulate that a person aboard a vessel with a federal commercial permit for king or Spanish mackerel may not fish for king or Spanish mackerel in the EEZ or retain king or Spanish mackerel in or from the EEZ under a bag or possession limit if commercial harvest for the species is closed (i.e., the species, migratory group, zone, subzone, or gear is closed) (**Alternative 1**). This means commercial fishermen with a federal commercial permit on their vessel may not land a bag limit of king or Spanish mackerel while recreationally fishing when the same commercial mackerel season is closed. Dual permitted vessels having both a federal CMP charter/headboat permit and a federal commercial permit are allowed to retain the species bag limit when the commercial season is closed if they are operating as for-hire vessels (as specified in 50 CFR 622.384(e)(2)). This permit restriction is unique to king and Spanish mackerel; no other fishery management plan (FMP) administered by the Gulf of Mexico (Gulf) or South Atlantic Fishery Management Council (Councils) has a similar restriction. **Alternative 1** would retain this permit restriction.

Preferred Alternative 2 would remove the restriction on fishing for and retaining the recreational bag limit of king mackerel on a vessel with a federal commercial permit for king mackerel when commercial harvest is closed for the commercial zone in which the vessel is recreationally fishing. Commercial fishermen would be able to treat their vessels as private recreational vessels and recreationally harvest king mackerel when the commercial season is

closed. King mackerel harvested in this manner could not be sold, thereby preventing out-of-season sale of king mackerel.

As of Juy 6, 2016, there were 1,440 valid or renewable federal commercial permits for king mackerel. It is not possible to predict the extent to which recreational landings of king mackerel would be increased by selecting **Preferred Alternative 2** as preferred. In the Gulf, however, since the recreational sector has not landed its annual catch limit (ACL) in 15 years (Table 2.1.1), any effect would likely be minimal. Similarly, in recent years, Atlantic king mackerel recreational landings have not reached the recreational ACL (Table 2.1.2).

Table 2.1.1. Proportion of sector ACLs landed and proportion of total ACL landed for Gulf king mackerel, including those landings attributed to the Florida East Coast Zone (FLEC). The FLEC landings are included since there is not a recreational allocation specifically for the FLEC Zone. This zone was designated as part of the Atlantic migratory group of king mackerel in Amendment 26 to the CMP FMP, which was recently submitted by the Councils for Secretarial review.

Fishing Year	Total TAC/ACL	Comm Sector ACL	Comm Landings	Rec Sector ACL	Rec Landings	% of Sector ACL Landed		% of Total ACL Landed
						Comm[1]	Rec[2]	
2001/02	10.2 mp	3.264 mp	2.902 mp	6.936 mp	3.669 mp	88.9%	52.9%	64.7%
2002/03	10.2 mp	3.264 mp	3.186 mp	6.936 mp	2.816 mp	97.6%	40.6%	59.3%
2003/04	10.2 mp	3.264 mp	3.094 mp	6.936 mp	3.211 mp	94.8%	46.3%	62.7%
2004/05	10.2 mp	3.264 mp	3.215 mp	6.936 mp	2.532 mp	98.5%	36.5%	56.4%
2005/06	10.2 mp	3.264 mp	2.983 mp	6.936 mp	2.996 mp	91.4%	43.2%	58.9%
2006/07	10.8 mp	3.456 mp	3.231 mp	7.344 mp	3.305 mp	93.5%	45.0%	60.5%
2007/08	10.8 mp	3.456 mp	3.459 mp	7.344 mp	2.629 mp	100.1%	35.8%	56.3%
2008/09	10.8 mp	3.456 mp	3.833 mp	7.344 mp	2.350 mp	110.9%	32.0%	57.6%
2009/10	10.8 mp	3.456 mp	3.674 mp	7.344 mp	3.525 mp	106.3%	48.0%	68.0%
2010/11	10.8 mp	3.456 mp	3.522 mp	7.344 mp	2.181 mp	101.9%	29.7%	53.0%
2011/12	10.8 mp	3.456 mp	3.428 mp	7.344 mp	2.438 mp	99.2%	33.2%	54.3%
2012/13	10.8 mp	3.456 mp	3.539 mp	7.344 mp	2.710 mp	102.4%	36.9%	57.9%
2013/14	10.8 mp	3.456 mp	3.055 mp	7.344 mp	2.916 mp	88.4%	39.7%	55.3%
2014/15[3]	10.8 mp	3.456 mp	4.003 mp	7.344 mp	4.630 mp	115.8%	63.1%	79.9%

[1]Commercial allocation = 32% [2]Recreational allocation = 68%
mp = million pounds
Source: SERO

Table 2.1.2. Proportion of sector ACLs landed and proportion of total ACL landed for Atlantic king mackerel.

Fishing Year	Total TAC/ACL	Comm Sector ACL	Comm Landings	Rec Sector ACL	Rec Landings	% of Sector ACL Landed		% of Total ACL Landed
						Comm[1]	Rec[2]	
2001/02	10 mp	3.71 mp	1,686,844	6.3 mp	5,035,061	45.5%	79.9%	67.2%
2002/03	10 mp	3.71 mp	1,856,717	6.3 mp	4,574,235	50.0%	72.6%	64.3%
2003/04	10 mp	3.71 mp	2,774,442	6.3 mp	4,979,506	74.8%	79.0%	77.5%
2004/05	10 mp	3.71 mp	2,243,000	6.3 mp	5,321,449	60.5%	84.5%	75.6%
2005/06	10 mp	3.71 mp	2,991,346	6.3 mp	4,457,679	80.6%	70.8%	74.5%
2006/07	10 mp	3.71 mp	2,656,832	6.3 mp	5,127,178	71.6%	81.4%	77.8%
2007/08	10 mp	3.71 mp	3,105,433	6.3 mp	7,128,545	83.7%	113.2%	102.3%
2008/09	10 mp	3.71 mp	3,560,880	6.3 mp	4,228,245	96.0%	67.1%	77.9%
2009/10	10 mp	3.71 mp	3,402,329	6.3 mp	4,394,015	91.7%	69.7%	78.0%
2010/11	10 mp	3.71 mp	2,051,938	6.3 mp	2,692,771	55.3%	42.7%	47.4%
2011/12	10.46 mp	3.88 mp	1,346,376	6.58 mp	1,562,905	34.7%	23.8%	27.8%
2012/13	10.46 mp	3.88 mp	1,346,459	6.58 mp	1,719,199	34.7%	26.1%	29.3%
2013/14	10.46 mp	3.88 mp	1,116,833	6.58 mp	1,004,441	28.8%	15.3%	20.3%
2014/15	10.46 mp	3.88 mp	1,324,957	6.58 mp	1,305,500	34.1%	19.8%	25.1%
2015/16[3]	10.46 mp	3.88 mp	1,315,838	6.58 mp	1,203,764	33.9%	18.3%	24.1%

[1]Commercial allocation = 37.1% [2]Recreational allocation = 62.9%
[3] Preliminary landings
Source: SERO

Preferred Alternative 3 would remove the restriction on fishing for and retaining the recreational bag limit of Spanish mackerel on a vessel with a federal pelagic commercial permit for Spanish mackerel when the fishing season is closed. Although the permit restriction described in **Alternative 1** would prevent commercial fishermen from using their vessels recreationally to harvest Spanish mackerel when the commercial season is closed, given current management of Spanish mackerel, the restriction does not apply in practice in the Gulf. Spanish mackerel in the Gulf are not fished under a quota, 50 CFR 622.384(c)(1). Instead, they are currently managed under a stock ACL specifying the total recreational and commercial catch limit (50 CFR 622.388(c)(3)). Under the applicable accountability measures, when the stock ACL is met or projected to be met, all fishing (recreational and commercial) stops (50 CFR 622.388(c)(1)). This effectively makes the regulations in **Alternative 1** inapplicable to Gulf Spanish mackerel, since it is not subject to sector-specific quota closures and it would not currently be possible to fish as a participant in one sector while the other sector is closed. However, removing the current permit restriction as described in **Preferred Alternative 3** would bring the regulations for the harvest of Gulf Spanish mackerel in line with those of other species managed by the Councils. If, in the future, the Gulf and South Atlantic Councils elect to allocate between the commercial and recreational sectors of Gulf Spanish mackerel, and if the AMs operate to close the commercial Spanish mackerel sector while the recreational sector is open, then, if **Preferred Alternative 3** is selected as preferred, the Gulf Council would not need to take further action to remove the permit restriction as described in **Alternative 1**.
Spanish mackerel in the Atlantic are managed using a commercial quota and sector allocations, with AMs that operate to close just the commercial sector when the landings reach or are

projected to reach the commercial quota. Thus, **Preferred Alternative 3** would affect Atlantic Spanish mackerel in a manner consistent with how **Preferred Alternative 2** would affect management of both migratory groups of king mackerel.

Federal commercial permits for Spanish mackerel are currently open access, meaning that anyone can apply for a permit. Since Gulf Spanish mackerel are managed under a stock ACL, no change in fishing behavior or effort is currently expected as a result of selecting **Preferred Alternative 3** as preferred. The stock ACL for Gulf Spanish mackerel has not been exceeded in the last 15 years. An exception was in the 2013-2014 fishing season; however, the stock ACL for the following fishing year was increased by 246% in the following fishing year as a result of the SEDAR 28 (2013) stock assessment report, and a closure of the fishery was not implemented. Table 2.1.3 characterizes the recent history of Gulf Spanish mackerel landings.

Table 2.1.3. Gulf Spanish mackerel landings for the 2000-2001 to 2015-2016 fishing seasons. Landings are in pounds. The current fishing year for Gulf Spanish mackerel is from April 1 – March 31.

Fishing Year	**Recreational Landings**	**Commercial Landings**	**Total Landings**	**Stock ACL**	**% of ACL Landed**
2000-2001	2,787,773	1,054,259	3,842,032	9,100,000	42.22%
2001-2002	3,452,981	810,099	4,263,080	9,100,000	46.85%
2002-2003	3,171,235	1,745,064	4,916,299	9,100,000	54.03%
2003-2004	2,742,270	941,702	3,683,972	9,100,000	40.48%
2004-2005	2,665,269	1,986,512	4,651,781	9,100,000	51.12%
2005-2006	1,595,375	1,221,294	2,816,669	9,100,000	30.95%
2006-2007	2,845,347	1,534,040	4,379,387	9,100,000	48.13%
2007-2008	2,724,757	902,827	3,627,584	9,100,000	39.86%
2008-2009	2,525,443	2,360,038	4,885,481	9,100,000	53.69%
2009-2010	1,890,143	942,501	2,832,644	9,100,000	31.13%
2010-2011	2,964,339	1,248,711	4,213,050	9,100,000	46.30%
2011-2012	2,677,725	1,347,945	4,025,670	9,100,000	44.24%
2012-2013	3,096,836	1,412,591	4,509,427	5,150,000	87.56%
2013-2014[1]	5,232,533	1,450,265	6,682,798	5,150,000	129.76%
2014-2015	1,604,138	920,035	2,524,173	12,700,000	19.88%
2015-2016	2,140,222	1,213,742	3,353,964	11,800,000	28.42%

[1] The stock ACL for the 2013-2014 fishing year was increased by 246% in the following fishing year as a result of the SEDAR 28 (2013) stock assessment report, and a closure of the fishery was not implemented
Source: SERO

Atlantic Spanish mackerel are managed with recreational and commercial ACLs. However, recreational landings of Atlantic Spanish mackerel have not reached the recreational ACL in several years (Table 2.1.4).

Table 2.1.4. Proportion of sector ACLs landed and proportion of total ACL landed for Atlantic Spanish mackerel.

Fishing Year	Total TAC/ACL	Comm Sector ACL	Comm Landings	Rec Sector ACL	Rec Landings	% of Sector ACL Landed		% of Total ACL Landed
						Comm[1]	Rec[2]	
2001/02	7.04 mp	3.87 mp	3,066,183	3.17 mp	2,046,039	79.2%	64.6%	72.6%
2002/03	7.04 mp	3.87 mp	3,233,790	3.17 mp	1,640,822	83.5%	51.8%	69.2%
2003/04	7.04 mp	3.87 mp	3,746,542	3.17 mp	1,853,294	96.8%	58.5%	79.5%
2004/05	7.04 mp	3.87 mp	3,357,857	3.17 mp	1,359,360	86.7%	42.9%	67.0%
2005/06	7.04 mp	3.87 mp	3,668,168	3.17 mp	1,648,291	94.7%	52.0%	75.5%
2006/07	7.04 mp	3.87 mp	3,643,175	3.17 mp	1,653,413	94.1%	52.2%	75.2%
2007/08	7.04 mp	3.87 mp	3,079,343	3.17 mp	1,710,276	79.5%	54.0%	68.0%
2008/09	7.04 mp	3.87 mp	3,169,967	3.17 mp	2,046,806	81.9%	64.6%	74.1%
2009/10	7.04 mp	3.87 mp	4,192,335	3.17 mp	2,107,213	108.3%	66.5%	89.5%
2010/11	7.04 mp	3.87 mp	4,556,352	3.17 mp	1,763,640	117.7%	55.7%	89.8%
2011/12	5.69 mp	3.13 mp	4,008,625	2.56 mp	1,231,696	128.1%	48.1%	92.1%
2012/13	5.69 mp	3.13 mp	3,124,535	2.56 mp	1,377,762	99.8%	53.8%	79.1%
2013/14	5.69 mp	3.13 mp	2,602,361	2.56 mp	1,864,168	83.1%	72.8%	78.5%
2014/15	6.063 mp	3.33 mp	1,758,630	2.727 mp	862,003	52.8%	31.6%	43.2%
2015/16[3]	6.063 mp	3.33 mp	2,580,843	2.727 mp	814,018	77.5%	29.9%	56.0%

[1]Commercial allocation = 55% [2]Recreational allocation = 45%
[3] Preliminary landings
Source: SERO

Cobia are also managed by the Gulf and South Atlantic Councils as part of the CMP FMP. Cobia are currently managed using a possession limit of two fish per person per day for both the recreational and commercial sectors in the Gulf, South Atlantic, and Mid-Atlantic regions. Because the regulations for cobia are identical for both sectors, and because a federal commercial permit is not required to commercially harvest cobia, no similar permit restrictions exist for cobia as are being addressed herein for king and Spanish mackerel.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Fishery and Status of the Stock

Description of the Fisheries

A detailed description of the king mackerel component of the coastal migratory pelagic (CMP) fishery was included in Amendment 26 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (FMP) (GMFMC and SAFMC 2016) and is incorporated here by reference, as well as further summarized below. Amendment 26 can be found at http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_sa/cmp/index.html.

A detailed description of the Spanish mackerel component of the CMP fishery was included in Framework Action 1 (GMFMC and SAFMC 2014a) and incorporated herein as a reference and summarized below. Framework Action 1 is available at: http://safmc.net/sites/default/files/Resource%20Library/pdf/CMP%20Am/CMPFrameworkAmendment1_29May2014_FINAL.pdf.

King Mackerel

A federal king mackerel commercial permit is required to fish for and retain king mackerel in excess of the recreational bag limit in federal waters of the Gulf of Mexico (Gulf), South Atlantic, and Mid-Atlantic regions, to fish under a quota, and to sell king mackerel from federal waters. These permits are limited access. In addition, a limited access gillnet endorsement is required to use gillnets in the Gulf Southern Zone. As of July 6, 2016, there were 1,440 valid or renewable commercial king mackerel permits and 19 valid or renewable gillnet endorsements. The commercial king mackerel permits do not have an income requirement, which was removed through Amendment 20A (GMFMC and SAFMC 2013a).

For-hire vessels harvesting CMP species in the Gulf must have either a "Gulf Charter/Headboat permit for CMP" or a "Historical Captain Gulf Charter/Headboat permit for CMP." The Gulf CMP For-hire permit is limited access. An "Atlantic Charter/Headboat permit for CMP," which his open access, is required to harvest CMP species on for-hire trips in both the South Atlantic and Mid-Atlantic regions. As of July 22, 2016, there were 1,291 valid (non-expired) or renewable Gulf CMP Charter/Headboat permits and Historical Captain Gulf CMP Charter/Headboat permits, and 1,579 Atlantic CMP Charter/Headboat permits.

Figure 3.1.1 shows the commercial zones for Gulf and Atlantic king mackerel. The Gulf Western Zone extends from the southern border of Texas to the Alabama/Florida state line. The fishing year for this zone is July 1 through June 30. The Gulf Northern Zone extends from the Alabama/Florida state line in the west to the Lee/Collier county line in the South, with a fishing year of October 1 through September 30. The Gulf Southern Zone extends south of the Lee/Collier county line, with a fishing year from July 1 through June 30. In the Gulf Southern Zone, the gillnet season opens on the day after the Martin Luther King, Jr. holiday. Gillnet fishing is allowed during the first weekend thereafter, but not on subsequent weekends.

The waters off Florida are divided at the Monroe/Dade county line, which corresponds to the easternmost border between the Gulf and Atlantic king mackerel migratory groups. The Florida East Coast Subzone is currently from the Flagler/Volusia county line south to the Dade/Monroe county line and only exists from November 1 through March 31 (Figure 3.1.1A). King mackerel in this subzone are considered part of the Atlantic migratory group during summer (Figure 3.1.1B).

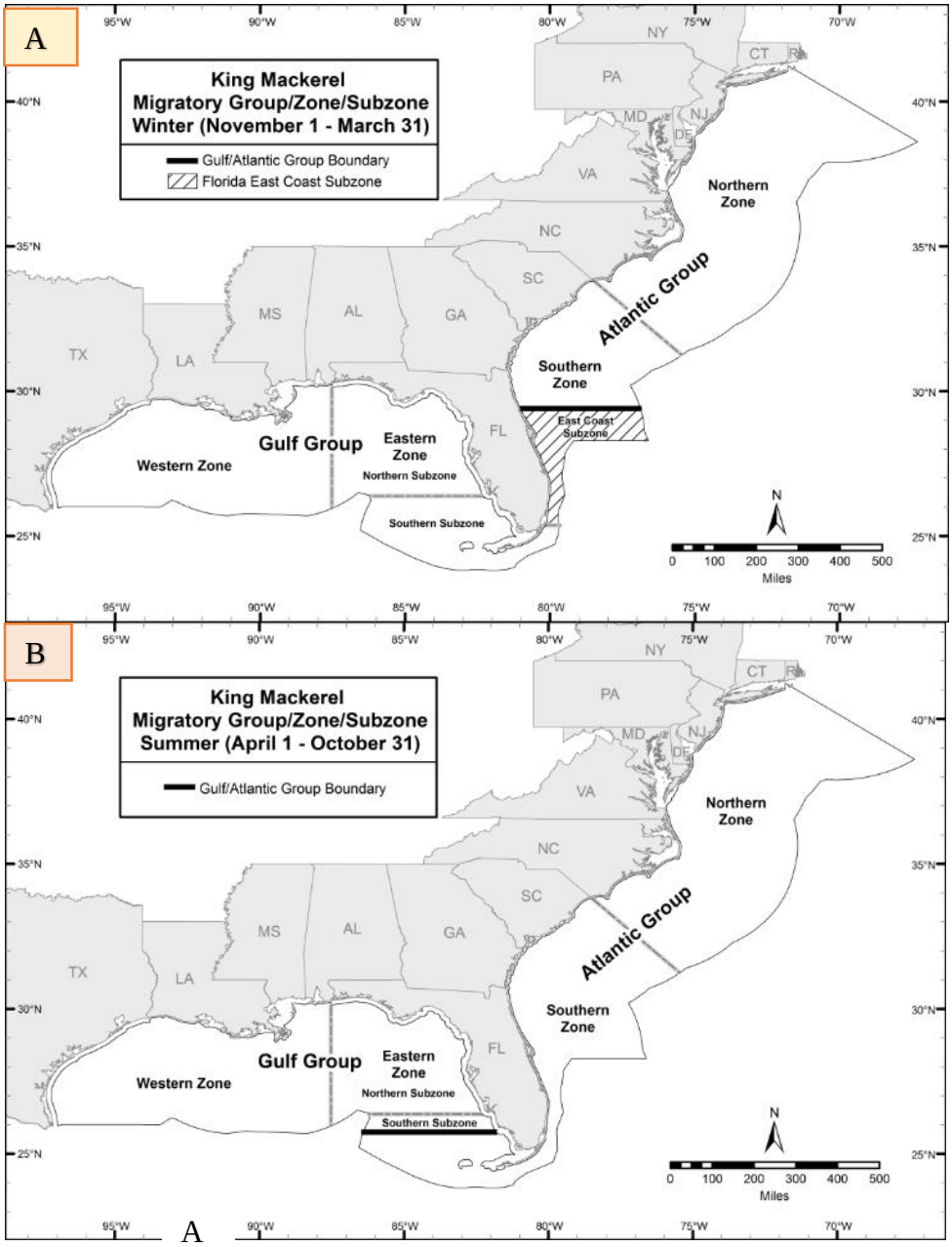

Figure 3.1.1. Gulf and Atlantic king mackerel zones for A) November 1 – March 31, and B) April 1 – October 31.

Management measures for the South Atlantic apply to king mackerel from New York to the east coast of Florida. The Atlantic migratory group king mackerel fishing year is March 1 through end of February. This migratory group is divided into Northern and Southern Zones by a line at the North Carolina/South Carolina border (Figure 3.1.1).

Amendment 26 to the CMP FMP proposes changes to the management boundaries between the Councils. The Councils propose establishing a single year-round boundary for separating the Gulf and Atlantic migratory groups of king mackerel at the Miami-Dade/Monroe county line (Figure 3.1.2). The Gulf Council would be responsible for management measures in the mixing zone. Amendment 26 was sent to the National Marine Fisheries Service on July 7th, 2016, and is currently undergoing Secretarial review.

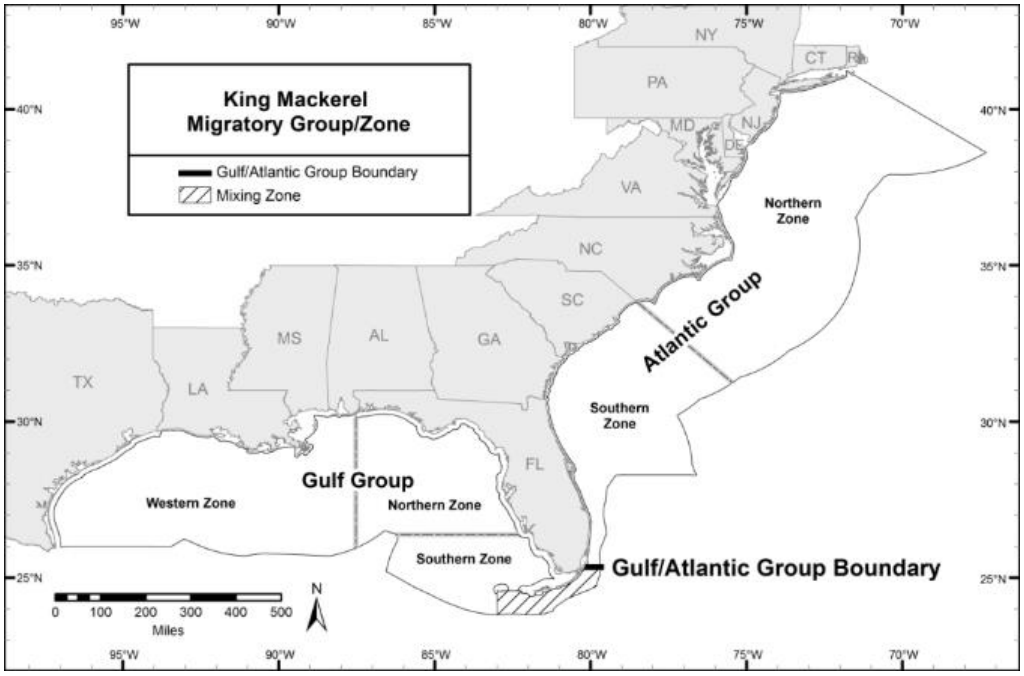

Figure 3.1.2. Preferred Alternative 3 from Action 1 in Amendment 26 to the CMP FMP, showing the proposed management boundary for Atlantic and Gulf king mackerel.

Commercial landings of Gulf king mackerel increased as the total commercial quota for the Gulf increased until 1997/1998 when the quota was set at 3.39 million pounds (mp). After that, landings have been relatively steady near the annual catch limit (ACL). Commercial landings of Atlantic king mackerel have decreased in recent years (Table 3.1.1).

Table 3.1.1. Commercial landings of king mackerel by fishing year.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000/2001	3,056,222	1,932,162
2001/2002	2,902,632	1,686,844
2002/2003	3,184,478	1,856,717
2003/2004	3,095,673	2,774,442
2004/2005	3,215,676	2,243,000
2005/2006	2,984,694	2,991,346
2006/2007	3,231,734	2,656,832
2007/2008	3,459,064	3,105,433
2008/2009	3,834,026	3,560,880
2009/2010	3,672,628	3,402,329
2010/2011	3,521,125	2,051,938
2011/2012	3,427,891	1,346,376
2012/2013	3,538,228	1,346,459
2013/2014	3,055,018	1,116,833
2014/2015	3,591,000	1,324,957

Source: SEFSC, ALS database; NEFSC, CFDBS database.

King mackerel have long been a popular target for recreational fishermen. The recreational sector is allocated 68% of the Gulf ACL and 62.9% of the Atlantic ACL. Gulf recreational landings averaged about 2.8 mp per year over the last five years. The Atlantic king mackerel recreational landings in recent years have been lower than previous years (Table 3.1.2).

Table 3.1.2. Recreational landings of king mackerel by fishing year.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000/2001	3,121,584	6,184,541
2001/2002	3,668,540	5,035,061
2002/2003	2,817,537	4,574,235
2003/2004	3,211,497	4,979,506
2004/2005	2,528,457	5,321,449
2005/2006	2,995,716	4,457,679
2006/2007	3,305,567	5,127,178
2007/2008	2,626,527	7,128,545
2008/2009	2,352,510	4,228,245
2009/2010	3,523,777	4,394,015
2010/2011	2,182,980	2,692,771
2011/2012	2,436,026	1,562,905
2012/2013	2,711,213	1,719,199
2013/2014	2,914,241	1,004,441
2014/2015	4,576,000	1,305,500

Source: SEFSC, MRFSS, SRHS, and TPWD databases.

Spanish Mackerel

A federal Spanish mackerel commercial permit is required to retain Spanish mackerel in excess of the bag limit in federal waters of the Gulf of Mexico (Gulf), South Atlantic and Mid-Atlantic regions, to fish under a quota, and to sell Spanish mackerel from federal waters. These permits are open access. As of August 5, 2016, there were 1,839 valid or renewable Spanish mackerel commercial permits. The for-hire permit requirements for Spanish mackerel are the same as king mackerel, described in the previous section.

The management boundary between the Atlantic and Gulf Spanish mackerel is at the Miami-Dade/Monroe county line. The commercial sector for Atlantic Spanish mackerel is managed as the Atlantic Northern and Southern zones (Figure 3.1.3).

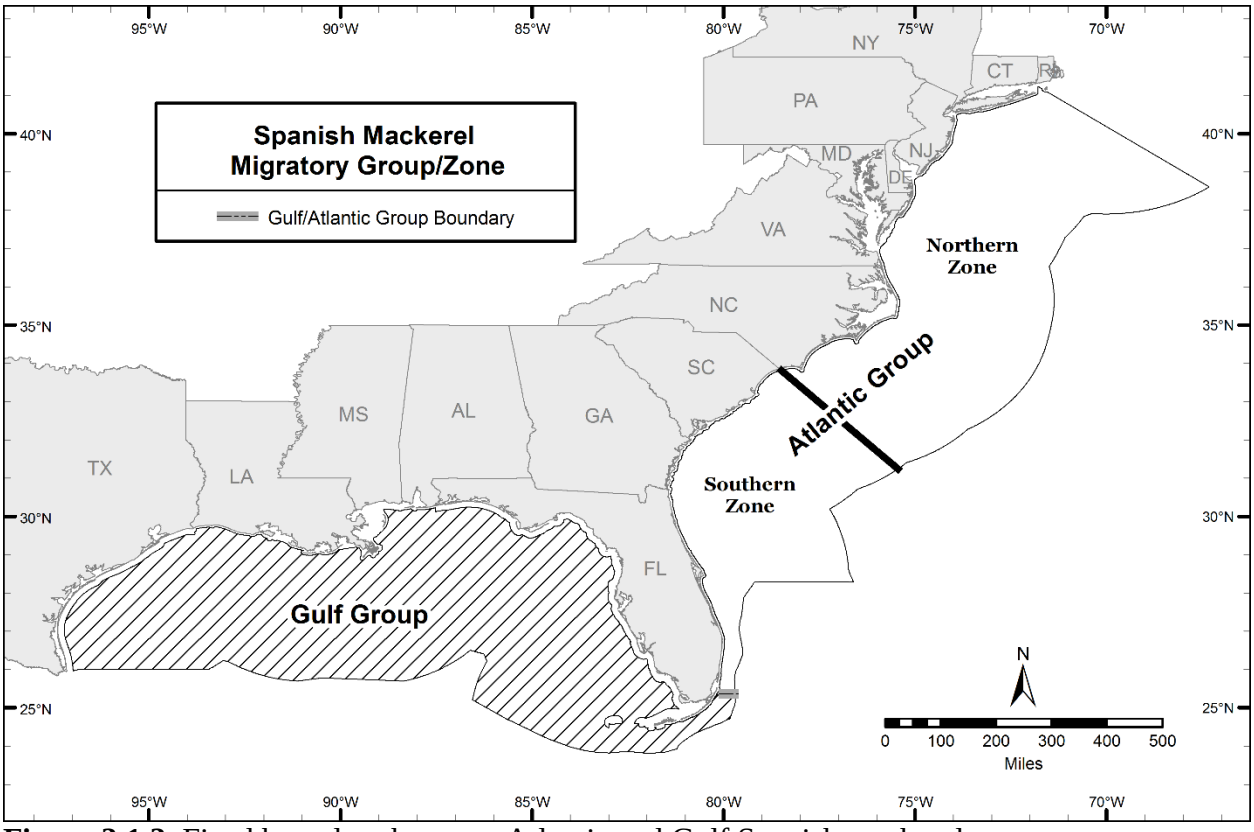

Figure 3.1.3. Fixed boundary between Atlantic and Gulf Spanish mackerel.

Table 3.1.3. 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
2011/2012	1,347,945	4,008,625
2012/2013	1,412,591	3,124,535
2013/2014	1,450,265	2,602,361
2014/2015	920,035	1,758,630

Source: SEFSC, ALS database; NEFSC, CFDBS database
*For 1999/2000-2004/3005, the Atlantic fishing year is Apr-Mar; for 2006/2007 onward, the fishing year is Mar-Feb.

Table 3.1.4. 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
2011/2012	2,677,725	1,231,696
2012/2013	3,096,836	1,377,762
2013/2014	5,232,533	1,864,168
2014/2015	1,604,138	862,003

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

Status of the Stocks

Both the Gulf and Atlantic king mackerel were assessed by the Southeast Data, Assessment, and Review (SEDAR) process in SEDAR 38 (2014). The SEDAR 38 assessment determined the Gulf and Atlantic king mackerel were not overfished and were not experiencing overfishing.

Recruitment has been lower in recent years for the Atlantic king mackerel, which could be due to physical and/or biological oceanographic variables (e.g., changes in water temperature, timing of upwelling events, changes in current patterns [eddies, gyres, current proximity to shore]), anthropogenic influences, or some combination thereof. There is no evidence of a similar decline in recruitment for the Gulf migratory group.

Gulf and Atlantic Spanish mackerel were assessed in SEDAR 28 (2013a,b). The assessments determined that Gulf and Atlantic Spanish mackerel were not overfished and were not experience overfishing.

3.2 Description of the Physical Environment

3.2.1 Gulf of Mexico

The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), 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. Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Mean annual sea surface temperatures ranged from 73 through 83º F (23-28º C) including bays and bayous (Figure 3.2.1.1) between 1982 and 2009, according to satellite-derived measurements (NODC 2012: http://accession.nodc.noaa.gov/0072888). In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

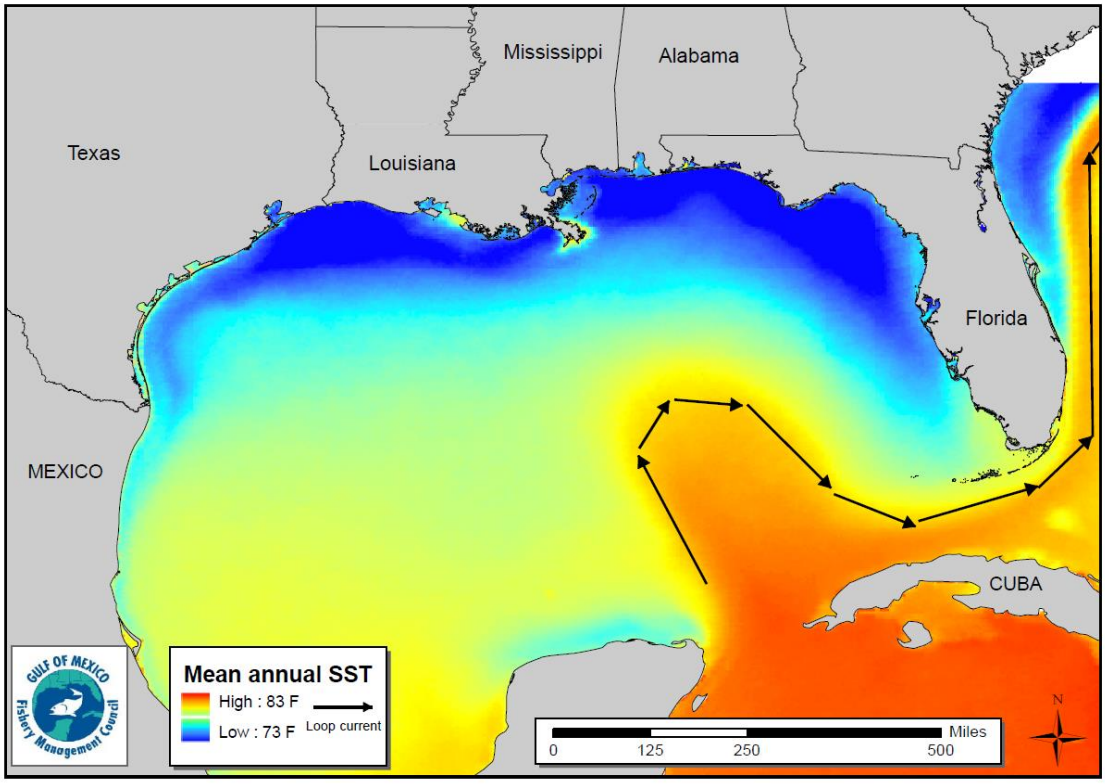

Figure 3.2.1.1. Mean annual sea surface temperature derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (http://pathfinder.nodc.noaa.gov).

The physical environment is detailed in the Environmental Impact Statement for the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2005) and the Generic ACLs/

Accountability Measures (AMs) Amendment[1] (GMFMC and SAFMC 2011), which are hereby incorporated by reference and updated below.

In the Gulf, the U.S.S. Hatteras, located in federal waters off Texas, is listed in the National Register of Historic Places. Fishing activity already occurs in the vicinity of this site, but the proposed action would have no additional adverse impacts on listed historic resources, nor would they alter any regulations intended to protect them. Historical research indicates that over 2,000 ships sank on the federal outer continental shelf between 1625 and 1951; thousands more sank closer to shore in state waters during the same period. Only a handful of these have been scientifically excavated by archaeologists for the benefit of generations to come. Further information can be found at: http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx

Habitat Areas of Particular Concern (HAPC)

Generic Amendment 3 (GMFMC 2005) for addressing EFH, HAPC, and adverse effects of fishing in the fishery management plans for Gulf Reef Fish, Red Drum, and CMP is hereby incorporated by reference.

Environmental Sites of Special Interest Relevant to Coastal Migratory Pelagic Species (Figure 3.2.2.1)

Tortugas North and South Marine Reserves – No-take marine reserves (185 nm^2) cooperatively implemented by Florida, the National Ocean Service, the Gulf of Mexico Fishery Management Council and the National Park Service in Generic Amendment 2: Establishing the Tortugas Marine Reserves (GMFMC 2001). Only a small portion (13 nm^2) of the Tortugas North Marine Reserve is in federal waters, while the entire Tortugas South Marine Reserve (54.5 nm^2) is in federal waters.

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, and McGrail Bank - Pristine coral areas protected by preventing the use of some fishing gear that interacts with the bottom and prohibited use of anchors (totaling 80.4 nm^2). Subsequently, three of these areas were established as marine sanctuaries (i.e., East and West Flower Garden Banks and Stetson Bank). Bottom anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots on coral reefs are prohibited in the East and West Flower Garden Banks, McGrail Bank, and on significant coral resources on Stetson Bank (GMFMC 2005). Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank, Geyer Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank (totaling 183 nm^2) are other areas that have been designated as HAPCs but currently have no regulations associated with them. A weak link in the tickler chain of bottom trawls on all habitats throughout the Gulf exclusive economic zone (EEZ) is required. A weak link is defined as a length or section of the tickler chain that has a breaking strength less than the chain itself and is easily seen as such when visually inspected. An education program

[1] Final Generic Annual Catch Limits/Accountability Measures Amendment for the Gulf of Mexico Fishery Management Council's Red Drum, Reef Fish, Shrimp, Coral and Coral Reefs Fishery Management Plans.

for the protection of coral reefs when using various fishing gears in coral reef areas for recreational and commercial fishermen was also developed.

Pulley Ridge HAPC – A portion (101 nm^2) of the HAPC (2,300 nm^2 or 4,259 km^2) where deepwater hermatypic coral reefs are found is closed to anchoring and the use of trawling gear, bottom longlines, buoy gear, and all traps/pots (GMFMC 2005).

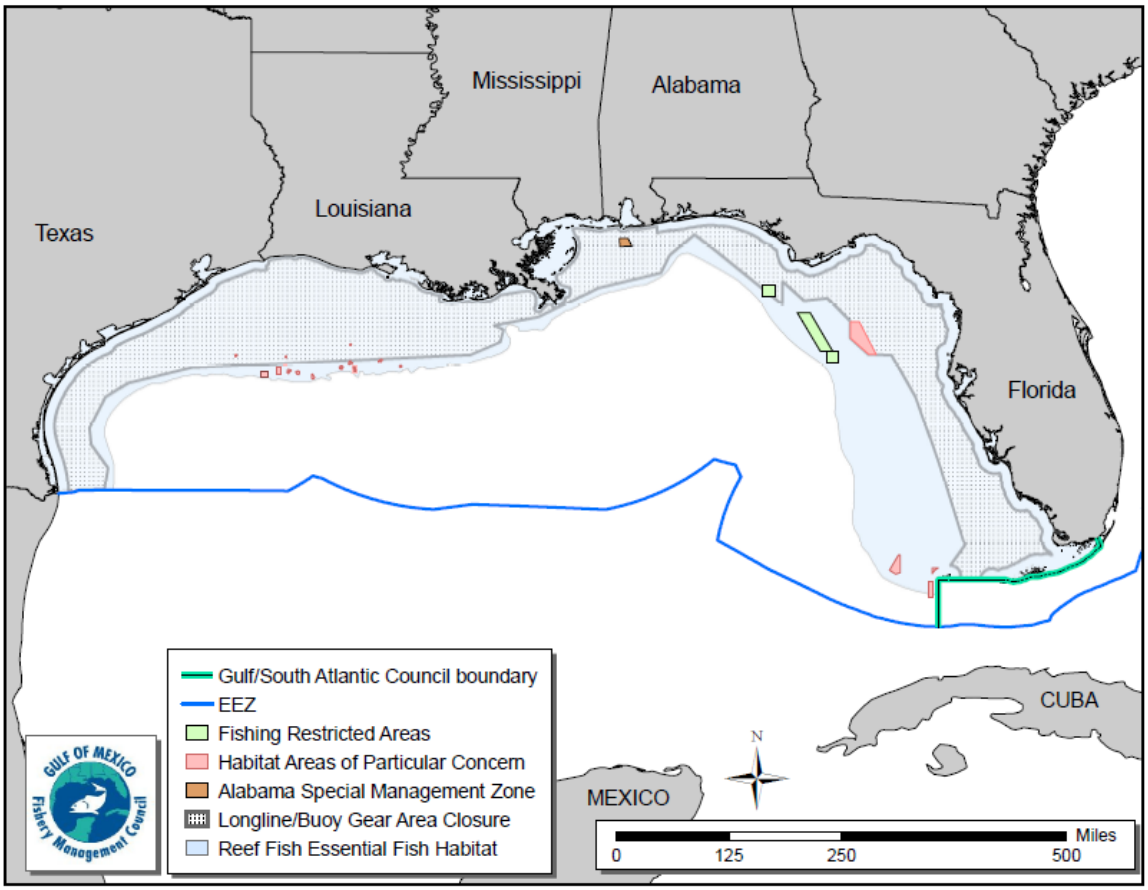

Figure 3.2.1.2. Map of most fishery management closed areas in the Gulf.

***Deepwater Horizon* MC252 Oil Spill Incident**

Overview

On April 20, 2010, an explosion occurred on the *Deepwater Horizon* semi-submersible oil rig approximately 36 nautical miles (41 statute miles) off the Louisiana coast. Two days later the rig sank. An uncontrolled oil leak from the damaged well continued for 87 days until the well was successfully capped by British Petroleum on July 15, 2010. The *Deepwater Horizon* MC252 oil spill affected at least one-third of the Gulf area from western Louisiana east to the Florida Panhandle and south to the Campeche Bank in Mexico.

As reported by the National Oceanic and Atmospheric Administration Office of Response and Restoration (NOAA 2010), the oil from the *Deepwater Horizon* MC252 oil spill is relatively high in alkanes which can readily be used by microorganisms as a food source. As a result, the

oil from this spill is likely to biodegrade more readily than crude oil in general. The *Deepwater Horizon* MC252 oil is also relatively much lower in polycyclic aromatic hydrocarbons. Polycyclic aromatic hydrocarbons are highly toxic chemicals that tend to persist in the environment for long periods of time, especially if the spilled oil penetrates into the substrate on beaches or shorelines. Like all crude oils, *Deepwater Horizon* MC252 oil contains volatile organic compounds (VOCs) such as benzene, toluene, and xylene. Some VOCs are acutely toxic, but because they evaporate readily, they are generally a concern only when oil is fresh (http://sero.nmfs.noaa.gov/sf/deepwater_horizon/OilCharacteristics.pdf).

In addition to the crude oil, over one million gallons of the dispersant, Corexit 9500A®, was applied to the ocean surface and an additional hundreds of thousands of gallons of dispersant was pumped to the mile-deep well head (National Commission 2010). No large-scale applications of dispersants in deep water had been conducted prior to the *Deepwater Horizon* MC252 oil spill.

Oil could exacerbate the development of the hypoxic "dead" zone in the Gulf, similar in effect as higher than normal input of water laden with fertilizer runoff from the Mississippi River basin. For example, oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column. In addition, microbes in the water that break down oil and dispersant consume oxygen; this metabolic process further depletes oxygen in the adjacent waters.

General Impacts on Fishery Resources

The presence of PAHs in marine environments can have detrimental impacts on marine finfish, especially during the more vulnerable larval stage of development (Whitehead et al. 2012). When exposed to realistic yet toxic levels of PAHs (1–15 µg/L), greater amberjack (*Seriola dumerili*) larvae develop cardiac abnormalities and physiological defects (Incardona et al. 2014). The future reproductive success of long-lived species, including red drum (*Sciaenops ocellatus*) and many reef fish species, may be negatively affected by episodic events resulting in high-mortality years or low recruitment. These episodic events could leave gaps in the age structure of the population, thereby affecting future reproductive output (Mendelssohn et al. 2012). Other studies have described the vulnerabilities of various marine finfish species, with morphological and/or life history characteristics similar to species found in the Gulf, to oil spills and dispersants (Hose et al. 1996; Carls et al. 1999; Heintz et al. 1999; Short 2003).

An increase in histopathological lesions were found in red snapper (*Lutjanus campechanus*) in the area affected by the oil, but Murawski et al. (2014) found that the incidence of lesions had declined between 2011 and 2012. The occurrence of such lesions in marine fish is not uncommon (Sindermann 1979; Haensly et al. 1982; Solangi and Overstreet 1982; Khan and Kiceniuk 1984, Kiceniuk and Khan 1987; Khan 1990). Red snapper diet was also affected after the spill. A decrease in zooplankton consumed, especially by adults (>400 mm TL) over natural and artificial substrates may have contributed to an increase in the consumption of fish and invertebrate prey- more so at artificial reefs than natural reefs (Tarnecki and Patterson 2015).

The effect of oil, dispersants, and the combination of oil and dispersants on fishes of the Gulf remains an area of concern. Marine fish species typically concentrate PAHs in the digestive tract, making stomach bile an appropriate testing medium. A study by Synder et al. (2015)

assessed bile samples from golden tilefish (*Lopholatilus chamaeleonticeps*), king snake eel (*Ophichthus rex*), and red snapper for PAH accumulation over time, and reported concentrations were highest in golden tilefish during the same time period when compared to king snake eel and red snapper. These results suggest that the more highly associated an organism is with the sediment in an oil spill area, the higher the likelihood of toxic PAH accumulation. Twenty-first century dispersant applications are thought to be less harmful than their predecessors. However, the combination of oil and dispersants has proven to be more toxic to marine fishes than either dispersants or crude oil alone. Marine fish which are more active (e.g., a pelagic species versus a demersal species) appear to be more susceptible to negative effects from interactions with weathered oil/dispersant emulsions. These effects can include mobility impairment and inhibited respiration (Swedmark et al. 1973). Another study found that while Corexit 9500A® and oil are similar in their toxicity, when Corexit 9500A® and oil were mixed in lab tests, toxicity to microscopic rotifers increased up to 52-fold (Rico-Martínez et al. 2013). These studies suggest that the toxicity of the oil and dispersant combined may be greater than anticipated.

3.2.2 South Atlantic

The South Atlantic Council has management jurisdiction of the federal waters (3-200 nm) offshore of North Carolina, South Carolina, Georgia, and Florida. Management of CMP species extends through the Mid-Atlantic region, which is discussed below. Data on the physical environment for the South Atlantic in this section encompasses the area from the Dry Tortugas, Florida, to Cape Hatteras, North Carolina.

The continental shelf from the Dry Tortugas, Florida, to Miami, Florida, is approximately 25 kilometers (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).

North of Cape Canaveral, Florida, to Cape Hatteras, North Carolina, 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. 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.

In the South Atlantic, areas of unique habitat exist such as the Oculina Bank and large expanses of deepwater coral; however, regulations are currently in place to protect these areas. Additionally, there are several notable shipwrecks along the South Atlantic coast in state and federal waters including Lofthus (eastern Florida), SS Copenhagen (southeast Florida), Half Moon (southeast Florida), Hebe (Myrtle Beach, South Carolina), Georgiana (Charleston, South Carolina), Monitor (Cape Hatteras, North Carolina), Huron (Nags Head, North Carolina), and Metropolis (Corolla, North Carolina). The South Atlantic coastline is also home to numerous marshes and wetland ecosystems; however, these sensitive ecological environments do not extend into federal waters of the South Atlantic. The proposed actions are not expected to alter fishing practices in any manner that would affect any of the above listed habitats or historic resources, nor would it alter any regulations intended to protect them.

3.2.3 Mid-Atlantic

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

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

shelf during all seasons of the year, although this may be interrupted by coastal indrafting and some reversal of flow at the northern and southern extremities of the area. Water temperatures range from less than 33 ^{o}F from the New York Bight north in the winter to over 80 ^{o}F off Cape Hatteras in summer.

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

A number of distinct subsystems comprise the region. The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2004).

3.2.4 Climate Change

Climate change projections show increases in sea surface temperature and sea level; decreases in sea ice cover; and changes in salinity, wave climate, and ocean circulation [Intergovernmental Panel on Climate Change (IPCC) http://www.ipcc.ch/]. These changes are likely to affect plankton biomass and fish larvae abundance that could adversely impact fish, marine mammals, seabirds, and ocean biodiversity. Kennedy et al. (2002) and Burton (2008) have suggested global climate change could bring about temperature changes in coastal and marine ecosystems that, in turn, can influence organism metabolism; alter ecological processes, such as productivity and species interactions; change precipitation patterns and cause a rise in sea level that could change the water balance of coastal ecosystems; alter patterns of wind and water circulation in the ocean environment; and influence the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs. The National Oceanic and Atmospheric Administration's (NOAA) Climate Change Web Portal (http://www.esrl.noaa.gov/psd/ipcc/ocn/) indicates that the average sea surface temperature in the Gulf will increase by 1.2-1.4ºC for 2006-2055 compared to the average over the years 1956-2005. Burton (2008) speculated that climate change could cause shifts in spawning seasons, changes in migration patterns, and changes to basic life history parameters such as growth rates. The OceanAdapt model (http://oceanadapt.rutgers.edu/regional_data/) shows distributional trends both in latitude and depth over the time period 1985-1013. For some reef fish species such as the smooth puffer,

there has been a distributional trend to the north in the Gulf. For other species such as red snapper and the dwarf sand perch, there has been a distributional trend towards deeper waters.

The distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Hollowed et al. (2013) provided a review of projected effects of climate change on the marine fisheries and dependent communities. Integrating the potential effects of climate change into the fisheries assessment is currently difficult due to the time scale differences (Hollowed et al. 2013). The fisheries stock assessments rarely project through a time span that would include detectable climate change effects.

Greenhouse gases

The IPCC (http://www.ipcc.ch/) has indicated that greenhouse gas emissions are one of the most important drivers of recent changes in climate. Wilson et al. (2014) inventoried the sources of greenhouse gases in the Gulf from sources associated with oil platforms and those associated with other activities such as fishing. A summary of the results of the inventory are shown in Table 3.2.4.1 with respect to total emissions and from fishing. Commercial fishing and recreational vessels make up a small percentage of the total estimated greenhouse gas emissions from the Gulf (1.43% and 0.59%, respectively).

Table 3.2.4.1. Total Gulf greenhouse gas emissions estimates (tons per year) from oil platform and non-oil platform sources, commercial fishing and recreational vessels, and percent greenhouse gas emissions from commercial fishing and recreational vessels of the total emissions.*

Emission source	CO_2	Greenhouse CH_4	Gas N_2O	Total CO_{2e}**
Oil platform	11,882,029	271,355	167	17,632,106
Non-platform	22,703,695	2,029	2,698	23,582,684
Total	34,585,724	273,384	2,865	41,214,790
Commercial fishing vessels	585,204	2	17	590,516
Recreational fishing vessels	244,483	N/A	N/A	244,483
% Commercial fishing vessels	1.69	>0.01	0.59	1.43
% recreational fishing vessels	0.71	NA	NA	0.59

3.3 Description of the Biological Environment

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

3.3.1 King Mackerel

The proposed action in this framework amendment will affect the fishery for Atlantic and Gulf groups of king mackerel (*Scomberomorus cavalla*). King mackerel is a marine pelagic species that is found throughout the western Atlantic from the Gulf of Maine to Brazil, including the Gulf and Caribbean Sea, and from the shore to 200 m (656 ft) depths. The habitat of adults is the coastal waters out to the edge of the continental shelf. Within the area, the occurrence of king mackerel is governed by temperature and salinity. They are seldom found in water temperatures less than 20°C; salinity preference varies, but they generally prefer high salinity, but less than 36 parts per thousand.

Adults are migratory, and the CMP FMP recognizes two migratory groups (Gulf and Atlantic). Typically, adult king mackerel are found in the southern climates (south Florida and extreme south Texas/Mexico) in the winter and farther north in the summer; however, some king mackerel overwinter in deeper waters off the mouth of the Mississippi River, and off the coast of North Carolina. Food availability and water temperature are likely causes of these migratory patterns. King mackerel have longevities of 24 to 26 years for females and 23 years for males (GMFMC and SAFMC 1985; MSAP 1996; Brooks and Ortiz 2004).

Adults are known to spawn in areas of low turbidity, with salinity and temperatures of approximately 30 ppt and 27°C, respectively. There are major spawning areas off Louisiana and Texas in the Gulf (McEachran and Finucane 1979); and off the Carolinas, Cape Canaveral, and Miami in the western Atlantic (Wollam 1970; Schekter 1971; Mayo 1973). Spawning occurs generally from May through October with peak spawning in September (McEachran and Finucane 1979). Eggs are believed to be released and fertilized continuously during these months. Fifty percent of females are sexually mature between 450 to 499 mm (17.7 to 19.6 inches) in length and most are mature by the time they are 800 mm (35.4 inches) in length, or by about age 4. Fifty percent of males are sexually mature at age 3, at a length of 718 mm (28.3 inches). Females in U.S. waters, between the sizes of 446 – 1,489 mm (17.6 to 58.6 inches) release 69,000 – 12,200,000 eggs.

Larvae of king mackerel have been found in waters with temperatures between 26 – 31° C (79 – 88° F). This larval developmental stage has a short duration. King mackerel can grow up to 0.54 – 1.33 mm (0.02 to 0.05 inches) per day. This shortened larval stage decreases the vulnerability of the larvae, and is related to the increased metabolism of this fast-swimming species. Juveniles are generally found closer to shore than adults and occasionally in estuaries.

3.3.2 Spanish Mackerel

The proposed action in this framework amendment will affect the fishery for Atlantic and Gulf groups of Spanish mackerel (*Scomberomorus maculatus*). Spanish mackerel are migratory and move into specific areas to spawn, and mature at age 1-2 years. They primarily eat other fish species (herring, sardines, menhaden) and to a lesser extent crustaceans and squid at all life stages (larvae to adult). They are eaten primarily by larger pelagic predators like sharks, tuna, and bottlenose dolphin.

Spanish mackerel is also a pelagic species occurring in depths up to 75 meters (225 feet) but primarily found in depths of 20 meters (60 feet) or less. They occur in 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 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 (68°F) and 32°C (89.6°F) and salinities between 28 and 37 ppt. They are found frequently in water depths from 9 meters (27 feet) to about 84 meters (252 feet), but are most common in < 50 meters (150 feet).

Juveniles are most often found in coastal and estuarine habitats and at temperatures greater than 25°C (77°F) 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).

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 not commonly found and neither has been described as associating with vessels or having had interactions with the CMP fishery. Thus, it is believed that the CMP fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

Spanish mackerel are among the species targeted with gillnet in North Carolina state waters. Observer coverage for gillnet is up to 10% and provided by the North Carolina Division of Marine Fisheries, primarily during the fall flounder fishery in Pamlico Sound. Gillnets are also used from the North Carolina/South Carolina border and south and east of the fishery management council demarcation line between the Atlantic Ocean and the Gulf of Mexico. 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 mandated under the Atlantic Highly Migratory Species FMP, the Atlantic Large Whale Take Reduction Plan (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.

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

Research and monitoring is ongoing to understand the effectiveness of proposed management measures and their effect on bycatch. In 1990, the SEFSC initiated a logbook program for commercial snapper – grouper vessels in the Gulf and South Atlantic. In 1999, logbook reporting was initiated for vessels catching king and Spanish mackerel. The Dolphin and Wahoo FMP required logbook reporting by fishermen with Commercial Atlantic Dolphin/Wahoo Permits. Approximately 20% of commercial fishermen from snapper grouper, dolphin wahoo, and CMP fisheries are asked to fill out discard information in logbooks. Recreational discards are obtained from the MRIP and logbooks from the NMFS headboat program.

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

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

councils. Announcements and news releases are also available on the internet and broadcasted over NOAA weather radio.

3.3.3 Protected Species

Species in the Gulf and South Atlantic protected under the Endangered Species Act (ESA) include: seven marine mammal species (blue, sei, fin, humpback, sperm, North Atlantic right whales and manatees); five sea turtle species (Kemp's ridley, loggerhead, green, leatherback, and hawksbill); four fish species (Gulf sturgeon, smalltooth sawfish, shortnose sturgeon, and Atlantic sturgeon); and seven coral species (elkhorn, staghorn, lobed star, knobby star, mountainous star, pillar, and rough cactus).

Aside from the aforementioned protected species, portions of designated critical habitat for *Acropora* corals and the North Atlantic Right Whale also occur within areas encompassed by the CMP fishery.

In a 2015 biological opinion, NMFS determined that the proposed continued authorization of the CMP Fishery is not likely to adversely affect any listed whales (i.e., blue, sei, sperm, fin, humpback, or North Atlantic right whales), Gulf sturgeon, or elkhorn and staghorn corals. NMFS also determined that CMP Fishery is not likely to adversely affect designated critical habitats for elkhorn and staghorn corals or loggerhead sea turtles, and will have no effect on designated critical habitat for North Atlantic right whale.

According to the 2015 Biological Opinion on CMP fisheries (NMFS 2015), the only gear type likely to adversely affect sea turtles, smalltooth sawfish, and Atlantic sturgeon is gill nets. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles, Atlantic sturgeon, and the smalltooth sawfish are all likely to be adversely affected by the CMP fishery. Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles area all highly migratory, travel widely throughout the GOM and South Atlantic, and are known to occur in areas subject to shrimp trawling. The distribution of Atlantic sturgeon and smalltooth sawfish within the action area is more limited, but all of these species do overlap in certain regions of the action area and these species have the potential to be been incidentally captured in CMP fisheries.

On April 6, 2016, NMFS published a final rule (811 FR 20057) listing 11 distinct population segments (DPSs) ofof green sea turtles; the North Atlantic DPS of green sea turtles is listed as threatened, and is the only DPS whose individuals can be expected to be encountered in the area managed under the CMP FMP. The listing of the DPSs of green turtles triggers reinitiation of consultation under Section 7 of the ESA because the previous opinion did not consider what effects the CMP fishery is likely to have on this species, therefore NMFS Protected Resources must analyze the impacts of these potential interactions.

The Gulf and South Atlantic CMP hook-and-line fishery is classified in the 2016 Marine Mammal Protection Act List of Fisheries as a Category III fishery (81 FR 20550), meaning the annual mortality and serious injury of a marine mammal resulting from the fishery is less than or equal to 1% of the maximum number of animals, not including natural moralities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

The Gulf and South Atlantic CMP gillnet fishery is classified as Category II fishery in the 2016 Marine Mammal Protection Act List of Fisheries. This classification indicates an occasional incidental mortality or serious injury of a marine mammal stock resulting from the fishery (1-50% annually of the potential biological removal). The fishery has no documented interaction with marine mammals; NMFS classifies this fishery as Category II based on analogy (i.e., similar risk to marine mammals) with other gillnet fisheries.

3.4 Description of the Economic Environment

Descriptions of the king and Spanish mackerel stocks in the Gulf and Atlantic are provided in Section 3.1. An economic description of the commercial sector for these coastal migratory pelagic (CMP) species is contained in Vondruska (2010) and is incorporated herein by reference. The following section contains updated information on the economic environment of this fishery.

3.4.1 Commercial Sector

The major sources of data summarized in this description are the NMFS SERO Permits Information Management System (PIMS) and the Federal Logbook System (FLS), supplemented by average prices calculated from the NMFS Accumulated Landings System (ALS). Inflation adjusted revenues and prices are reported in 2015 dollars using the GDP Implicit Price Deflator. Landings are expressed in gutted weight (gw) to match the method for collecting ex-vessel price information; however, gw values are equivalent to whole weight (ww) values for both king and Spanish mackerel.

Permits

Any fishing vessel that sells king mackerel harvested in Atlantic and Gulf Federal waters must have a valid limited access commercial king mackerel permit. A separate and additional valid limited access commercial king mackerel gillnet endorsement is required to harvest the species using a run-around gillnet in the Southern Florida west coast subzone. Any fishing vessel that sells Spanish mackerel harvested in Atlantic and Gulf federal waters must have a valid open access commercial Spanish mackerel permit. The numbers of commercial permits associated with king and Spanish mackerel on July 6, 2016, are provided in Table 3.4.1.1.

Table 3.4.1.1. Number of permits associated with the king and Spanish mackerel fisheries as of July 6, 2016.

	Valid*	Valid or Renewable
King Mackerel	1,310	1,440
King Mackerel Gillnet	19	20
Spanish Mackerel	1,819	Not applicable

Source: NMFS SERO PIMS, 2016.
*Non-expired; expired permits may be renewed within one year of expiration.

Landings, Value, and Effort

A breakdown of landings by gear for Gulf and Atlantic king and Spanish mackerel is provided in Figure 3.4.1.1. King mackerel were predominantly harvested by trolling lines and vertical lines from 2011 through 2015. Spanish mackerel were predominantly harvested using vertical lines and gillnets.

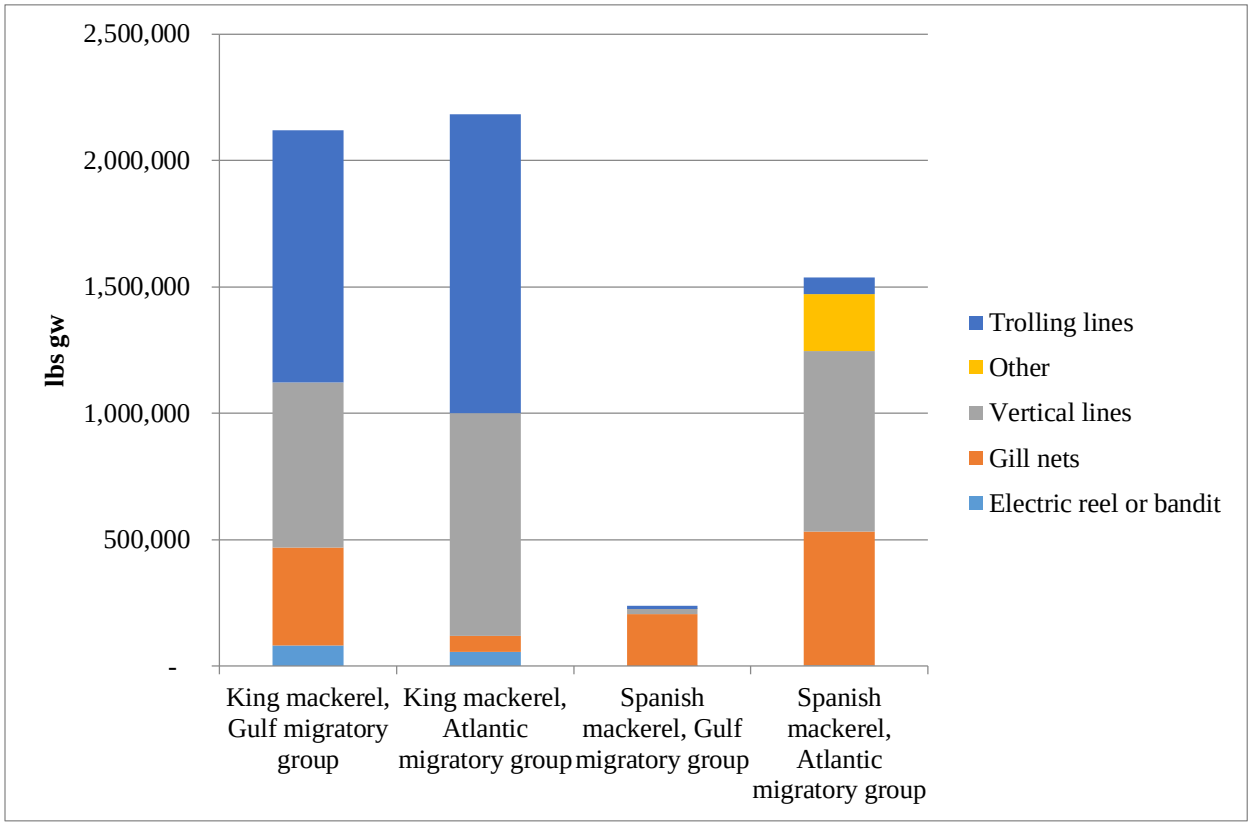

Figure 3.4.1.1. Average annual landings of king and Spanish mackerel by gear (2011 through 2015)*

Source: NMFS SEFSC Coastal Fisheries Logbook.
*Gears that accounted for less than 0.1% of landings on average are excluded from this figure.
Note 1: Northeast landings are not included here. On average (2010 through 2014), less than 0.02% of Atlantic king mackerel landings and less than 1% of Atlantic Spanish mackerel landings were from the Northeast.
Note 2: Calendar year estimates are provided here for comparison across migratory groups; however, because the king and Spanish mackerel fishing years do not align with the calendar year, these values will be somewhat different than averages based on fishing year estimates. Additionally, landings from state waters by vessels without federal permits are not included.

King Mackerel

The number of federally-permitted commercial vessels that landed Gulf king mackerel declined from 290 vessels in 2011 to 237 vessels in 2015, with an uptick in 2014 (Table 3.4.1.2). On average (2011 through 2015), these vessels landed Gulf mackerel on approximately half of their Gulf trips and Gulf king mackerel accounted for approximately 27% of their annual all species revenue, including revenue from South Atlantic trips (Table 3.4.1.2 and Table 3.4.1.3). Average all-species vessel-level revenue for these vessels increased by approximately 47% from 2011 through 2015. During this time period, the average annual price of Gulf king mackerel ranged from $1.92 to $2.23 (2015 dollars) (Table 3.4.1.3).

In the South Atlantic, the number of vessels that harvested king mackerel declined from 782 vessels in 2011 to 655 vessels in 2015, with a minor uptick in 2014 (Table 3.4.1.4). On average (2011 through 2015) these vessels landed Atlantic king mackerel on approximately half of their South Atlantic trips and Atlantic king mackerel accounted for approximately 22% of their annual all species revenue, including revenue from Gulf trips (Table 3.4.1.4 and Table 3.4.1.5). The average annual price per pound of Atlantic king mackerel during 2011 through 2015 was $2.45 (2015 dollars) and average prices were mostly stable across years.

Table 3.4.1.2. Number of vessels, number of trips and landings (lbs) by year for Gulf king mackerel

Year	# of vessels that caught king mackerel (> 0 lbs gw)	# of trips that caught king mackerel	King mackerel landings (lbs gw)	Other species' landings jointly caught w/ king mackerel (lbs gw)	# of Gulf trips that only caught other species	Other species' landings on Gulf trips w/o king mackerel (lbs gw)	All species landings on South Atlantic trips (lbs gw)
2011	290	2,006	2,194,213	589,794	2,248	4,827,227	1,064,795
2012	287	2,162	1,932,385	597,163	2,071	4,289,260	968,510
2013	269	2,189	1,985,415	661,266	1,731	3,886,507	799,501
2014	288	2,687	2,544,647	753,213	1,950	4,371,968	867,528
2015	237	1,869	1,952,606	607,564	1,854	4,285,931	866,547
Average	274	2,183	2,121,853	641,800	1,971	4,332,179	913,376

Source: NMFS SEFSC Coastal Fisheries Logbook.
Note: Calendar estimates are provided here for all statistics; however, because the king mackerel fishing year does not align with the calendar year, these will differ from king mackerel fishing year landings estimates. Additionally, landings from state waters by vessels without federal permits are not included.

Table 3.4.1.3. Number of vessels and ex-vessel revenues by year (2015 dollars)* for Gulf king mackerel

Year	# of vessels that caught king mackerel (> 0 lbs gw)	Dockside revenue from king mackerel	Dockside revenue from 'other species' jointly caught w/ king mackerel	Dockside revenue from 'other species' caught on Gulf trips w/o king mackerel	Dockside revenue from 'all species' caught on South Atlantic trips	Total dockside revenue	Average total dockside revenue per vessel
2011	290	$4,219,004	$1,635,056	$5,230,617	$2,414,940	$13,499,617	$46,550
2012	287	$3,881,057	$1,786,227	$7,681,605	$2,255,753	$15,604,643	$54,372
2013	269	$4,676,362	$2,420,599	$8,766,276	$2,054,600	$17,917,836	$66,609
2014	288	$5,707,921	$2,468,701	$10,801,521	$2,405,504	$21,383,648	$74,249
2015	237	$4,349,566	$2,187,287	$7,635,680	$2,102,316	$16,274,849	$68,670
Average	274	$4,566,782	$2,099,574	$8,023,140	$2,246,623	$16,936,119	$62,090

Source: SEFSC Coastal Fisheries Logbook, augmented by the NMFS Accumulated Landings System for prices.
*Revenues converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.
Note: Calendar estimates are provided here for all statistics; however, because the king mackerel fishing year does not align with the calendar year, these will differ from king mackerel fishing year revenue estimates. Additionally, revenue from landings in state waters by vessels without federal permits is not included.

Table 3.4.1.4. Number of vessels, number of trips and landings (lbs gw) by year for Atlantic king mackerel

Year	# of vessels that caught king mackerel (> 0 lbs gw)	# of trips that caught king mackerel	King mackerel landings (lbs gw)	Other species' landings jointly caught w/ king mackerel (lbs gw)	# of South Atlantic trips that only caught other species	Other species' landings on South Atlantic trips w/o king mackerel (lbs gw)	All species landings on Gulf trips (lbs gw)
2011	782	11,495	2,873,480	1,043,514	10,493	6,727,411	991,948
2012	752	9,746	2,322,448	894,975	10,210	6,016,318	945,275
2013	688	8,070	1,705,969	907,527	10,276	5,642,673	841,845
2014	703	9,863	2,129,611	967,213	10,843	6,041,641	1,245,870
2015	655	9,421	1,904,259	733,740	8,616	4,559,715	1,023,715
Average	716	9,719	2,187,153	909,394	10,088	5,797,552	1,009,731

Source: NMFS SEFSC Coastal Fisheries Logbook.
Note 1: Northeast landings are not included here. On average (2010 through 2014), less than 0.02% of Atlantic migratory group king mackerel landings were from the Northeast. Similarly, landings from state waters by vessels without federal permits are not included.
Note 2: Calendar estimates are provided here for all statistics; however, because the king mackerel fishing year does not align with the calendar year, these will differ from king mackerel fishing year landings estimates.

Table 3.4.1.5. Number of vessels and ex-vessel revenues by year (2015 dollars)* for Atlantic king mackerel

Year	# of vessels that caught king mackerel (> 0 lbs gw)	Dockside revenue from king mackerel	Dockside revenue from 'other species' jointly caught w/ king mackerel	Dockside revenue from 'other species' caught on South Atlantic trips w/o king mackerel	Dockside revenue from 'all species' caught on Gulf trips	Total dockside revenue	Average total dockside revenue per vessel
2011	782	$6,635,565	$1,862,536	$12,858,901	$2,191,816	$23,548,819	$30,114
2012	752	$5,570,326	$1,715,640	$13,163,574	$2,147,405	$22,596,945	$30,049
2013	688	$4,868,669	$2,134,178	$13,452,261	$2,265,863	$22,720,970	$33,025
2014	703	$5,022,868	$2,221,460	$19,418,585	$2,905,678	$29,568,591	$42,061
2015	655	$4,448,525	$1,646,433	$14,939,222	$2,326,275	$23,360,455	$35,665
Average	716	$5,309,191	$1,916,050	$14,766,509	$2,367,407	$24,359,156	$34,183

Source: SEFSC Coastal Fisheries Logbook, augmented by the NMFS Accumulated Landings System for prices.
*Revenues converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.
Note 1: Revenue from Northeast landings is not included here. On average (2010 through 2014), less than 0.02% of Atlantic migratory group king mackerel landings were from the Northeast. Similarly, revenue from landings in state waters by vessels without federal permits is not included.
Note 2: Calendar estimates are provided here for all statistics; however, because the king mackerel fishing year does not align with the calendar year, these will differ from king mackerel fishing year revenue estimates.

Spanish Mackerel

The number of vessels that landed Gulf Spanish mackerel fluctuated from 2011 through 2015, with no net change over the time period (Table 3.4.1.6). On average (2011 through 2015) these vessels landed Gulf Spanish mackerel on approximately 24% of their Gulf trips and Gulf Spanish mackerel accounted for only 2% of their annual all species revenue, including revenue from South Atlantic trips (Table 3.4.1.6 and Table 3.4.1.7). The average annual price per pound of Spanish mackerel harvested in the Gulf from 2011 through 2015 ranged from $0.94 to $1.30 (2015 dollars).

The number of vessels that landed Atlantic Spanish mackerel fluctuated from 2011 through 2015, declining by approximately 10% overall (Table 3.4.1.8). During the same time period, annual commercial landings of Spanish mackerel by these vessels in the South Atlantic decreased by approximately 42%. On average (2011 through 2015), the vessels that landed Spanish mackerel harvested the species on approximately 30% of their South Atlantic trips and Atlantic migratory group Spanish mackerel accounted for approximately 13% of their annual all species revenue, including revenue from Gulf trips (Table 3.4.1.8 and Table 3.4.1.9). The average annual price per pound of Atlantic Spanish mackerel increased from $1.09 (2015 dollars) in 2011 to $1.43 in 2015.

Table 3.4.1.6. Number of vessels, number of trips and landings (lbs gw) by year for Gulf Spanish mackerel

Year	# of vessels that caught Spanish mackerel (> 0 lbs gw)	# of trips that caught Spanish mackerel	Spanish mackerel landings (lbs gw)	Other species' landings jointly caught w/ Spanish mackerel (lbs gw)	# of Gulf trips that only caught other species	Other species' landings on Gulf trips w/o Spanish mackerel (lbs gw)	All species landings on South Atlantic trips (lbs gw)
2011	158	549	284,957	410,325	1,974	2,314,012	679,292
2012	172	552	231,701	458,155	2,275	2,995,185	653,651
2013	148	789	164,550	540,649	1,806	2,760,353	608,768
2014	169	715	243,937	557,833	2,497	3,525,218	624,594
2015	158	685	270,295	571,885	1,880	2,450,874	533,411
Average	161	658	239,088	507,769	2,086	2,809,128	619,943

Source: NMFS SEFSC Coastal Fisheries Logbook.
Note: Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year landings estimates. Additionally, landings from state waters by vessels without federal permits are not included.

Table 3.4.1.7. Number of vessels and ex-vessel revenues by year (2015 dollars)* for Gulf Spanish mackerel

Year	# of vessels that caught Spanish mackerel (> 0 lbs gw)	Dockside revenue from Spanish mackerel	Dockside revenue from 'other species' jointly caught w/ Spanish mackerel	Dockside revenue from 'other species' caught on Gulf trips w/o Spanish mackerel	Dockside revenue from 'all species' caught on South Atlantic trips	Total dockside revenue	Average total dockside revenue per vessel
2011	158	$268,200	$968,973	$5,230,617	$1,437,224	$7,905,015	$50,032
2012	172	$228,460	$1,041,023	$7,681,605	$1,601,323	$10,552,411	$61,351
2013	148	$213,143	$1,293,419	$8,766,276	$1,506,620	$11,779,458	$79,591
2014	169	$282,552	$1,301,958	$10,801,521	$1,751,307	$14,137,338	$83,653
2015	158	$335,902	$1,291,803	$7,635,680	$1,221,275	$10,484,660	$66,359
Average	161	$265,652	$1,179,435	$8,023,140	$1,503,550	$10,971,776	$68,197

Source: SEFSC Coastal Fisheries Logbook, augmented by the NMFS Accumulated Landings System for prices.
*Revenues converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.
Note: Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year revenue estimates. Additionally, revenue from landings in state waters by vessels without federal permits is not included.

Table 3.4.1.8. Number of vessels, number of trips and landings (lbs gw) by year for Atlantic Spanish mackerel

Year	# of vessels that caught Spanish mackerel (> 0 lbs gw)	# of trips that caught Spanish mackerel	Spanish mackerel landings (lbs gw)	Other species' landings jointly caught w/ Spanish mackerel (lbs gw)	# of South Atlantic trips that only caught other species	Other species' landings on South Atlantic trips w/o Spanish mackerel (lbs gw)	All species landings on Gulf trips (lbs gw)
2011	457	4,945	1,920,684	654,957	12,390	4,594,587	589,583
2012	463	4,797	1,677,423	621,581	11,042	4,042,665	750,047
2013	412	4,614	1,406,969	512,147	9,127	3,358,535	714,173
2014	461	5,037	1,576,856	617,491	12,069	4,409,138	839,518
2015	410	3,620	1,105,808	439,476	10,174	3,546,896	685,569
Average	441	4,603	1,537,548	569,130	10,960	3,990,364	715,778

Source: NMFS SEFSC Coastal Fisheries Logbook.
Note 1: Northeast landings are not included here. On average (2010 through 2014), less than 1% of Atlantic migratory group Spanish mackerel landings were from the Northeast. Similarly, landings from state waters by vessels without federal permits are not included.
Note 2: Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year landings estimates.

Table 3.4.1.9. Number of vessels and ex-vessel revenues by year (2015 dollars)* for Atlantic Spanish mackerel

Year	# of vessels that caught Spanish mackerel (> 0 lbs gw)	Dockside revenue from Spanish mackerel	Dockside revenue from 'other species' jointly caught w/ Spanish mackerel	Dockside revenue from 'other species' caught on South Atlantic trips w/o Spanish mackerel	Dockside revenue from 'all species' caught on Gulf trips	Total dockside revenue	Average total dockside revenue per vessel
2011	457	$2,093,433	$831,783	$8,941,558	$1,311,218	$13,177,991	$28,836
2012	463	$2,136,468	$897,168	$8,455,615	$1,627,287	$13,116,538	$28,329
2013	412	$1,974,753	$716,443	$7,774,103	$1,814,857	$12,280,156	$29,806
2014	461	$2,111,580	$1,017,157	$14,235,715	$1,899,229	$19,263,680	$41,787
2015	410	$1,579,927	$723,957	$11,876,779	$1,506,832	$15,687,495	$38,262
Average	441	$1,979,232	$837,301	$10,256,754	$1,631,885	$14,705,172	$33,404

Source: SEFSC Coastal Fisheries Logbook, augmented by the NMFS Accumulated Landings System for prices.
*Revenues converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.
Note 1: Revenue from Northeast landings is not included here. On average (2010 through 2014), less than 1% of Atlantic migratory group Spanish mackerel landings were from the Northeast. Similarly, revenue from landings in state waters by vessels without federal permits is not included.
Note 2: Calendar estimates are provided here for all statistics; however, because the Spanish mackerel fishing year does not align with the calendar year, these will differ from Spanish mackerel fishing year revenue estimates.

Imports

Imports of seafood products compete in the domestic seafood market and have in fact dominated many segments of the seafood market. Imports aid in determining the price for domestic seafood products and tend to set the price in the market segments in which they dominate. Seafood imports have downstream effects on the local fish market. At the harvest level for pelagic species, and king and Spanish mackerel in particular, imports affect the returns to fishermen through the ex-vessel prices they receive for their landings. As substitutes to domestic production of pelagic species, including king and Spanish mackerel, imports tend to cushion the adverse economic effects on consumers resulting from a reduction in domestic landings.

Ninety-nine percent of mackerel imports[2], on average (2011 through 2015), were comprised of frozen or prepared/preserved fish[3]; the remaining one percent were fresh. Imports of mackerel dropped steadily from 50 million pounds product weight (pw) in 2011 to 38.6 million pounds pw in 2013, then steadily increased to 48.3 million pounds pw in 2015. Total revenue from mackerel imports ranged from $51.2 million (2015 dollars) to $68.4 million during this time period. Imports of mackerel primarily originated in China, Norway, and Thailand, and to a lesser extent, Vietnam, South Korea and Canada. These imports primarily entered the U.S. through the ports of New York, Los Angeles, and Baltimore. Mackerel imports were highest on average (2011 through 2015) during the months of January, November and December.

Business Activity

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

Estimates of the U.S. average annual business activity associated with the commercial harvest of king and Spanish mackerel, and all species harvested by the vessels that harvested these king and Spanish mackerel, were derived using the model[4] developed for and applied in NMFS (2016) and are provided in Table 3.4.1.10. This business activity is characterized as jobs (full- and part-time), 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. It should be noted that the results provided should be

[2] NOAA Fisheries Service purchases fisheries trade data from the Foreign Trade Division of the U.S. Census Bureau. Data are available for download at http://www.st.nmfs.noaa.gov/st1/trade/index.html.
[3] Includes dried, salted and smoked mackerel.
[4] A detailed description of the input/output model is provided in NMFS (2011).

interpreted with caution and demonstrate the limitations of these types of assessments. These results are based on average relationships developed through the analysis of many fishing operations that harvest many different species. Separate models to address individual species are not available. For example, the results provided here apply to a general reef fish category rather than just king or Spanish mackerel, and a harvester job is "generated" for approximately every $31,000 (2015 dollars) in ex-vessel revenue. These results contrast with the number of harvesters (vessels) with recorded landings of king and Spanish mackerel presented in Tables 3.4.1.2, 3.4.1.4, 3.4.1.6, and 3.4.1.8.

Table 3.4.1.10. Average annual business activity (2011 through 2015) associated with the commercial harvest of king and Spanish mackerel and the harvest of all species by vessels that landed king and Spanish mackerel. All monetary estimates are in 2015 dollars*.

Species	Average Ex-vessel Value ($ thousands)	Total Jobs	Harvester Jobs	Output (Sales) Impacts ($ thousands)	Income Impacts ($ thousands)
Gulf king mackerel	$4,567	619	147	$45,288	$16,631
All species harvested by vessels that landed Gulf king mackerel	$16,936	2,296	545	$167,952	$61,678
Atlantic king mackerel	$5,309	720	171	$52,650	$19,335
All species harvested by vessels that landed Atlantic king mackerel	$24,359	3,302	784	$241,565	$88,711
Gulf Spanish mackerel	$266	36	9	$2,634	$967
All species harvested by vessels that landed Gulf Spanish mackerel	$10,972	1,487	353	$108,805	$39,957
Atlantic Spanish mackerel	$1,979	268	64	$19,628	$7,208
All species harvested by vessels that landed Atlantic Spanish mackerel	$14,705	1,993	473	$145,828	$53,553

*Converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.
Note: Because vessels may have harvested more than one of these species, estimates for each species and migratory group should be treated separately to prevent overestimation of economic impacts.

3.4.2 Recreational Sector

The Gulf and South Atlantic recreational sectors are comprised of the private and for-hire modes. The private mode includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-hire mode is composed of charter boats and headboats (also called partyboats). Charter boats generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person. The type of service, from a vessel- or passenger-size perspective, affects the flexibility to search different fishing locations during the course of a trip and target different species since larger concentrations of fish are required to satisfy larger groups of anglers.

Landings

Recreational landings of king and Spanish mackerel were substantially higher for the Gulf migratory group than for the Atlantic migratory group (Figure 3.4.2.1). Private, charter and shore fishing were the primary modes of harvest for these species. The majority of Atlantic migratory group king mackerel were harvested in East Florida through Georgia, whereas the majority of Atlantic Spanish mackerel were harvested further north from South Carolina through Virginia (Figure 3.4.2.2). In the Gulf, the majority of king and Spanish mackerel were harvested in West Florida through Alabama.

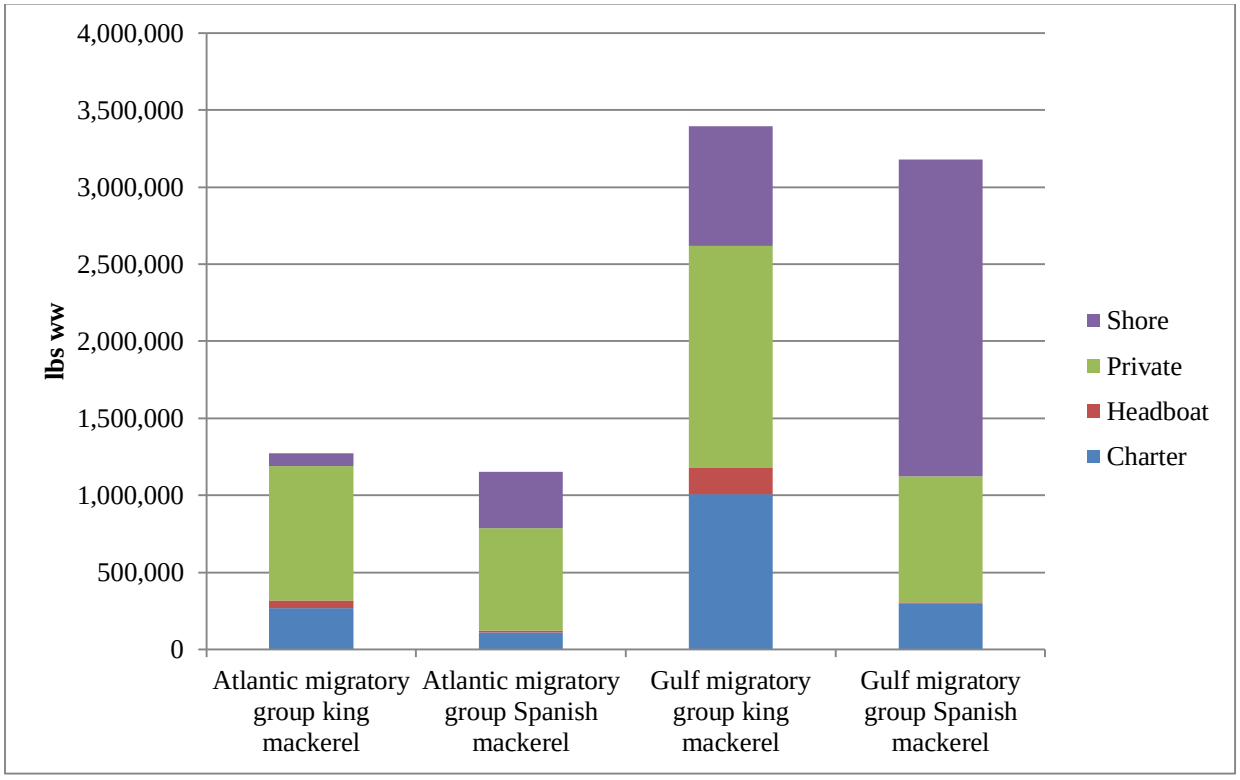

Figure 3.4.2.1. Average annual recreational landings of king and Spanish mackerel by mode (2011 through 2015).
Source: SEFSC MRFSS and MRIP ACL data sets (July 2016).
Note: Calendar year estimates are provided here for comparison across migratory groups; however, because the king and Spanish mackerel fishing years do not align with the calendar year, these values will be somewhat different than averages based on fishing year estimates.

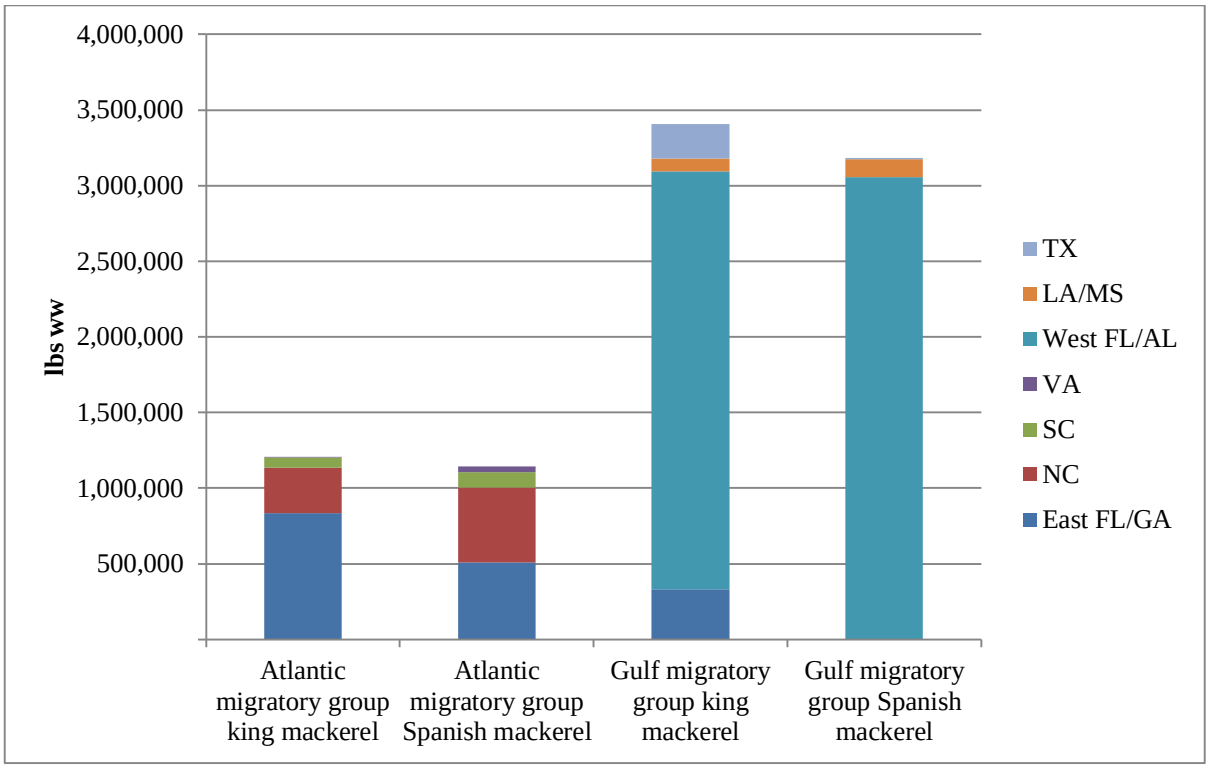

Figure 3.4.2.2. Average annual recreational landings of king and Spanish mackerel by state (2011 through 2015)*.
*Some states are combined here to align with the way headboat landings were reported.
Source: SEFSC MRFSS and MRIP ACL data sets (July 2016).
Note: Calendar year estimates are provided here for comparison across migratory groups; however, because the king and Spanish mackerel fishing years do not align with the calendar year, these values will be somewhat different than averages based on fishing year estimates.

Angler Effort

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

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

A target trip may be considered an angler's revealed preference for a certain species, and thus may carry more relevant information when assessing the economic effects of regulations on the subject species than the other two measures of recreational effort. Given the subject nature of

this action, the following discussion focuses on target trips for king mackerel and Spanish mackerel in the Gulf and South Atlantic.

The majority of estimated target trips for both king and Spanish mackerel in the Gulf, on average (2011 through 2015), were shore trips (Table 3.4.2.1 and Table 3.4.2.2). There was minimal directed effort for these species in Louisiana and Mississippi. Gulf king mackerel target trips in western Florida increased steadily from 2011 through 2014, but then declined in 2015, for an overall net increase of 29% during the time period. The number of target trips for king mackerel in Alabama fluctuated during the same time period, but overall, it increased by approximately 85% (Table 3.4.2.1). Spanish mackerel target trips in western Florida decreased from 2011 through 2015, by approximately 19%, whereas in Alabama, they increased by 166% (Table 3.4.2.2).

The majority of estimated South Atlantic king mackerel target trips were private mode trips. King mackerel target trips decreased from 2011 through 2015 in all South Atlantic states, except for North Carolina, which experienced an overall increase of approximately 23% (Table 3.4.2.3). For Spanish mackerel, the majority of estimated target trips were from shore, on average, during this time period (Table 3.4.2.4). North Carolina recorded substantially more target trips for Spanish mackerel than the other South Atlantic states. The number of target trips for Spanish mackerel in eastern Florida from 2011 through 2015 dropped by half, whereas in South Carolina, it increased by 140%, overtaking Florida in 2015.

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

Table 3.4.2.1. Gulf king mackerel recreational target trips, by mode and state, 2011-2015*.

	Alabama	Florida West	Louisiana**	Mississippi	Total
	Shore Mode				
2011	46,754	135,543	0	0	182,297
2012	96,951	120,167	0	0	217,117
2013	219,921	197,781	0	0	417,702
2014	112,062	202,903	N/A	0	314,965
2015	158,651	129,920	N/A	0	288,571
Average	126,868	157,263	0	0	284,130
	Charter Mode				
2011	4,078	19,854	0	0	23,932
2012	6,666	31,421	0	1,414	39,500
2013	2,488	18,042	0	53	20,583
2014	5,984	31,313	N/A	169	37,466
2015	4,908	39,533	N/A	78	44,520
Average	4,825	28,033	0	343	33,200
	Private/Rental Mode				
2011	53,537	103,937	0	0	157,474
2012	42,282	157,310	574	2,601	202,767
2013	40,519	151,526	309	695	193,050
2014	24,820	143,811	N/A	110	168,741
2015	29,649	164,883	N/A	409	194,942
Average	38,161	144,293	294	763	183,395
	All Modes				
2011	104,369	259,334	0	0	363,703
2012	145,898	308,897	574	4,015	459,384
2013	262,928	367,350	309	748	631,335
2014	142,866	378,027	N/A	279	521,172
2015	193,208	334,337	N/A	488	528,033
Average	169,854	329,589	294	1,106	500,725

Source: MRIP database, SERO, NMFS.
*Texas and headboat information unavailable.
**MRIP estimates for Louisiana are not available after 2013. The averages for Louisiana exclude 2014 and 2015.

Table 3.4.2.2. Gulf Spanish mackerel recreational target trips, by mode and state, 2011-2015*.

	Alabama	Florida West	Louisiana**	Mississippi	Total
	Shore Mode				
2011	65,628	459,677	2,863	307	528,475
2012	70,228	498,999	0	3,924	573,151
2013	155,016	582,276	0	0	737,292
2014	132,209	565,412	N/A	0	697,622
2015	202,116	433,306	N/A	0	635,423
Average	125,039	507,934	954	846	634,393
	Charter Mode				
2011	3,150	31,727	0	279	35,156
2012	3,015	35,954	0	19	38,987
2013	1,050	11,723	0	1,541	14,314
2014	3,614	4,048	N/A	0	7,662
2015	4,372	26,369	N/A	1,219	31,961
Average	3,040	21,964	0	612	25,616
	Private/Rental Mode				
2011	14,515	204,999	0	0	219,514
2012	26,396	162,233	0	4,257	192,886
2013	13,647	152,158	790	6,534	173,129
2014	8,871	175,560	N/A	1,715	186,146
2015	14,953	104,900	N/A	2,240	122,094
Average	15,676	159,970	263	2,949	178,754
	All Modes				
2011	83,293	696,403	2,863	586	783,144
2012	99,639	697,185	0	8,200	805,024
2013	169,714	746,157	790	8,075	924,735
2014	144,695	745,021	N/A	1,715	891,430
2015	221,442	564,576	N/A	3,459	789,477
Average	143,757	689,868	1,218	4,407	838,762

Source: MRIP database, SERO, NMFS.
* Texas and headboat information unavailable.
**MRIP estimates for Louisiana are not available after 2013. The averages for Louisiana exclude 2014 and 2015.

Table 3.4.2.3. Atlantic king mackerel recreational target trips, by mode and state, 2011-2015*.

	Florida East	Georgia	North Carolina	South Carolina	Total
	Shore Mode				
2011	14,175	0	34,897	33,439	82,511
2012	17,690	0	52,063	42,429	112,181
2013	30,484	0	40,630	26,738	97,851
2014	62,157	0	55,597	43,083	160,838
2015	22,961	0	35,235	27,802	85,998
Average	29,493	0	43,684	34,698	107,876
	Charter Mode				
2011	5,065	0	698	0	5,763
2012	7,008	80	270	0	7,358
2013	1,765	0	421	0	2,186
2014	5,419	0	880	0	6,299
2015	4,276	471	2,269	543	7,559
Average	4,707	110	908	109	5,833
	Private/Rental Mode				
2011	176,363	9,386	53,037	8,711	247,497
2012	157,584	831	51,410	13,917	223,742
2013	123,117	1,248	66,487	16,569	207,421
2014	146,240	2,857	49,035	17,336	215,469
2015	128,359	3,029	71,694	9,538	212,619
Average	146,333	3,470	58,333	13,214	221,350
	All Modes				
2011	195,604	9,386	88,632	42,150	335,771
2012	182,283	911	103,742	56,346	343,282
2013	155,366	1,248	107,537	43,306	307,457
2014	213,817	2,857	105,512	60,420	382,606
2015	155,595	3,500	109,199	37,883	306,176
Average	180,533	3,580	102,924	48,021	335,058

Source: MRIP database, SERO, NMFS.
*Headboat information unavailable.

Table 3.4.2.4. Atlantic Spanish mackerel recreational target trips, by mode and state, 2011-2015*.

	Florida East	Georgia	North Carolina	South Carolina	Total
	Shore Mode				
2011	91,543	2,206	66,000	40,191	199,939
2012	88,269	1,482	70,677	60,855	221,283
2013	93,532	0	91,705	15,813	201,051
2014	52,457	2,434	119,643	57,380	231,914
2015	49,219	0	78,311	108,015	235,545
Average	75,004	1,224	85,267	56,451	217,946
	Charter Mode				
2011	0	1,267	15,538	5,970	22,775
2012	0	0	7,312	392	7,704
2013	0	294	14,629	0	14,922
2014	1,001	0	13,269	7,845	22,115
2015	0	0	9,633	4,170	13,803
Average	200	312	12,076	3,675	16,264
	Private/Rental Mode				
2011	32,801	0	159,400	3,756	195,957
2012	29,279	0	142,573	13,228	185,080
2013	24,806	0	123,452	13,682	161,940
2014	28,855	303	107,697	10,146	147,002
2015	13,141	1,648	156,806	7,620	179,216
Average	25,776	390	137,986	9,686	173,839
	All Modes				
2011	124,343	3,473	240,938	49,917	418,671
2012	117,547	1,482	220,561	74,476	414,067
2013	118,338	294	229,786	29,495	377,913
2014	82,313	2,737	240,609	75,372	401,031
2015	62,360	1,648	244,750	119,806	428,564
Average	100,980	1,927	235,329	69,813	408,049

Source: MRIP database, SERO, NMFS.
*Headboat information unavailable.

Similar analysis of recreational effort is not possible for the headboat mode because headboat data are not collected at the angler level. Estimates of effort by the headboat mode are provided

in terms of angler days, or the total number of standardized full-day angler trips.[5] The stationary "fishing for demersal species" nature of headboat fishing, as opposed to trolling, suggests that most headboat trips and, hence, angler days, are demersal or reef fish trips by intent. According to a recent survey of the recreational for-hire industry in the Gulf of Mexico, approximately 84% of headboat trips, on average, target reef fish species such as snappers or groupers (Savolainen et al. 2012).

Gulf Headboat Effort

Gulf headboat effort (angler days) by geographic area is presented in Table 3.4.2.5. For purposes of data collection, the headboat data collection program divides the Gulf into several areas. In Table 3.4.2.5, FLW refers to areas in Florida from the Dry Tortugas through the Florida Middle Grounds, FL-AL covers Northwest Florida and Alabama, MS-LA refers to the combined coastlines of Mississippi and Louisiana, and TX includes areas in Texas from Sabine Pass-Freeport south to Port Isabel. The number of headboat angler days in West Florida increased steadily from 2011 through 2015 (Table 3.4.2.5). In Northwest Florida through Alabama, the number of angler days increased steadily from 2011 through 2014 and then dipped slightly in 2015. In Mississippi through Louisiana and Texas, the number of angler days was relatively stable from 2011 through 2015. On average (2011 through 2015), West Florida through Alabama accounted for the majority of headboat angler days reported, followed by Texas, whereas Mississippi through Louisiana accounted for only a small percentage (Table 3.4.2.5).

Table 3.4.2.5. Gulf headboat angler days and percent distribution by state (2011 through 2015).

	Angler Days				Percent Distribution			
	FLW	**FL-AL***	**MS-LA****	**TX**	**FLW**	**FL-AL**	**MS-LA**	**TX**
2011	79,722	77,303	3,657	47,284	38.33%	37.17%	1.76%	22.74%
2012	84,205	77,770	3,680	51,776	38.73%	35.77%	1.69%	23.81%
2013	94,752	80,048	3,406	55,749	40.50%	34.22%	1.46%	23.83%
2014	102,841	88,524	3,257	51,231	41.83%	36.01%	1.32%	20.84%
2015	107,910	86,473	3,587	55,135	42.63%	34.16%	1.42%	21.78%
Average	93,886	82,024	3,517	52,235	40%	35%	2%	23%

Source: NMFS Southeast Region Headboat Survey (SRHS).
*Beginning in 2013, HBS data was reported separately for NW Florida and Alabama, but has been combined here for consistency with previous years.
**Heaboat data from Mississippi and Louisiana are combined for confidentiality purposes.

Headboat effort in terms of angler days for the entire Gulf was concentrated most heavily during the summer months of June through August on average (2011 through 2015) (Table 3.4.2.6). The monthly trend in angler days was very similar across years, building gradually from January through May, rising sharply to a peak in June and July, dropping rapidly through September, increasing slightly in October, then tapering through December.

[5] Headboat trip categories include half-, three-quarter-, full-, and 2-day trips. A full-day trip equals one angler day, a half-day trip equals .5 angler days, etc. Angler days are not standardized to an hourly measure of effort and actual trip durations may vary within each category.

Table 3.4.2.6. Gulf headboat angler days and percent distribution by month (2011 – 2015).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Headboat Angler Days											
2011	5,242	9,174	16,378	17,626	16,148	39,775	42,089	22,513	10,766	12,609	8,514	7,132
2012	7,924	9,364	18,326	16,404	17,708	39,662	46,468	21,440	12,629	13,281	7,135	7,090
2013	8,630	9,576	16,759	16,426	17,150	47,791	38,304	27,610	12,697	21,256	8,654	9,102
2014	7,069	12,402	18,626	18,733	21,345	44,342	46,246	30,893	12,089	17,395	7,557	9,156
2015	9,444	10,594	22,827	20,684	20,973	44,731	45,192	26,637	15,114	17,246	9,757	9,906
Avg	7,662	10,222	18,583	17,975	18,665	43,260	43,660	25,819	12,659	16,357	8,323	8,477
	Percent Distribution											
2011	2.5%	4.4%	7.9%	8.5%	7.8%	19.1%	20.2%	10.8%	5.2%	6.1%	4.1%	3.4%
2012	3.6%	4.3%	8.4%	7.5%	8.1%	18.2%	21.4%	9.9%	5.8%	6.1%	3.3%	3.3%
2013	3.7%	4.1%	7.2%	7.0%	7.3%	20.4%	16.4%	11.8%	5.4%	9.1%	3.7%	3.9%
2014	2.9%	5.0%	7.6%	7.6%	8.7%	18.0%	18.8%	12.6%	4.9%	7.1%	3.1%	3.7%
2015	3.7%	4.2%	9.0%	8.2%	8.3%	17.7%	17.9%	10.5%	6.0%	6.8%	3.9%	3.9%
Avg	3.3%	4.4%	8.0%	7.8%	8.0%	18.7%	18.9%	11.1%	5.5%	7.0%	3.6%	3.6%

Source: NMFS Southeast Region Headboat Survey (SRHS).

South Atlantic Headboat Effort

Headboat effort in the South Atlantic, in terms of angler days, increased substantially in Florida through Georgia from 2011 through 2014, then dipped slightly in 2015. In North Carolina and South Carolina, it was mostly stable during this time period (Table 3.4.2.7). Headboat effort was the highest, on average, during the summer months of June through August (Table 3.4.2.8).

Table 3.4.2.7. South Atlantic headboat angler days and percent distribution by state (2011 through 2015).

	Angler Days			Percent Distribution		
	East FL/GA*	NC	SC	East FL/GA	NC	SC
2011	124,041	18457	44,645	66.28%	9.86%	23.86%
2012	139,623	20766	41,003	69.33%	10.31%	20.36%
2013	165,679	20547	40,963	72.93%	9.04%	18.03%
2014	195,890	22691	42,025	75.17%	8.71%	16.13%
2015	194,979	22716	39,702	75.75%	8.83%	15.42%
Average	164,042	21,035	41,668	72%	9%	19%

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

Table 3.4.2.8. South Atlantic headboat angler days and percent distribution by month (2011 – 2015).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	Headboat Angler Days											
2011	8,011	10,688	13,718	17,472	17,786	29,793	33,259	21,634	11,107	8,352	6,491	8,832
2012	9,230	9,663	17,307	19,587	18,232	27,819	35,115	25,052	15,894	8,677	6,564	8,252
2013	10,182	10,892	14,541	16,129	20,969	33,079	39,463	33,830	16,335	14,534	6,698	10,537
2014	8,748	13,512	19,808	22,570	25,764	39,115	44,066	32,886	15,203	15,235	9,088	14,611
2015	12,661	11,148	21,842	25,128	25,172	36,907	42,558	30,772	15,649	13,375	9,623	12,562
Avg	9,766	11,181	17,443	20,177	21,585	33,343	38,892	28,835	14,838	12,035	7,693	10,959
	Percent Distribution											
2011	4.3%	5.7%	7.3%	9.3%	9.5%	15.9%	17.8%	11.6%	5.9%	4.5%	3.5%	4.7%
2012	4.6%	4.8%	8.6%	9.7%	9.1%	13.8%	17.4%	12.4%	7.9%	4.3%	3.3%	4.1%
2013	4.5%	4.8%	6.4%	7.1%	9.2%	14.6%	17.4%	14.9%	7.2%	6.4%	2.9%	4.6%
2014	3.4%	5.2%	7.6%	8.7%	9.9%	15.0%	16.9%	12.6%	5.8%	5.8%	3.5%	5.6%
2015	4.9%	4.3%	8.5%	9.8%	9.8%	14.3%	16.5%	12.0%	6.1%	5.2%	3.7%	4.9%
Avg	4.3%	5.0%	7.7%	8.9%	9.5%	14.7%	17.2%	12.7%	6.6%	5.2%	3.4%	4.8%

Source: NMFS Southeast Region Headboat Survey (SRHS).

Permits

For-hire vessels in the Gulf are required to have a limited access Gulf Charter/Headboat for Coastal Migratory Pelagics permit (Gulf CMP for-hire permit) to fish for or possess CMP species in the Gulf EEZ (a similar, but separate, permit is required for coastal reef fish species). On July 22, 2016, there were 1,291 valid (non-expired) or renewable[6] Gulf CMP for-hire permits listed in SERO's Permits Information Management System (PIMS). Although the for-hire permit application collects information on the primary method of operation, the permit itself does not identify the permitted vessel as either a headboat or a charter vessel and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to the NMFS Southeast Region Headboat Survey (SRHS). Participation in the SRHS is based on determination by the Southeast Fishery Science Center (SEFSC) that the vessel primarily operates as a headboat. As of February 22, 2016, 69 Gulf headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.). The majority of these headboats were located in Florida (40), followed by Texas (16), Alabama (8), and Mississippi/Louisiana (5).

Information on Gulf charter boat and headboat operating characteristics is included in Savolainen et al. (2012) and is incorporated herein by reference.

For-hire vessels in the South Atlantic and Mid-Atlantic regions are required to have an open access Atlantic Charter/Headboat Coastal Migratory Pelagic permit to fish for or possess CMP species in the EEZ of the South Atlantic and Mid-Atlantic regions. As of July 22, 2016, there were 1,579 valid South Atlantic CMP for-hire permits. As of February 22, 2016, 73 South Atlantic headboats were registered in the SRHS (K. Fitzpatrick, NMFS SEFSC, pers. comm.).

[6] A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration.

The majority of these headboats in the SRHS were located in Florida/Georgia (46), followed by North Carolina (15) and South Carolina (12).

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

Economic Value

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 (CS). 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 value of the CS for catching and keeping a second king mackerel on an angler trip is approximately $98 (2015 dollars[7]) with a 95% confidence interval (CI) of plus or minus 9% (Carter and Liese 2012). The value of harvesting additional king mackerel decreases thereafter (approximately $65 for a third king mackerel, $48 for a fourth king mackerel, and $38 for a fifth king mackerel).

Another study estimated the CS for catching and keeping one additional Spanish mackerel in the Southeastern U.S. using four separate econometric modeling techniques (Haab et al. 2012). Of the four models, only the finite mixture model, which takes into account variation in the preferences of anglers, produced a positive value for Spanish mackerel. The CS estimate for Spanish mackerel from the finite mixture model was $17.43 (2015 dollars) with a 95% CI of $5.36 to $32.17. The other logit-based models from the study produced CS estimates that ranged from negative $13.40 to negative $8.04, a result of anglers avoiding fishing locations where Spanish mackerel are prevalent.

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

With regards to for-hire businesses, economic value can be measured by producer surplus (PS) per passenger trip (the amount of money that a vessel owner earns in excess of the cost of providing the trip). Estimates of the PS per for-hire passenger trip are not available. Instead, net

[7] Converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

operating revenue (NOR), which is the return used to pay all labor wages, returns to capital, and owner profits, is used as a proxy for PS. The estimated NOR value for an average Gulf charter angler trip is $153 (2015 dollars[8]) (Liese and Carter 2011). The estimated NOR value for an average Gulf headboat angler trip is $53 (2015 dollars) (C. Liese, NMFS SEFSC, pers. comm.). For the South Atlantic region, estimated NOR values are $162 (2015 dollars) per charter angler trip and $44 per headboat angler trip (C. Liese, NMFS SEFSC, pers. comm.). Estimates of NOR per king or Spanish mackerel target trip are not available.

Business Activity

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

Estimates of the business activity (economic impacts) associated with recreational angling for king and Spanish mackerel were calculated using average trip-level impact coefficients derived from the 2014 Fisheries Economics of the U.S. report (NMFS, 2016) and underlying data provided by the National Oceanic and Atmospheric Administration (NOAA) Office of Science and Technology. Economic impacts estimates in 2014 dollars were adjusted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Recreational fishing generates business activity (economic impacts). Business activity for the recreational sector is characterized in the form of jobs (full- and part-time), income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Estimates of the average king and Spanish mackerel target effort (2011-2015) in both the Gulf and South Atlantic and associated business activity (2015 dollars) are provided in Table 3.4.2.9. Estimates for each species should be interpreted individually, as there will be substantial double counting across rows as a result of trips that targeted both species jointly. The average impact coefficients, or multipliers, used in the model are invariant to the "type" of effort and can therefore be directly used to measure the impact of other effort measures such as king or Spanish mackerel catch trips. To calculate the multipliers from Table 3.4.2.9, simply divide the desired impact measure (output impact, value-added impact, income impact or jobs) associated with a given species, region and mode by the number of target trips for that species, region and mode.

[8] Converted to 2015 dollars using the annual, seasonally-adjusted GDP implicit price deflator provided by the U.S. Bureau of Economic Analysis.

Table 3.4.2.9. Estimated economic impacts to the U.S. from king and Spanish mackerel recreational target trips in the Gulf and South Atlantic (average; 2011 through 2015), using national multipliers. All monetary estimates are in 2015 dollars (in thousands).

Mode	Total # of Trips	Value Added Impacts	Sales Impacts	Income Impacts	Employment Impacts (Jobs)
	Gulf king mackerel*				
Charter	33,200	$17,466	$30,061	$11,815	234
Private/Rental	183,395	$9,221	$16,615	$5,334	111
Shore	284,130	$13,391	$24,081	$7,924	177
	Gulf Spanish mackerel*				
Charter	25,616	$13,477	$23,194	$9,116	180
Private/Rental	178,754	$8,988	$16,194	$5,199	108
Shore	634,393	$29,899	$53,766	$17,692	396
	Atlantic king mackerel				
Charter	5,833	$3,147	$5,415	$2,128	42
Private/Rental	221,350	$12,017	$21,652	$6,952	145
Shore	107,876	$7,948	$14,292	$4,703	105
	Atlantic Spanish mackerel				
Charter	16,264	$8,773	$15,100	$5,935	117
Private/Rental	173,839	$9,437	$17,005	$5,460	114
Shore	217,946	$16,057	$28,874	$9,501	213

Source: effort data from MRIP; economic impact results calculated by NMFS SERO using NMFS (2016) and underlying data provided by the NOAA Office of Science and Technology.
*Gulf averages exclude LA for 2014 and 2015, because MRIP effort estimates for LA are unavailable after 2013. Because of the low level of recorded target effort for king and Spanish mackerel in previous years in LA, this is not expected to have a significant impact on Gulf-wide averages. Texas effort data is unavailable and is also excluded.
Note 1: Effort data for headboats is unavailable.
Note 2: Estimates for each species should be interpreted individually, as there will be substantial double counting across rows as a result of trips that targeted both species jointly.

3.5 Description of the Social Environment

This section provides the background for the proposed action which will be evaluated in Chapter 4. Recreational landings and commercial permits are included by state to provide information on the geographic distribution of fishing involvement. The communities with the most commercial Spanish mackerel and commercial king mackerel permits are identified.

Recent descriptions of the social environment for those engaged in king and Spanish mackerel fishing and associated communities are contained in Amendment 26 (GMFMC/SAFMC 2016) and Framework Amendment 1 (GMFMC/SAFMC 2014b) to the CMP FMP and are incorporated herein by reference. The social description in Amendment 26 focuses on available geographic and demographic data to identify communities with strong relationships to the harvest of king mackerel (i.e., significant landings and revenue); whereas the Framework Amendment 1 social description focuses on communities with strong relationships with the harvest of Spanish

mackerel. In addition, the social description in Framework Amendment 1 includes information on the distribution of commercial and recreational king mackerel landings by state for the years 2013 and 2014 respectively and commercial king mackerel permits and charter/headboat CMP permits by state for the year 2015. Recreational landings and commercial permits are updated below with the most recent data available, 2015 for recreational landings and 2016 for commercial permits.

3.5.1 Landings

King Mackerel

The total ACL for Gulf king mackerel has not been exceeded in the last 15 years and the recreational sector has not landed its ACL during the same time period (Table 2.1.1). However, the total ACL for Atlantic king mackerel was exceeded once during the last 15 years, during the 2007-2008 fishing year and the recreational sector exceeded its sector ACL during the same year (Table 2.1.2). From 2000 to 2016, commercial landings of Gulf king mackerel have ranged from 2.902 million pounds (mp) to 3.833 mp (Table 2.1.1). Recreational landings of Gulf king mackerel have ranged from 2.181 mp to 4.576 mp. During the same time period, commercial landings of Atlantic king mackerel have ranged from 1,116,833 lbs to 3,560,880 lbs (Table 2.1.2). Recreational landings of Atlantic king mackerel have ranged from 1,004,441 lbs to 7,128,545 lbs.

Because recreational landings could potentially be impacted by this action, only recreational landings by state are detailed here. The majority of recreational Gulf king mackerel catch is landed along the west coast of Florida (approximately 68%, Table 3.5.1.1). Alabama and the east coast of Florida also include a sizable amount of the Gulf king mackerel catch. Other Gulf States are also involved in recreational Gulf king mackerel fishing, but these states represent a much smaller percentage of the total recreational landings.

Table 3.5.1.1. Percentage of total recreational Gulf king mackerel landings by state for 2015.

State	Landings
AL	18.29%
FL (West Coast)	67.85%
FL (East Coast)	8.71%
LA/MS	0.25%
TX	4.90%

Source: SERO (July 2016).

The majority of the recreational Atlantic group king mackerel catch is landed in east Florida (Table 3.5.1.2). Georgia represents a small percentage of the total recreational landings, and is combined with the east coast of Florida to maintain confidentiality. North Carolina also includes a sizable amount of the Atlantic king mackerel catch. Other states (South Carolina and Virginia) are also involved in recreational Atlantic king mackerel fishing, but these states represent a smaller percentage of the total recreational landings.

Table 3.5.1.2. Percentage of total recreational Atlantic king mackerel landings by state for 2015.

State	Landings
FL (West Coast)	4.82%
FL (East Coast)/GA	61.07%
NC	28.23%
SC	5.77%
VA	0.10%

Source: SERO (July 2016).

Spanish Mackerel

As presented in Section 2.1, the stock ACL for Gulf Spanish mackerel and total ACL for Atlantic Spanish mackerel has not been exceeded in the last 15 years, with the exception of the 2013-2014 fishing season for Gulf Spanish mackerel. However the stock ACL for Gulf Spanish mackerel was increased by 246% during the following fishing year as a result of the stock assessment, Table 2.1.3). From 2000 to 2016, commercial landings of Gulf Spanish mackerel have ranged from 810,099 lbs to 2,360,038 lbs (Table 2.1.2). Recreational landings of Gulf Spanish mackerel have ranged from 1,595,375 lbs to 5,232,533 lbs. During the same time period, commercial landings of Atlantic Spanish mackerel have ranged from 1,758,630 lbs to 4,556,352 lbs (Table 2.1.4). Recreational landings of Atlantic Spanish mackerel have ranged from 814,018 lbs to 2,107,213 lbs.

Because recreational landings could potentially be impacted by this action, only recreational landings by state are detailed here.

The majority of the recreational Gulf Spanish mackerel catch is landed along the west coast of Florida (57%, Table 3.5.1.3). Alabama also includes a sizable amount of the Gulf Spanish mackerel catch. Other Gulf States are also involved in recreational Gulf Spanish mackerel fishing, but these states represent a much smaller percentage of the total recreational landings.

Table 3.5.1.3. Percentage of total recreational Gulf Spanish mackerel landings by state for 2015.

State	Landings
AL	40.36%
FL (West Coast)	57.00%
LA/MS	2.42%
TX	0.22%

Source: SERO (July 2016).

The majority of the recreational Atlantic Spanish mackerel catch is landed in North Carolina (approximately 60%, Table 3.5.1.4). South Carolina and the east coast of Florida also include a sizable amount of the Atlantic Spanish mackerel catch. Georgia represents a very small percentage of the total recreational landings, so is combined with the east coast of Florida to maintain confidentiality. Other states (Maryland and Virginia) are also involved in recreational Atlantic Spanish mackerel fishing, but these states represent a much smaller percentage of the total recreational landings.

Table 3.5.1.4. Percentage of total recreational Atlantic Spanish mackerel landings by state for 2015.

State	Landings
FL (East Coast)/GA	18.06%
NC	59.92%
SC	19.14%
MD	1.54%
VA	1.35%

Source: SERO (July 2016).

3.5.2 Permits

Federal commercial permits for king mackerel and Spanish mackerel are issued to individuals residing in the Gulf, South Atlantic, Mid-Atlantic, New England, and in other states (Table 3.5.2.1).

Table 3.5.2.1. Number of commercial Spanish mackerel permits, king mackerel permits, and gillnet for king mackerel permits by state and region.

State	Spanish Mackerel (SM)	King Mackerel (KM)	Gillnet for King Mackerel (GN)
NC	248	229	0
SC	31	28	0
GA	18	10	0
FL (East Coast)	760	602	3
FL (Keys)	263	149	13
South Atlantic Total (including FL Keys)	1320	1018	16
FL (West Coast)	355	261	4
AL	30	38	0
MS	12	10	0
LA	42	43	0
TX	26	41	0
Gulf Total (no FL Keys)	465	393	4
Mid-Atlantic	75	27	0
New England	7	3	0
Other States	4	4	0
Total	**1871**	**1445**	**20**

Source: SERO permit office, July 25, 2016.

The largest number of commercial Spanish mackerel and king mackerel permits are issued to individuals residing in South Atlantic States (over 70% of Spanish mackerel permits and over 70% of king mackerel permits, Table 3.5.2.1) and specifically fishermen on the Florida east coast (approximately 74% of Spanish mackerel permits and 70% of king mackerel permits). Individuals residing in Gulf States hold approximately 25% of Spanish mackerel permits and 27% of king mackerel permits. Individuals in North Carolina also hold a sizable amount of king mackerel permits (about 13% of Spanish mackerel permits and about 16% of king mackerel permits). Residents of other states in the South Atlantic, Gulf, Mid-Atlantic, New England, and a few other states also hold commercial Spanish mackerel and king mackerel permits, but these states represent a smaller percentage of the total number of issued permits. The gillnet endorsement holders fish only in the Gulf Southern Zone.

Fishing Communities

in the Gulf, South Atlantic and Mid-Atlantic, commercial Spanish mackerel permits are held by individuals with mailing addresses in a total of 409 communities and commercial king mackerel permits are held by individuals in a total of 341 communities (Southeast Regional Office (SERO) permit office, July 25, 2016). Communities with the most commercial Spanish mackerel permits are located in Florida and North Carolina (Table 3.5.2.2). Communities with the most commercial king mackerel permits are located in Florida, North Carolina, and Louisiana (Table 3.5.2.3). The community with the most commercial Spanish and king mackerel permits is Key West, Florida (about 6% of Spanish mackerel permits and 6% of king mackerel permits, Tables 3.5.2.1-3.5.2.3). Several other Florida Keys communities (Marathon, Summerland Key, and Tavernier) are also included in the top communities. Communities with the most gillnet for king mackerel permits are not identified separately because these communities are included in the list of the top communities with commercial king mackerel permits.

Table 3.5.2.2. Top communities by number of commercial Spanish mackerel permits.

Community	State	Permits
Key West	FL	110
Miami	FL	77
Marathon	FL	60
Fort Pierce	FL	58
Jupiter	FL	56
Panama City	FL	55
Stuart	FL	44
Jacksonville	FL	33
Summerland Key	FL	26
West Palm Beach	FL	26
Hialeah	FL	23
Vero Beach	FL	23
Sebastian	FL	22
Southport	NC	20
Wanchese	NC	20
Hatteras	NC	19
Merritt Island	FL	18
Port St. Lucie	FL	18
Tavernier	FL	18

Source: SERO permit office, July 25, 2016.

Table 3.5.2.3. Top communities by number of commercial king mackerel permits.

Community	State	Permits
Key West	FL	85
Fort Pierce	FL	50
Jupiter	FL	48
Miami	FL	45
Panama City	FL	42
Stuart	FL	33
Jacksonville	FL	30
Hatteras	NC	27
Wilmington	NC	26
Destin	FL	24
Sebastian	FL	23
Merritt Island	FL	21
West Palm Beach	FL	20
Southport	NC	20
Naples	FL	18
Hobe Sound	FL	16
Vero Beach	FL	16
Marathon	FL	15
Grand Isle	LA	15

Source: SERO permit office, July 25, 2016.

3.5.3 Environmental Justice Considerations

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

The proposed action would remove a regulatory restriction that prohibits those aboard a vessel with a commercial permit for king mackerel or for Spanish mackerel from fishing for or retaining a recreational bag limit of the species while fishing recreationally from the vessel. The direct and indirect effects of this action are expected to be positive by allowing commercial fishermen to fish for and retain a bag limit of king mackerel and Spanish mackerel when using the vessel to fish recreationally. The proposed action 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. No adverse human health or environmental

effects are expected to accrue, nor is the action expected to result in increased risk of exposure of affected individuals to adverse health hazards. Thus, this action is expected to result in broad positive effects for the social environment and not result in negative impacts to any EJ population.

Although no EJ issues have been identified or are expected to arise, information on the race and income status for the captains and crew of federally permitted commercial vessels is not available. There is no known subsistence consumption of king mackerel or Spanish mackerel, nor are there any claims to customary usage or subsistence consumption of these species by any indigenous or tribal group in the Gulf, South Atlantic and Mid-Atlantic regions.

3.6 Description of the Administrative Environment

3.6.1 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 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.

Responsibility for federal fishery management decision-making is divided between the 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 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 summarized in Appendix B. In most cases, the Secretary has delegated this authority to NMFS.

The Gulf Council is responsible for fishery resources in federal waters of the Gulf of Mexico. These waters extend from 9 to 200 nautical miles (nm) offshore from the seaward boundary of Florida and Texas, and 3 to 200 nm offshore from the seaward boundary of Alabama, Mississippi, and Louisiana. The Council consists of 17 voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NOAA Fisheries.

The South Atlantic Council is responsible for conservation and management of fishery resources in federal waters of the U.S. South Atlantic. These waters extend from 3 to 200 (nm) offshore from the seaward boundary of the states of North Carolina, South Carolina, Georgia, and east Florida to Key West. The Council has 13 voting members: one from NOAA Fisheries Service; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and 8 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 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, but has delegated management of CMP species to the South Atlantic Council.

The Councils use Scientific and Statistical Committees to review the data and science being used in assessments and fishery management plans/amendments. Regulations contained within FMPs are enforced through actions of the NOAA's 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 Procedure 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.

3.6.2 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 states natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources.

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

NOAA Fisheries Service' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act) and two regional (Atlantic Coastal Fisheries Cooperative Management Act and Atlantic Striped Bass Conservation Act) programs. Additionally, it works with the 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 Quality http://deq.nc.gov/
Virginia Marine Resources Commission http://www.mrc.virginia.gov/
New York State Department of Environmental Conservation http://www.dec.ny.gov/
Maryland Department of Natural Resources, Estaurine and Marine Fisheries Division
http://dnr.maryland.gov/fisheries/Pages/default.aspx
Pennsylvania Fish and Boat Commission http://fishandboat.com/mpag1.htm
New Jersey Department of Environmental Protection, Division of Fish and Wildlife
http://www.nj.gov/dep/fgw/
Delaware Department of Natural Resources and Environmental Conservation
http://www.dnrec.delaware.gov/fw/Pages/DFW-Portal.aspx

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1: Modify Restrictions Applicable to Federal Commercial Permits for King and Spanish Mackerel

Alternative 1: No Action –Persons aboard a vessel with a federal commercial permit for king or Spanish mackerel may not fish for or retain the recreational bag limit if commercial harvest for the species is closed (i.e., the species, migratory group, zone, subzone, or gear is closed) except when that vessel also holds the applicable federal for-hire permit (Gulf Charter/Headboat CMP permit, Historical Captain Gulf Charter/Headboat CMP permit, or Atlantic Charter/Headboat CMP permit) and is operating in a for-hire capacity.

Preferred Alternative 2: Remove the restriction on fishing for and retaining the recreational bag limit of king mackerel on a vessel with a federal commercial permit for king mackerel when the vessel is on a recreational trip and commercial harvest of king mackerel that zone is closed.

Preferred Alternative 3: Remove the restriction on fishing for and retaining the recreational bag limit of Spanish mackerel on a vessel with a federal commercial permit for Spanish mackerel when the vessel is on a recreational trip and commercial harvest of Spanish mackerel in that zone (Atlantic) or region (Gulf) is closed.

4.1.1 Direct and Indirect Effects on the Physical and Biological Environments

Changes to commercial permit restrictions for king or Spanish mackerel would not be expected to result in any major differences in the effects on the physical or biological environment compared to **Alternative 1**, no action. Both king and Spanish mackerel are managed by the Gulf of Mexico (Gulf) and South Atlantic Fishery Management Councils (Councils) using an acceptable biological catch (ABC) to control harvest, and an annual catch limit (ACL) which is set equal the ABC. The South Atlantic Council also uses an annual catch target as a buffer set below the ACL for king and Spanish mackerel harvested by the recreational sector. The National Marine Fisheries Service (NMFS) monitors the landings relative to the ACLs for both species in the Gulf and the South Atlantic, and closes the respective fishing sectors once the ACLs are projected to have been met. Since the recreational fishing sectors in both the Gulf and the South Atlantic have not been harvesting their ACLs for king or Spanish mackerel (See Chapter 3, Section 3.1), it is unlikely that any additional harvest as a result of **Preferred Alternatives 2** or **3** would result in the respective ACLs being met.

King mackerel are typically caught at the ocean surface and, therefore, neither hook-and-line nor run-around gillnet gear typically come in contact with bottom habitat. However, these gear types 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. **Preferred Alternatives 2** and **3** are not expected to significantly alter the current level of fishing effort and would not be expected to alter the effects of fishing gear on habitat.

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 harvest is not maintained at sustainable levels. The same would be true of non-targeted species incidentally caught during king and/or Spanish mackerel fishing. Because this action is not expected to significantly alter the current level of fishing effort, it is concurrently 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 framework amendment. No additional action is needed to further minimize bycatch in the CMP fishery.

The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts. If not properly managed and accounted for, either form of mortality could potentially reduce stock biomass to an unsustainable level. The Councils and NMFS are 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 known. King and Spanish mackerel are migratory, interacting in various combinations of species groups at different levels on a seasonal basis. With the current state of knowledge, it is difficult to evaluate the potential ecosystem-wide impacts of these species interactions, or the ecosystem impacts from the limited mortality estimated to occur from mackerel fishing effort. However, there is very little bycatch in the Spanish mackerel portion of the CMP fishery with gillnet gear, and the king mackerel portion of the CMP fishery is also associated with a low level of bycatch. Action 1 would not modify the gear types or fishing techniques in the CMP fishery. Therefore, ecological effects due to changes in bycatch in the CMP fishery are likely to be negligible if implemented.

Under Section 118 of the Marine Mammal Protection Act (MMPA), NMFS must publish, at least annually, a List of Fisheries that place 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 2016 List of Fisheries classifies the Gulf and South Atlantic CMP hook-and-line fishery as a Category III fishery (81 FR 20550, April 8, 2016). Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities. The gillnet component of the Gulf and South Atlantic 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 component of the CMP fishery has no documented interaction with marine mammals. The List of Fisheries can be found at http://www.nmfs.noaa.gov/pr/interactions/fisheries/lof.html.

Action 1 is not expected to significantly increase or decrease the magnitude of effects to marine mammals in the CMP fishery.

4.1.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would maintain the prohibition on recreational king and Spanish mackerel harvests on federally permitted commercial fishing vessels if the respective commercial seasons are closed. The restriction does not apply to dual-permitted vessels (commercial and for-hire) while those vessels are fishing in a for-hire capacity. Therefore, **Alternative 1** would not affect the current harvest or customary uses of king and Spanish mackerel resources and would not be expected to result in direct economic effects. However, by failing to lift the prohibition, **Alternative 1** may lead some commercial fishermen to forego additional king mackerel harvesting opportunities in both the Gulf, South Atlantic and Mid-Atlantic while fishing recreationally and therefore result in indirect adverse economic effects.

A comparable scenario is not currently possible for recreational Spanish mackerel harvests by commercial fishermen in the Gulf. Unlike king mackerel, which is managed with a commercial quota and sector allocations and AMs that operate to close the commercial sector independent of the recreational sector when that quota is or is projected to be reached, Gulf Spanish mackerel do not have a commercial quota and instead are managed with a stock ACL. Under the AMs applicable to Gulf Spanish mackerel, if the sum of the commercial and recreational landings reaches or is projected to reach the stock ACL both the commercial and recreational sectors will be closed for the remainder of the fishing year. 50 CFR 622.388(c)(1). Thus, unlike Gulf king mackerel, it is not possible for the Gulf Spanish mackerel recreational season to be open when the commercial season is closed. In the future, if the Councils elect to allocate between the commercial and recreational sectors of Spanish mackerel and if the AMs operate to close the commercial Spanish mackerel sector while the recreational sector is still open, then indirect economic benefits could result from recreational Spanish mackerel harvests by commercial fishermen during commercial Spanish mackerel season closures. Until that time, however, removing the restriction in 622.384(e)(1) would not increase recreational fishing opportunities for Gulf Spanish mackerel.

In the Atlantic, Spanish mackerel have a commercial quota and ACL is divided into separate commercial and recreational ACLs. The AMs operate to close the commercial zones when a zone's quota is met, and these AMs are independent from adjustments to recreational fishing. As such, there is the possibility that the commercial season in one of the Atlantic commercial zones for Spanish mackerel could be closed while the recreational season remains open. Under this scenario, the economic effects of **Alternative 1** for Atlantic Spanish mackerel would be similar to those described for Gulf and Atlantic king mackerel. Not taking action to lift the prohibition on fishing for and retentaining recreation bag limits of Atlantic Spanish mackerel on commercially permitted vessels when the commercial season is closed would cause fishermen on that vessel to forgo recreational harvesting opportunities and the economic benefits associated with this harvest.

Preferred Alternative 2 would remove the prohibition on recreational king mackerel fishing and harvests by commercial fishermen fishing recreationally during commercial season closures

and would allow commercial vessels to harvest additional king mackerel in the Gulf, South Atlantic and Mid-Atlantic recreationally. Therefore, **Preferred Alternative 2** would be expected to result in direct economic benefits commensurate with the additional amount of king mackerel harvested. For a given Gulf or Atlantic king mackerel fishing zone, the additional amount of king mackerel harvested would be determined by the number of commercial fishermen who decide to fish recreationally during commercial closures, their average daily harvest rate while fishing recreationally, and the number of days during which they can fish recreationally. Although the number of commercial fishermen who would decide to fish recreationally once the restriction is lifted is unknown, it can be assumed that the daily harvest rate would equal the daily possession limit of 2 fish per person in the Gulf and East Florida or 3 fish per person from Georgia through New York.

Because the recreational sector does not harvest the entirety of its ACL, the recreational king mackerel fishing season has been open year-round for both Gulf and Atlantic king mackerel. Therefore, the number of days commercial fishermen could fish recreationally once the prohibition is lifted is determined by the days remaining in a year once the commercial king mackerel season closes in a commercial zone or sub-zone, as long as any recreational AM that would prohibit recreational fishing has not been implemented. The additional amount of king mackerel that would be harvested is not quantifiable because the number of commercial fishermen who would fish once the restriction is lifted and the number of days during which they could fish recreationally are not known. However, it can be noted that commercial fishermen from the Gulf Northern zone would likely benefit the most from lifting the restriction because their commercial season tends to close the earliest, relative to the commercial seasons in the Gulf Western and Gulf Southern zones. In the South Atlantic and Mid-Atlantic, the commercial king mackerel season does not typically close in the Atlantic Northern or Southern Zones, therefore realized benefits are not likely in most years. The economic benefits expected to result from **Preferred Alternative 2** would correspond to the economic value of the additional harvest. The economic value can be measured using the consumer surplus (CS) per additional king mackerel (the amount of money that an angler would be willing to pay for a fish in excess of the cost to harvest the fish) multiplied by the number of king mackerel. The estimated values of the CS per fish for a second and third king mackerel kept on a trip are approximately $98 and $65, respectively (Carter and Liese 2012; values updated to 2015 dollars). Although the preceding discussion establishes that the economic value cannot be quantified at this time, it can be noted that, economic effects that would result from **Preferred Alternative 2** are expected to be negligible based on the small amounts of additional king mackerel that would be harvested (see Section 2.1) once the prohibition is removed.

Preferred Alternative 3 would remove the prohibition on fishing for and harvesting recreational Spanish mackerels by commercial fishermen fishing recreationally during commercial season closures, and would allow commercial vessels to harvest additional Spanish mackerel recreationally. Gulf Spanish mackerel do not have a separate commercial quota, and are managed with AMs tied to the stock ACL that closes both sectors simultaneously, the commercial and recreational sectors are either both open or both closed. In other terms, the removal of the restriction on recreational Spanish mackerel harvests by commercial fishermen fishing recreationally during commercial season closures in the Gulf would not be translated into any additional harvests at this time. Therefore, **Preferred Alternative 3** would not be expected

to result in any economic benefits in the Gulf region. However, benefits computed using the approach outlined in the discussion above could accrue to commercial fishermen if the Councils decides to establish allocate between the commercial and recreational sectors, and adjust the AMs such that the commercial sector closes independent from the recreational sector. In that case, the commercial season could be closed while the recreational Spanish mackerel is still open, and the restrictions prohibiting recreational fishing and harvest when the commercial season is closed would apply.

As mentioned previously, in the South Atlantic and Mid-Atlantic regions, the commercial sector of those fishing for Atlantic Spanish mackerel are managed with separate commercial and recreational ACLs. As with king mackerel in both the Gulf and South Atlantic, the AMs operate to close the commercial sector independent of the recreational sector when commercial landings reach or are projected to reach the applicable quota for the zone. With this being the case, there is the possibility of the commercial season closing in either the Atlantic Northern or Atlantic Southern Zone while the recreation season is still open. Therefore, **Preferred Alternative 3** would be expected to result in direct economic benefits proportionate to the additional amount of Spanish mackerel harvested. The daily harvest rate would be up to the daily possession limit of 15 fish per person. The amount of additional harvest would be highly variable depending on the timing and region of the commercial closure as well as the number of commercial fishermen who decide to retain Spanish mackerel recreationally during the commercial closure, their average daily harvest rate, and the number of days during which they can fish. Realized benefits of **Preferred Alternative 3** are not likely as the commercial season in the South Atlantic has not closed in the past 15 years. However, these benefits are possible since the commercial sector harvested all or almost all of the commercial ACL in some recent years (the 2009-2010 fishing year through the 2012-2013 fishing year) and could potentially close in the future.

4.1.3 Direct and Indirect Effects on the Social Environment

Overall, the potential effects on fishermen and communities are expected to be neutral or positive and are described below. Section 3.5 describes the social environment of the king mackerel and Spanish mackerel components of the CMP fishery, including the communities associated with commercial harvest of Spanish mackerel and king mackerel in the Gulf, South Atlantic and Mid-Atlantic regions.

When not commercial fishing, vessel owners or operators may often use their vessels for recreation, taking their family or friends boating and fishing. When a vessel with a commercial permit for Gulf reef fish is being used to fish recreationally, those aboard may fish for and retain the recreational bag limit of Gulf reef fish species. However, if a vessel has either a commercial permit for king mackerel or for Spanish mackerel, those aboard may not fish for or retain a bag limit of king or Spanish mackerel, respectively, when the vessel is fishing recreationally and the commercial fishing season is closed for that species, zone, sub-zone or gear (**Alternative 1**). Although additional effects would not be expected from retaining **Alternative 1**, those aboard a commercially permitted vessel for king or Spanish mackerel would continue to be prohibited from fishing for and retaining a bag limit of the respective species when the vessel is being used recreationally and the commercial season is closed, even though the same rule does not apply to reef fish species.

The benefits of modifying the commercial permit restrictions to allow retention of the recreational bag limit on private recreational trips on commercial vessels when the commercial season is closed under **Preferred Alternatives 2** and **3** would result from reduced complexity in the regulations, consistency with other FMPs and commercial permits, and by increasing recreational fishing opportunities on private recreational trips by fishermen who also participate in the commercial sector. Under **Alternative 1**, these benefits would not be realized and may affect trip satisfaction on these private recreational trips.

In the Gulf, direct benefits would be expected for vessels with a commercial permit for king mackerel (**Preferred Alternative 2**) because vessel owners would be able to fish for and retain bag limit for Gulf king mackerel, which would increase trip satisfaction on these recreational trips. Although **Preferred Alternative 2** could increase landings counted towards the Gulf recreational ACL, it is unlikely that this would reduce access or fishing opportunities for other recreational fishermen because the recreational sector has landed on average 60% of the recreational Gulf king mackerel quota from 2001 through the 2014/15 fishing season (Table 2.1.1).

The benefits to commercial king mackerel permit holders in the South Atlantic and Mid-Atlantic would likely be similar under, as well as expected minimal negative effects of fishing opportunities for other recreational fishermen targeting Atlantic king mackerel. Additionally, fishermen report that there are likely only a small number of commercial permit holders in the South Atlantic and Mid-Atlantic region that take private recreational trips on their commercial vessels, and proposed changes to the restrictions under **Preferred Alternative 2** may have little or no effects on king mackerel commercial permit holders in the South Atlantic and Mid-Atlantic.

For Spanish mackerel in the Gulf, the commercial sector is not managed under a quota and the AMs close the commercial and recreational sectors simultaneously when the combined landings reach or are projected to reach the stock ACL. Under the stock ACL, **Preferred Alternative 3** would not affect fishermen and Spanish mackerel commercial permit holders targeting Gulf Spanish mackerel. However, this may change if the ACL for Gulf Spanish mackerel was allocated by sector in a future amendment.

In the South Atlantic and Mid-Atlantic, modifying the commercial permit restrictions for Spanish mackerel may benefit some participants in the commercial sector of the Atlantic Spanish mackerel fishery who take private recreational trips on commercial vessels by improving trip satisfaction on those recreational trips, although fishermen reports indicate that the number of vessels is minimal. Atlantic Spanish mackerel recreational landings have not reached the recreational ACL in recent years, and commercial harvest of Atlantic Spanish mackerel has not closed in recent years (Table 2.1.4).

Additionally, benefits would be expected under **Preferred Alternative 3** by making the regulations for the commercial Spanish mackerel permit consistent with the commercial permits for Gulf reef fish and, potentially, king mackerel (**Preferred Alternative 2**). This reduces complexity in regulations, which may improve compliance and enforcement.

4.1.4 Direct and Indirect Effects on the Administrative Environment

Administratively, **Preferred Alternatives 2** or **3** would initially be more burdensome on the agency than A**lternative 1** because they would involve rule-making and outreach. However, both action alternatives would ease a current administrative burden because NMFS would have one less permit restriction to monitor. Regardless of the management measures established, NMFS would still monitor landings relative to the quotas and ACLs, and implement closures and other AMs as appropriate.

The burden on enforcement would not be expected to result in any major change to the administrative environment with **Preferred Alternatives 2** or **3** compared to **Alternative 1**.

4.2 Cumulative Effects

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct effects of their actions, but cumulative effects of those actions and other actions as well. Under regulations implementing NEPA, cumulative impact is defined 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" (40 CFR 1508.7).

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

Past Actions

Environmental Influences

The *Deepwater Horizon* MC252 (DWH) oil spill in 2010 affected at least one-third of the Gulf from western Louisiana east to the Florida Panhandle and south to the Campeche Bank of Mexico. Millions of barrels of oil flowed from the ruptured wellhead (www.restorethegulf.gov). The impacts of the DWH 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 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. Suspended and floating oil degrades over time, but tar balls persist in the environment and can be transported hundreds of miles (Goodman 2003).

Surface or submerged oil during the DWH oil spill event could have restricted the normal processes of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column affecting the long-standing hypoxic zone located west of the Mississippi River on the Louisiana continental shelf (NOAA 2010). Microbial biodegradation of hydrocarbons in the water column may have occurred without substantial oxygen drawdown (Hazen et al. 2010). Residence time of hydrocarbons in sediments is also a concern. The indices developed for past oil spills (Harper 2003) and oil spill scenarios (Stjernholm et al. 2011) such as the "oil residence index" do not appear to have been used during the assessment of the DWH oil spill.

The effects from the DWH oil spill and response may not be known for several years. The highest concern is that the oil spill may have impacted the 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 every species in the CMP FMP; however, most species have a protracted spawning period that extends beyond the months of the oil spill. The presence of hydrocarbons in marine environments have been shown to have detrimental impacts on marine finfish, especially during the more vulnerable larval stage of

development (Whitehead et al. 2012). Embryos of bluefin tuna, yellowfin tuna, and amberjack exposed to environmentally realistic levels of hydrocarbons showed defects in heart function (Incardona et al 2014). Other studies of the effects of hydrocarbon are ongoing.

If eggs and larvae were affected, impacts on harvestable-size king mackerel should begin to be seen when the 2010 year class becomes large enough to enter the fishery and be retained. The impacts would be realized as reduced fishing success and reduced spawning potential. King mackerel mature at age 3-4; therefore, a year class failure in 2010 could have been observed as early as 2013 or 2014. No data were available which demonstrated any such potential for year-class failure during Southeast Data Assessment and Review (SEDAR) 38. Any new data generated since the completion of SEDAR 38 would need to be taken into consideration in the next SEDAR assessment of king mackerel. Therefore, due to a paucity of data, the impact of the DWH oil spill on Gulf king mackerel cannot be determined at this time. A similar conclusion is appropriate for Gulf Spanish mackerel, of which greater than 50% of both sexes reach reproductive maturity before one year of age (SEDAR 28 2013b). The SEDAR 28 stock assessment of Gulf Spanish mackerel (2013b) did not indicate an effect from the DWH oil spill; however, no research directed at determining such an effect is currently available.

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 activities which rely on access to the resource may be jeopardized if a hurricane strikes. It is reasonable to expect that access to fishery resources will be spatially and temporally reduced in hurricane-affected areas, which would result in negative short- to long-term social and economic effects. The spatially and temporally reduced harvest of fishery resources when a hurricane is present may result in negligibly positive biological effects, depending on the duration of the weather associated decrease in harvest. The action proposed in this document is not expected to alter the manner in which participating stakeholders respond to weather or other related safety-at-sea concerns, nor is it expected to result in any cumulative effect to the physical or biological environments.

Regulatory Influences

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 affected the quantity and composition of harvests of king mackerel, through the various size limits, seasonal restrictions, trip or bag limits, and quotas. In addition to a complex boundary and quota system, the CMP fishery also exists under regulations on bag limits, size limits, trip limits, and gear restrictions. The quantity and composition of harvests of Spanish mackerel have been affected to a lesser degree, given that Spanish mackerel management measures have collectively undergone fewer changes over time when compared to king mackerel (see History of Management, Section 1.3). This is especially true for Gulf Spanish mackerel, which are managed under a stock ACL with size (recreational and commercial) and bag (recreational only) limits. Atlantic Spanish mackerel are managed under sector ACLs, commercial zones, size (recreational and commercial), bag (recreational only), and trip (commercial only) limits.

The commercial king mackerel permit, king mackerel gillnet endorsement, and the Gulf Charter/Headboat CMP permit are all under limited entry permit systems (see History of Management in Section 1.3 for a regulatory history of these measures). New participation in the king mackerel commercial CMP sector 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. The gillnet endorsements can only be transferred to an immediate family member. 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 permits 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 CMP 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 CMP fishery can impact effort and harvest of another species (in the CMP fishery or in another fishery) because of multi-fishery participation that is characteristic in the Gulf and South Atlantic regions. Due to the inherent degree of variability associated with fishing for multiple species, it is not possible to succinctly quantify the effects (physical, biological, social, economic, and/or administrative) of changes to the regulatory environment of any one species on all others. This fact necessitates flexibility from participating stakeholders, who will shift their fishing effort from species to species as harvest opportunities are available. Likewise, resource managers strive to ensure fishing opportunities for participating stakeholders, while simultaneously ensuring that overfishing does not occur.

Amendment 20B (GMFMC and SAFMC 2014), implemented in March 2015, allowed transit of vessels with king mackerel through areas closed to king mackerel fishing. This allows vessels whose home port is in a zone other than the zone in which they are harvesting king mackerel to transit through a closed zone from a zone open to commercial fishing. This measure is expected to improve safety at sea, and increase efficiency for some king mackerel fishing vessels, thereby resulting in positive social and economic effects for participating stakeholders.

Actions in CMP Framework Amendment 3 (GMFMC 2015), implemented January 2016, increased the trip limit, imposed a payback provision if the ACL is exceeded, changed reporting requirements for dealers buying gillnet-caught king mackerel, and removed inactive endorsements. These actions were requested by the gillnet fishermen and are expected to generally improve social and economic conditions for participants in this component of the fishery. The higher trip limit is expected to shorten the fishing season and increase the risk of exceeding the ACL; however, the payback provision will account for any ACL overages, thereby acting as a safeguard against any potential negative biological effects.

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 king and Spanish mackerel components of the CMP fishery. 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 (see aforementioned positive effects from CMP Amendment 20B and Framework Amendment 3). 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

Amendment 26 to the CMP FMP has been submitted for Secretarial review by the Gulf and South Atlantic Councils. This amendment responds to the most recent stock assessments of king mackerel (SEDAR 38 2014) and proposes actions to adjust the management boundary of the Gulf and Atlantic king mackerel; revise reference points, ACLs, commercial quotas and recreational ACTs for Atlantic migratory group king mackerel; allow incidental catch of Atlantic migratory group king mackerel in the shark gillnet fishery; establish a commercial split season for Atlantic migratory group king mackerel in the Atlantic southern zone; establish a trip limit for Atlantic migratory group king mackerel in the Atlantic southern zone; modify annual total ACLs to align with newly recommended ABCs for Gulf migratory group king mackerel; establish a trip limit system for the commercial fishery for Atlantic migratory group king mackerel in the Atlantic southern zone; modify the ACL for Gulf migratory group king mackerel; revise commercial zone quotas for Gulf migratory group king mackerel; and modify the recreational bag limit for Gulf migratory group king mackerel. If accepted, Amendment 26 will ultimately increase the ACLs for Gulf and Atlantic king mackerel, and will increase the recreational bag limit, thereby increasing access to king mackerel for both fishing sectors and resulting in positive social and economic effects. The additional access to recreational fishing opportunities likely to result from the action proposed in this document would further augment the positive effects expected from Amendment 26. Further, Amendment 26 simplifies the management boundaries and reduces the number of commercial fishing zones between and among both migratory groups of king mackerel, thereby reducing the administrative burden of compliance on both law enforcement and participating stakeholders. This reduction in administrative burden is furthered in the action proposed in this document, which would remove a regulatory restriction which is no longer considered to be necessary.

Amendment 29 to the CMP FMP is being developed and addresses issues associated with sector allocation sharing and recreational sector accountability measures for the Gulf migratory group of king mackerel. In 2014, a stock assessment of Atlantic and Gulf king mackerel was completed (SEDAR 38), and indicated that neither migratory group was overfished or experiencing overfishing. Historically, the recreational sector in the Gulf has not landed its sector allocation of the king mackerel ACL (currently 68%), while the commercial sector has either met or exceeded its allocation (32%). In an effort to manage Gulf king mackerel such that the maximum benefit of the resource is extracted without harming the population, the Councils have decided to evaluate sharing of allocation between the recreational and commercial sectors of Gulf king mackerel. The allocation sharing action proposed in Amendment 29 would be expected to increase fishing opportunities for commercial fishermen, while simultaneously protecting access to the resource for recreational fishermen, by focusing additional harvest efforts on the portion of the Gulf recreational ACL which goes unharvested each year. The stock

assessment and accompanying ABC projections expect that this unharvested portion of the recreational ACL will be harvested each year; therefore, harvesting this foregone yield is not expected to result in negative biological effects. The action proposed in this document would increase recreational fishing opportunities for fishermen on commercially permitted vessels. As such, the action proposed in this document could result in additional harvest potential for the recreational fishing sector, especially when combined with the increased bag limit proposed for Gulf king mackerel in Amendment 26. However, the safeguards built into the allocation sharing action in Amendment 29 are expected to help ensure recreational access to the resource, while the recreational accountability measure proposed in Amendment 29 is expected to prevent negative biological impacts from occurring.

Reasonably Foreseeable Future Actions

Amendments establishing electronic reporting for for-hire vessels operating in Gulf and South Atlantic federal waters may be implemented within the next year and may affect the CMP fishery. These amendments would improve landings data resolution and accountability for that portion of the CMP fishery. These amendments are under development. The timelier reporting of landings data will reduce the amount of time between when landings data are received and when a fishery closure can be implemented, thereby reducing the likelihood of the ACL for a fishing sector being exceeded in a given year. The action proposed in this document is not expected to diminish or augment the positive effects anticipated of the electronic reporting amendments.

The cumulative social and economic effects of past, present, and reasonably foreseeable future amendments may be described as increasing fishing opportunities in the short-term, while also reducing administrative burdens associated with law enforcement and regulatory compliance (CMP Amendments 20B, 26, 29, Framework Amendment 3, and this document). The intent of these actions is to improve prospects for sustained participation in the respective fisheries over time. The proposed action in this amendment also is expected to result in some important long-term benefits to part-time and full-time commercial participants, as well as fishing communities and associated businesses, by removing the subject recreational harvest restriction currently applied to vessels which are commercially permitted to harvest king and/or Spanish mackerel. The proposed changes in management for king and Spanish mackerel are expected to result in net positive social, economic, and administrative effects, concurrent with no discernible change in physical, biological, or ecological effects, at local and regional levels.

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. Commercial data are collected through trip ticket programs, port samplers, and logbook programs. Recreational data are collected through dockside, online, and telephone-based surveys. The action proposed in this document is not expected to result in changes to how NMFS monitors landings data and, in that respect, is not expected to result in changes to administrative effects.

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.

CHAPTER 5. REGULATORY IMPACT REVIEW

5.1 Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: 1) It provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way. The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 (E.O. 12866) and whether the approved regulations will have a "significant economic impact on a substantial number of small business entities" in compliance with the Regulatory Flexibility Act of 1980.

5.2 Problems and Objectives

The purpose and need, issues, problems, and objectives of this action are presented in Chapter 1 of this amendment and are incorporated herein by reference.

5.3 Description of the Fishery

A description of the Gulf of Mexico and South Atlantic coastal migratory pelagic fisheries is contained in Chapter 3 of this amendment and is incorporated herein by reference.

5.4 Effects on Management Measures

5.4.1 Modify Restrictions Applicable to Federal Commercial Permits for King and Spanish Mackerel

A detailed analysis of the economic effects expected to result from this action is provided in Section 4.3.1. The following discussion summarizes the key points of this analysis.

Preferred Alternative 2 would be expected to result in direct economic benefits commensurate with the additional amount of king mackerel harvested by commercial fishermen fishing recreationally during commercial season closures and would allow commercial vessels to harvest additional king mackerel in both the Gulf and South Atlantic. The additional amount of king mackerel that would be harvested is not quantifiable because the number commercial fishermen who would fish once the restriction is lifted and the number of days during which they could fish recreationally are not known. However, it can be noted that commercial fishermen from the Gulf Northern zone would likely benefit the most from lifting the restriction because their season tends to close the earliest, relative to the commercial seasons in the Western and Southern zones.

In the South Atlantic, the commercial king mackerel season does not typically close, therefore realized benefits are not likely in most years. The economic benefits expected to result from **Preferred Alternative 2** would correspond to the economic value of the additional harvest. The economic effects that would result from **Preferred Alternative 2** are expected to be negligible based on the small amounts of additional king mackerel that would be harvested (see Section 2.1) once the prohibition is removed.

Preferred Alternative 3 would not be expected to result in any economic benefits in the Gulf because the removal of the prohibition on Spanish mackerel harvests by commercial fishermen fishing recreationally during commercial season closures would not be translated into additional harvests at this time. In the future, benefits could accrue to Gulf commercial fishermen if the Councils elect to allocate between the commercial and recreational sectors of Spanish mackerel and establish AMs that would allow for the commercial season to close while the the recreational Spanish mackerel sector is still open. Spanish mackerel in the South Atlantic are managed using sector allocations, meaning that **Preferred Alternative 3** would affect Atlantic group Spanish mackerel in a manner consistent with how **Preferred Alternative 2** would affect management of both migratory groups of king mackerel.

5.5 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources, which can be expressed as costs associated with the regulations. Costs associated with this action include, but are not limited to Council costs of document preparation, meeting, and other costs; NMFS administration costs of document preparation, meetings and review, and annual law enforcement costs. A preliminary estimate is up to $200,000 before annual law enforcement costs.

5.6 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is expected to result in: 1) An annual effect of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; 3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or 4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this regulatory action would not meet the first criterion. Therefore, this regulatory action is determined to not be economically significant for the purposes of E.O. 12866.

CHAPTER 6. REGULATORY FLEXIBILITY ACT ANALYSIS

Introduction

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

With certain exceptions, the RFA requires agencies to conduct a regulatory flexibility analysis for each proposed rule. The regulatory flexibility analysis is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. In addition to analyses conducted for the RIR, the regulatory flexibility analysis provides: 1) A statement of the reasons why rule by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practical, of all relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule; and 6) a description of any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

Additional information on the description of affected entities may be found in Chapter 3, and additional information on the expected economic effects of the proposed action may be found in Chapter 4.

Statement of Need for, Objectives of, and Legal Basis for the Action

Identification of All Relevant Federal Rules Which May Duplicate, Overlap or Conflict with the Proposed Action

Description and Estimate of the Number of Small Entities to Which the Proposed Action will Apply

Description of the Projected Reporting, Record-keeping and other Compliance Requirements of the Proposed Action

Substantial Number of Small Entities Criterion

Significant Economic Impact Criterion

Description of Significant Alternatives

CHAPTER 7. LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS CONSULTED

Preparers:

Name	Expertise	Responsibility
Ryan Rindone, GMFMC	Fishery Biologist	Co-Team Lead – amendment development, introduction, biological and administrative impacts
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Rich Malinowski, NMFS	Fishery Biologist	Co-Team Lead – amendment development, introduction, biological, administrative and cumulative impacts
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Assane Diagne, GMFMC	Economist	Economic impacts
John Hadley, SAFMC	Economist	Economic impacts, regulatory impact review
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David Records, NMFS/SF	Economist	Economic environment and impacts, Regulatory Flexibility Act analysis
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Mike Larkin, NMFS/SF	Data Analyst	Data analysis

Reviewers:

Name	Discipline/Expertise	Role in EA Preparation
Jocelyn D'Ambrosio, NOAA GC	Attorney	Legal review
Monica Smit-Brunello, NOAA GC	Attorney	Legal review
Susan Gerhart	Fishery Biologist	Biological review
Noah Silverman, NMFS	Natural Resource Management Specialist	NEPA review
David Dale, NMFS/HC	EFH Specialist	Habitat review
Jennifer Lee, NMFS/PR	Protected Resources Specialist	Protected resources review
Christopher Liese	Economist	Social/economic review
Michael Schirripa	Research Fishery Biologist	Biological review

GMFMC = Gulf of Mexico Fishery Management Council, SAFMC = South Atlantic Fishery Management Council, NMFS = National Marine Fisheries Service, SF = Sustainable Fisheries Division, PR = Protected Resources Division, HC = Habitat Conservation Division, GC = General Counsel

The following have or will be consulted:

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office
- Protected Resources
- Habitat Conservation
- Sustainable Fisheries

NOAA General Counsel
Environmental Protection Agency
United States Coast Guard
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
Florida Fish and Wildlife Conservation Commission
Georgia Department of Natural Resources
South Carolina Department of Natural Resources
North Carolina Division of Marine Fisheries
Mid-Atlantic Fishery Management Council

CHAPTER 8. REFERENCES

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APPENDIX A. SUMMARIES OF PUBLIC COMMENTS RECEIVED

No written comments have been received as of 4 October 2016.

APPENDIX B. 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 include the National Environmental Policy Act (sections throughout the document), Endangered Species Act (Section 3.3.2), Marine Mammal Protection Act (Section 3.3.2), E.O. 12866 (Regulatory Planning and Review, Chapter 5) and E.O. 12898 (Environmental Justice, Section 3.5.4). Other applicable laws are summarized below.

Administrative Procedure Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, 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. Florida is the only state affected by this action.

Upon submission to the Secretary of Commerce, NMFS will determine if this amendment is consistent with the Coastal Zone Management program of Gulf and Atlantic states 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 each state.

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 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 Office of Management and Budget 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.

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. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop

strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.