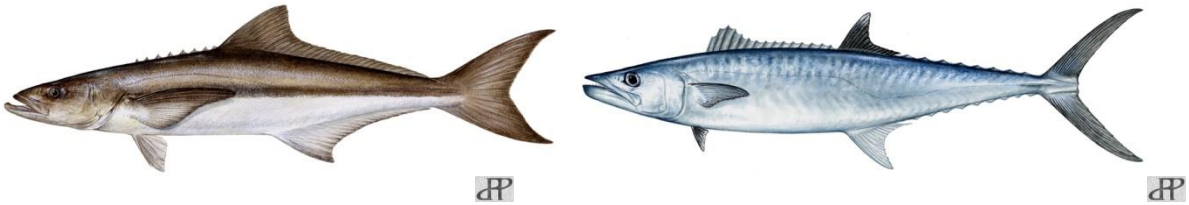
Modifications to the Coastal Migratory Pelagics Zone Management



Draft Amendment 20

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

Including Environmental Assessment, Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

June 2013

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Name of Action

Draft Amendment 20 to Fishery Management Plan for Coastal Migratory Pelagics in the Gulf of Mexico and South Atlantic addressing modifications to the Coastal Migratory Pelagic Zones, Including Environmental Assessment, Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

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ABBREVIATIONS USED IN THIS DOCUMENT

ABC	Acceptable biological catch
ACL	Annual catch limit
ACT	Annual catch target
ALS	Accumulated Landings System
AMs	Accountability measures
APA	Administrative Procedures Act
ASMFC	Atlantic States Marine Fisheries Commission
B	Biomass
B_{MSY}	Stock biomass level capable of producing an equilibrium yield of MSY
CFDBS	Commercial Fisheries Data Base System
CFL	Coastal fisheries logbook
CMP	Coastal Migratory Pelagics
Council	Gulf of Mexico and South Atlantic Fishery Management Councils
CPUE	Catch per unit effort
CZMA	Coastal Zone Management Act
DQA	Data Quality Act
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential fish habitat
EIS	Environmental impact statement
EJ	Environmental justice
ESA	Endangered Species Act
F	Instantaneous rate of fishing mortality
FL	fork length
FLS	Federal logbook system
F_{MSY}	Fishing mortality rate corresponding to an equilibrium yield of MSY
F_{OY}	Fishing mortality rate corresponding to an equilibrium yield of OY
$F_{30\% \text{ SPR}}$	Fishing mortality corresponding to 30% spawning potential ratio
FMP	Fishery Management Plan
FWRI	Florida Wildlife Research Institute
Gulf Council	Gulf of Mexico Fishery Management Council
GMFMC	Gulf of Mexico Fishery Management Council
HAPC	Habitat area of particular concern
HBS	Headboat Survey
IRFA	Initial regulatory flexibility analysis
LOF	List of fisheries
lq	location quotient
M	Mortality
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Survey and Statistics
MRIP	Marine Recreational Information Program
MSY	Maximum sustainable yield

NEFSC	New England Fisheries Science Center
NOAA	National Oceanic and Atmospheric Administration
nm	nautical mile
NOS	National Ocean Service
OFL	Overfishing level
OMB	Office of Management and Budget
OY	Optimum yield
PRA	Paperwork Reduction Act
Pw	Product weight
RA	Regional Administrator
RFA	Regulatory Flexibility Act of 1980
RIR	Regulatory impact review
rq	regional quotient
SAV	Submerged aquatic vegetation
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
South Atlantic Council	South Atlantic Fishery Management Council
SOVI	Social Vulnerability Index
SSC	Scientific and Statistical Committee
SPR	Spawning potential ratio
TAC	Total allowable catch
TPWD	Texas Parks and Wildlife Department
ww	whole weight

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FISHERY IMPACT STATEMENT

CHAPTER 1. INTRODUCTION

What Actions Are Being Proposed?

Actions in this amendment will address issues associated with the boundaries between migratory groups, zones, and subzones; allocation of commercial annual catch limits (ACLs); and modification of the framework procedure for management of king mackerel, Spanish mackerel, and cobia.

Who Is Proposing the Action?

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

Who's Who?

- NMFS and Council staffs – Develop alternatives based on guidance from the Councils, and analyze the environmental impacts of those alternatives
- Gulf and South Atlantic Councils –Determine a range of actions and alternatives, and recommend action to NMFS
- Secretary of Commerce – Will approve, disapprove, or partially approve the amendment

Why Are The Councils Considering Action?

For king mackerel, conflicts have arisen due to early closures of zones and subzones. For Spanish mackerel and cobia, a new stock assessment will be completed in 2013. The actions in this amendment will address issues arising from these situations.

1.1 Background

The Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic (CMP FMP), effective February 1983, treated king mackerel, Spanish mackerel, and cobia each as one U.S. stock. The present management regime recognizes two migratory groups of each species, the Gulf migratory group and the Atlantic migratory group.

Each migratory group is managed separately. The Gulf king mackerel migratory group and the Atlantic Spanish mackerel migratory group are also divided into zones or subzones for management purposes. This amendment will evaluate the appropriateness of these divisions, and consider changes or additions, to allow for more targeted management.

King mackerel: The two migratory groups seasonally mix off the east coast of Florida and in Monroe County, Florida. For management and assessment purposes, a boundary between the migratory groups of king mackerel was specified at the Volusia/Flagler County border on the

Florida east coast in the winter (November 1 - March 31) and the Monroe/Collier County border on the Florida southwest coast in the summer (April 1 - October 31) (Figure 1.1.1).

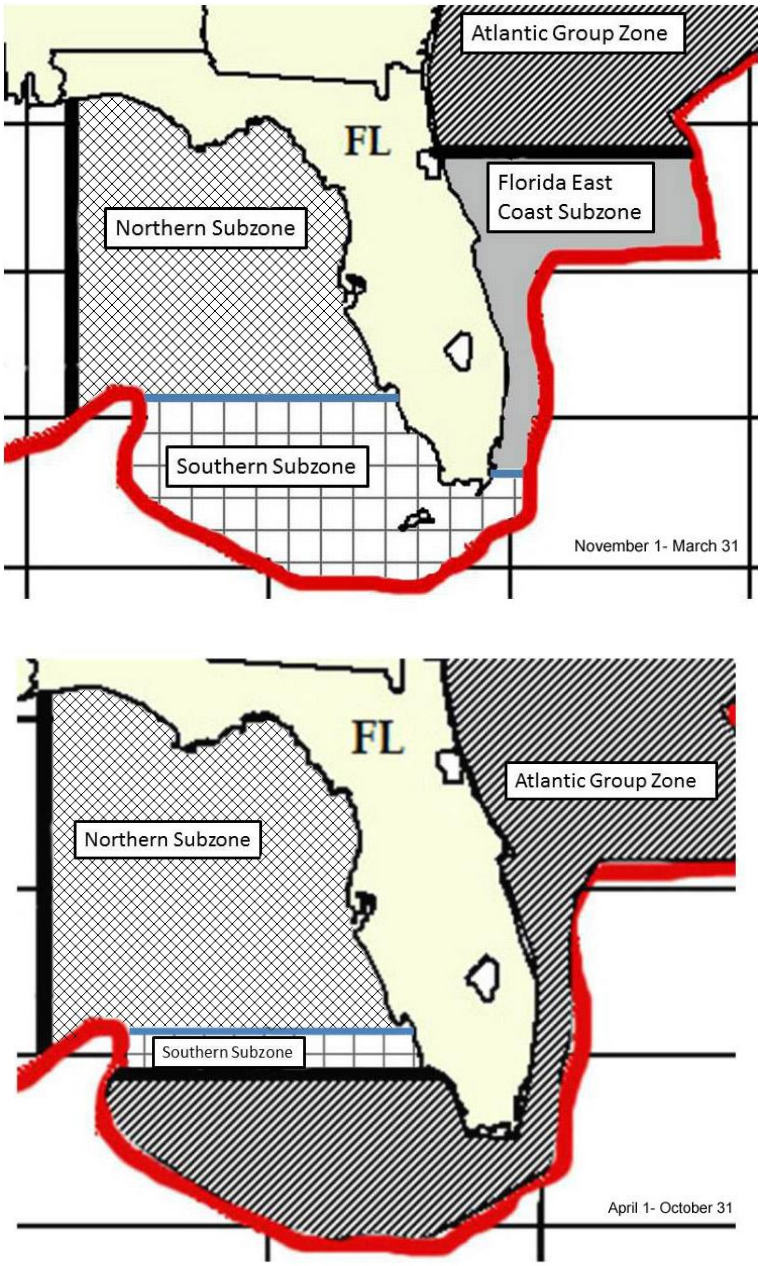

Figure 1.1.1. Seasonal boundary between Atlantic and Gulf migratory groups of king mackerel.

Amendment 1 to the CMP FMP (GMFMC and SAFMC 1985) established separate commercial allocations for the Gulf migratory group divided at the Alabama/Florida border into eastern and western zones. Amendment 9 to the CMP FMP (GMFMC and SAFMC 2000) further subdivided the commercial hook-and-line king mackerel allocation for the Eastern Zone Florida west coast by establishing two subzones, north and south, with a dividing line between the two subzones at the Collier/Lee County line. These zones and subzones were established to ensure that fishermen throughout the Gulf had an opportunity to fish in their homeport area and that some of the allowable quota was available for those areas.

The commercial fishing year for the Gulf Western Zone and Eastern Zone west coast Florida subzones is July 1- June 30. The trip limit is 3,000 lbs per day for the Western Zone. In general, the commercial quota in this zone is met in September to November of each year, and fishing is closed; in 2008-2009, the zone remained open until March, but in 2012-2013 the zone closed in August. Both the Northern and Southern Subzones have a 1,250-lb trip limit until 75% of the quota is reached, and then the trip limit is 500 lbs until the quota is taken, or the end of the fishing year. The Northern Subzone has closed in the past four years, but previously had not closed since 2003-2004. The quota for the Southern Subzone for the hook-and-line sector generally is met in February or March, but occasionally the quota is not filled before the end of the fishing year. In the Southern Subzone, the gillnet season opens on the day after the Martin Luther King, Jr. holiday. The fishing year ends June 30, but the quota is usually reached within one to two weeks after opening.

The fishing year for the Atlantic migratory group is March 1 – end of February. The northern boundary for this group is at the jurisdictional boundary between the Mid-Atlantic and New England Councils, which is at the intersection point of Connecticut, Rhode Island, and New York.

Many king mackerel fishermen will travel throughout the southeast region to fish under different quotas. For example, fishermen from the east coast of Florida may fish in the Western Zone in the summer and early fall until that quota is filled. They will then move to the panhandle of Florida to fish under the Northern Subzone quota. When that quota is filled, they generally will travel back to their homeport to fish during the winter and spring.

Recently, some fishermen who do not travel have expressed discontent with fishermen from outside their area contributing to filling the quota. In particular, fishermen from Louisiana and the Florida panhandle feel that their zone/subzone is closed too quickly each year, depriving those who do not travel of fishing opportunities. Additionally, because of the fall closures of the Northern Subzone, fishermen on the west central coast of Florida have fewer opportunities to fish for mackerel; by the time the fish have migrated that far south, the subzone is closed. Proposed actions to address these problems include moving boundaries, creating new subzones, and changing the dates of the fishing year.

Another problem resulting from management by subzones is that in spring, often the Florida west coast subzones are closed, but Monroe County is open (because starting April 1, that county is part of the Atlantic group). Some fishermen from southwest Florida, particularly from Collier

County, fish in waters of northern Monroe County on the Florida west coast. Currently, regulations prevent them from transiting the closed area (Collier County) with king mackerel to return to their homeport. Their only option is to travel to the Florida Keys, a considerable distance from the fishing area. A similar issue arises when the Northern Subzone is closed but the Southern Subzone is open, and other areas where boundaries occur. This amendment will consider allowing transit of closed areas by vessels possessing king mackerel, provided gear is appropriately stowed.

Spanish mackerel: Although these two migratory groups mix in south Florida, abundance trends along each coast of Florida are different, indicating sufficient isolation between the two migratory groups. Consequently, the boundary for Spanish mackerel was fixed at the Miami-Dade/Monroe County border on Florida's southeast coast (Figure 1.1.2). The Atlantic migratory group is divided into northern and southern zones at the Florida/Georgia border and the northern zone extends to the jurisdictional boundary between the Mid-Atlantic and New England Councils. Although only one quota is assigned to both zones, each zone has different trip limits and accountability measures. The fishing year for the Gulf migratory group is April 1 – March 30 and the fishing year for the Atlantic migratory group is March 1 – end of February.

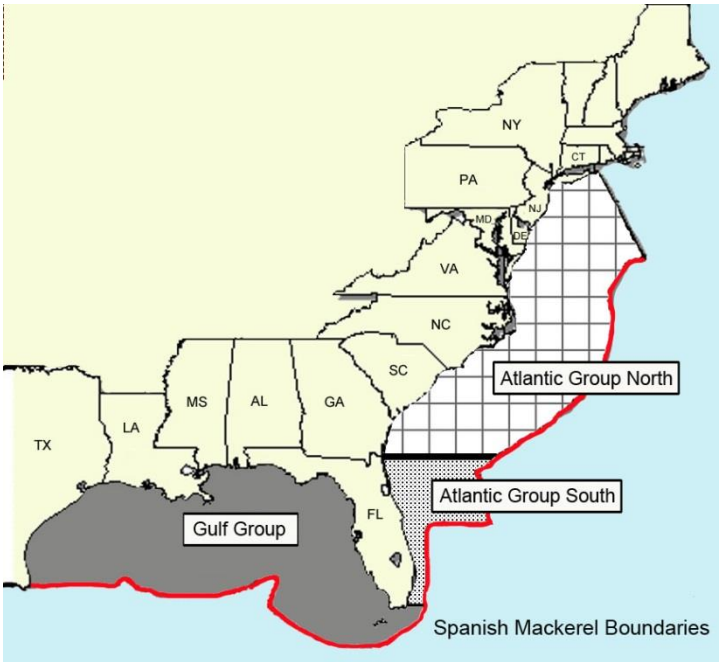

Figure 1.1.2. Fixed boundary between Atlantic and Gulf migratory groups of Spanish mackerel.

Cobia: Separate migratory groups of cobia were established in Amendment 18 to the CMP FMP (GMFMC and SAFMC 2011). The division between Gulf and Atlantic migratory groups was set at the Council jurisdictional boundary, off the Florida Keys. During the data workshop for SEDAR 28, participants determined the biological boundary between the Gulf and Atlantic migratory groups should be at the Florida/Georgia border. This decision was based on genetic and tagging data, and recommendations from the commercial and recreational working groups. They determined that a mixing zone occurs around Brevard County, Florida, and potentially to the north. Although they did not find enough resolution in the data to specifically identify a biological boundary, the Florida/Georgia line did not conflict with life history information and

would be easiest for management (SEDAR 28 2012). The northern boundary of the Atlantic migratory group is at the jurisdictional boundary between the Mid-Atlantic and New England Councils (Figure 1.1.3).

Because the biological boundary from the stock assessment differs from the management boundary, the acceptable biological catch (ABC) will need to be allocated for the east coast of Florida. Further, the assessment is expected to produce new recommendations for ABC, which would result in new ACLs and annual catch targets (ACTs) for cobia.

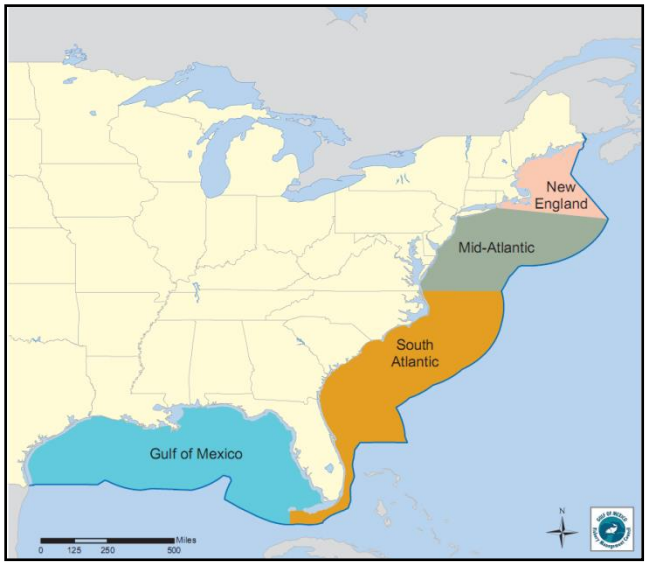

Figure 1.1.3. Jurisdictional boundaries of the Gulf of Mexico (blue), South Atlantic (orange), Mid-Atlantic (green), and New England (peach) Management Councils.

1.2 Purpose and Need

Purpose for Action

The purpose of this amendment is to determine if the current and proposed commercial trip limits other regulations are necessary and appropriate and provide the greatest benefit to the coastal migratory pelagic fishery.

Need for Action

The need for the proposed actions is to achieve optimum yield while ensuring regulations are fair and equitable and fishery resources are utilized efficiently.

1.3 History of Management

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

Amendment 1, with EIS, implemented in September of 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 remaining allocation provided to the Eastern Zone and 31% to the Western Zone.

Amendment 2, with environmental assessment (EA), implemented in July of 1987, recognized two migratory groups, established allocations of TAC for the commercial and recreational sectors, and set commercial quotas and recreational bag limits. **Amendment 5,** with EA, implemented in August 1990, made the following changes in the management regime:

- Extended the management area for Atlantic migratory groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- Provided that the South Atlantic Council will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf Council will be responsible for Gulf migratory groups;
- Continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western migratory groups can be determined;

Amendment 6, with EA, implemented in November of 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 is equally divided between commercial hook-and-line and net gear users.

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

- 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);
- Modified the seasonal framework adjustment measures and specifications (see Appendix A);
- Expanded the management area for cobia through the Mid-Atlantic Council's area of jurisdiction (to New York).

Amendment 9, with EA, implemented in April 2000, established a trip limit of 3,000 lb per vessel per trip for the Western Zone.

Amendment 18, with EA, implemented January 30, 2012, established annual catch limits and accountability measures for Gulf and Atlantic migratory groups for cobia, king mackerel, and Spanish mackerel. It also separated cobia into Atlantic and Gulf migratory groups.

CHAPTER 2. MANAGEMENT ALTERNATIVES

~~Modify Subzones and Allocation of Gulf Migratory Group Eastern Zone King Mackerel.~~

The Gulf Council voted to move this action to the Considered But Rejected Appendix

~~**Alternative 1:** No Action – Retain the existing Northern and Southern Subzones and retain the existing allocations for these areas.~~

~~**Alternative 2:** Eliminate the current Northern and Southern Subzones and add the assigned allocation to the combined eastern zone.~~

~~**Alternative 3:** Modify the Florida west coast subzones and reallocate quota~~

~~**Option a:** Retain the subzones but modify the boundary between the Northern and Southern Subzones to the Dixie/Levy County line and set allocation based on:~~

~~**Suboption i**. Reallocating x pounds from the Southern Subzone hook-and-line fishery to the Central Subzone.~~

~~**Suboption ii**. Reallocating 2% from the recreational sector allocation to the Central Subzone based on a temporary reallocation for the next 5 years. Monitor recreational catches annually and revert the 2% allocation back to the recreational sector if the recreational catch reaches 75%, 85%, or 90% of the recreational ACL.~~

~~**Option b:** Create a Central Subzone from the Collier/Lee County line to the Dixie/Levy County line with an allocation based on:~~

~~**Suboption i**. Reallocating x pounds from the Southern Subzone hook-and-line fishery to the Central Subzone.~~

~~**Suboption ii**. Reallocating 2% from the recreational sector allocation to the Central Subzone based on a temporary reallocation for the next 5 years. Monitor recreational catches annually and revert the 2% allocation back to the recreational sector if the recreational catch reaches 75%, 85%, or 90% of the recreational ACL.~~

~~**Option c:** Retain the subzones but increase the allocation to the Northern Subzone based on:~~

~~**Suboption i**. Reallocating x pounds from the Southern Subzone hook-and-line fishery to the Northern Subzone.~~

~~**Suboption ii**. Reallocating 2% from the recreational sector allocation to the Northern Subzone based on a temporary reallocation for the next 5 years. Monitor recreational catches annually and revert the 2% allocation back to the recreational sector if the recreational catch reaches 75%, 85%, or 90% of the recreational ACL.~~

2.1 Action 1 - Modify the Commercial Hook-and-Line Trip Limits for Gulf Migratory Group King Mackerel.

Alternative 1: No Action – Retain the existing commercial hook-and-line trip limits. **(Gulf AP Preferred)**

a. Western Zone at 3,000 pounds
b. Eastern Zone Northern Subzone at 1,250 pounds until 75% of the quota is taken, at which time the trip limit decreases to 500 pounds
c. Eastern Zone Southern Subzone at 1,250 pounds until 75% of the quota is taken, at which time the trip limit decreases to 500 pounds

~~**Alternative 2:** Set the commercial hook-and-line trip limit at 1,500 pounds with no reduction.~~
~~Option a: For the Western zone~~
~~Option b: For the Eastern Zone Northern Subzone~~
~~Option c: For the Eastern Zone Southern Subzone~~
Recommended for removal to the Considered but Rejected Appendix by the Gulf Council

~~**Alternative 3:** Set the commercial hook-and-line trip limit at 2,000 pounds with no reduction.~~
~~Option a: For the Western zone~~
~~Option b: For the Eastern Zone Northern Subzone~~
~~Option c: For the Eastern Zone Southern Subzone~~
Recommended for removal to the Considered but Rejected Appendix by the Gulf Council

Alternative 2: Set the commercial hook-and-line trip limit at 2,500 pounds with no reduction.
Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone

Alternative 3: Set the commercial hook-and-line trip limit at 3,000 pounds with no reduction. **(SA Mackerel AP Preferred)**
Gulf Preferred Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Gulf Preferred Option c: For the Eastern Zone Southern Subzone

Alternative 4: Set the commercial hook-and-line trip limit at 1,250 lbs with no reduction.
Option a: For the Western zone
Gulf Preferred Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone
The Gulf Council voted to add this alternative

The IPT requests the Councils consider removing options for the Western zone if no change is desired (currently there is no trip limit reduction for the Western zone; therefore Alternative 3a is the same as Alternative 1a, no action).

Discussion:

Western Zone

During the 1996/1997-2000/2001 fishing years, the Western Zone opened July 1 and closed consistently in August. At the Gulf Council's request, NMFS implemented a 3,000-lb trip limit for the Western Zone in 1999 to lengthen the fishing season. This action appears to have been partly successful in that the season has stayed open until at least September and usually until October or November, with the exception of the most recent year (2012/2013) when the zone closed in August (Table 2.1.1). However, the Western Zone is still usually closed for more than half of the fishing year. Maintaining the existing trip limit at 3,000 pounds will likely continue this closure pattern.

Table 2.1.1. Gulf Migratory Group King Mackerel Season Closure Dates. TLR=Trip limit reduction.

		00-01	**01-02**	**02-03**	**03-04**	**04-05**	**05-06**	**06-07**	**07-08**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**
Western Zone	Close	26-Aug	19-Nov	25-Oct	24-Sep	20-Oct	17-Nov	6-Oct	3-Nov	27-Mar	4-Sep	11-Feb	16-Sept	22-Aug
West Coast FL North	TLR	12-Nov	x	30-Nov	30-Oct	x	x	27-Nov	27-Dec	x	x	26-Oct	x	30-Aug
	Close	19-Nov	10-Nov	5-Dec	13-Nov	x	x	x	x	x	24-Oct	4-Apr	7-Oct	5-Oct
West Coast FL South	TLR	20-Feb	11-Mar	5-Mar	20-Mar	25-Feb	25-Feb	3-Mar	22-Mar	28-Feb	7-Feb	8-Mar	x	Open
	Close	2-Mar	23-Mar	x	9-Apr	x	12-Mar	10-Apr	x	x	15-Feb	23-Mar	26-Feb	Open

Note: The 10/11 fishing season was impacted by the Deepwater Horizon MC 252 oil spill.

Using catch rates from the 2005/2006 – 2011/2012 fishing seasons, landings with each proposed reduction of the trip limit were predicted (Appendix D). Each lowering of the trip limit would extend the season some amount, with **Alternative 4, Option a** providing the latest predicted closure date in February (Table 2.1.2). Lowering the trip limit may benefit fishers in that it could extend the fishing season by several months. It may also deter some of the transient fishing that has occurred in the past when vessels from the east coast of Florida, in particular, have traveled to the Western Zone and thereby increasing effort in this portion of the fishery. However, the economic return per trip versus the cost of the trip could decrease with a lower trip limit. In some cases, particularly when vessels must travel long distances to reach the fishing grounds, fishermen may not be able to recoup their costs with less fish.

Table 2.1.2. Predicted closure dates for king mackerel hook-and-line fishing in the Western Zone for the different proposed trip limits. The closure dates are based on landings rates from the 2011/2012 fishing season. **Alternative 1** and **Gulf Preferred Alternative 3** propose no change to the current trip limit of 3,000 pounds.

	Alt 1	Alt 2	Alt 3	Alt 4
Trip Limit	3,000 lbs ww	2,500 lbs ww	3,000 lbs ww	1,250 lbs ww
Closure Date	11-Sep*	26-Sep	11-Sep*	11-Feb

* Projected closure date is earlier than the 2011/2012 closure date of 16-Sep because landings exceeded the ACL.

Eastern Zone – Northern and Southern Subzones

The trip limits and trip limit reductions for the Northern and Southern Subzones of the Eastern Zone (**Alternative 1, Options b** and **c**) were intended to extend the fishing seasons. Particularly in the Southern Subzone, fishermen at times travel long distances to reach the fishing grounds. A trip limit of 1,250 lbs may not allow enough income on a trip to cover expenses. This problem is exasperated when the trip limit is reduced to 500 lbs, leading to requests for removing the trip limit reduction. Additionally, in some years king mackerel have been caught at such a high rate that NMFS could not implement the reduction to 500 lbs before the zone needed to be closed (Table 2.1.1).

Using catch rates from the 2005/2006 – 2011/2012 fishing seasons, landings with each proposed increase of the trip limit were predicted (Appendix D). Each increase of the trip limit would shorten the season some amount; however, the differences among **Alternatives 1-4** are minimal (Table 2.1.3). Therefore increasing the trip limit could benefit fishers in that the economic return per trip versus the cost of the trip could increase with a higher trip limit without substantially reducing the season.

Table 2.1.3. Predicted closure dates for king mackerel hook-and-line fishing in the Eastern Zone, Northern and Southern Subzones for the different proposed trip limits. The closure dates are based on landings rates from the 2011/2012 fishing season. TLR = trip limit reduction.

	Alt. 1	Alt. 2	Alt. 3	Alt 4
Trip Limit	1,250 lbs ww w/ TLR	2,500 lbs ww w/o TLR	3,000 lbs ww w/o TLR	1,250 lbs ww w/o TLR
Eastern Zone - Northern Subzone	1-Oct*	27-Sep	26-Sep	28-Sep
Eastern Zone - Southern Subzone	7-Mar**	14-Feb	9-Feb	21-Feb

* Projected closure date is earlier than the 2011/2012 closure date of 7-Oct because the ACL was exceeded.
**Projected closure date is laterer than the 2011/2012 closure date of 26-Feb because the trip limit reduction did not get implemented before the quota was met.

Having a single trip limit for the entire Gulf area, as with choosing the same options with in **Alternatives 2, 3,** or **4,** would simplify enforcement. The current situation is that vessels fishing off Alabama, Mississippi, Louisiana, and Texas can land 3,000 lbs, whereas vessels fishing off Florida can only land 1,250 lbs. However, fishermen in different areas may prefer lower trip

limits and longer seasons to higher trip limits and shorter seasons, so the Councils could set different trip limits for the three areas based on their choice of preferred alternatives and preferred options above.

Council Conclusions:

2.2 Action 2 - Change the Fishing Season for Gulf Group King Mackerel for the Eastern and Western Zone.

Alternative 1: No Action - the fishing season remains July 1 – June 30.

Gulf Preferred Alternative 2: Change the fishing season for Gulf group king mackerel season to September 1 – August 31. **(Gulf AP Preferred for Western Zone and Eastern Zone Southern Subzone)**

Option a: For the Western Zone
Option b: For the Eastern Zone

Alternative 3: Change the fishing season for Gulf group king mackerel season to October 1 – September 30.

Option a: For the Western Zone
Option b: For the Eastern Zone **(Gulf AP Preferred for Northern Subzone only)**

~~**Alternative 4:** Change the fishing season for Gulf group king mackerel season to November 1 – October 31.~~

~~Option a: For the Western Zone~~
~~Option b: For the Eastern Zone~~

Recommended for removal to the Considered but Rejected Appendix by the Gulf Council

Discussion: Some fishers have indicated in the past that a later opening would allow them to harvest king mackerel from the Western Zone more efficiently because fish are present in larger numbers and closer to shore in the main fishing areas off south Louisiana in the fall as opposed to the summer. They also claim that fish can be kept in better condition due to the cooler weather. A later opening, possibly combined with a lower trip limit, might also discourage movement of fishers from the Atlantic coast of Florida to Louisiana and into the Florida Panhandle as has been the case for several years. Such a change could extend the season.

Alternative 1 would continue the current situation, where the Western Zone and the Northern Subzone generally close in the fall. For the Western Zone, the closures come right when the most and largest fish are in the area. However, the Western Zone quota is met each year generally within three to four months of the July 1 opening (Table 2.1.1); an opening during a time when more fish are available may result in a shorter fishing season if fishermen are not currently landing the maximum trip limit.

Gulf Preferred Alternative 2 and **Alternative 3** would move the opening of the fishing year into the fall. However, if the season starts too late in the fall, fish may migrate south earlier in some years and may not be available. Also, weather conditions may make fishing more difficult and less safe if the season extends into winter months.

ACLs for both the recreational and commercial sectors are tracked by the commercial fishing season. Recreational data is available by two-month waves, starting with January. An October opening (**Alternative 3**) would complicate monitoring of the recreational ACL because the opening would fall in the middle of a wave.

Table 2.2.1. Gulf of Mexico king mackerel landings by region and month. Landings (pounds whole weight) were calculated for the two zones *by county landed*: E Gulf (Monroe* - Escambia) and W Gulf (AL, MS, LA, TX) for the most recent fishing seasons.

Region	Fishing Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
E Gulf	2004-2005	27,617	8,200	4,344	26,386	46,625	43,382	155,204	295,371	92,601	8,330	12,078	5,859	725,997
	2005-2006	6,425	4,181	2,718	7,493	12,317	149,942	187,852	257,988	95,259	51,614	17,278	10,316	803,383
	2006-2007	18,755	11,473	7,748	44,859	71,236	55,780	180,168	199,732	136,223	12,093	6,743	13,761	758,571
	2007-2008	18,739	9,275	1,964	20,960	93,544	104,029	113,629	160,615	199,784	26,558	4,784	14,610	768,491
	2008-2009	16,493	2,726	14,117	48,754	77,729	141,248	263,300	253,174	27,745	17,542	26,322	24,747	913,897
	2009-2010	48,119	16,432	72,229	153,119	5,687	53,231	338,919	137,854	4,022	94,366	237	1,474	925,689
	2010-2011	16,910	17,482	44,204	121,627	23,367	17,533	180,111	295,612	144,604	2,850	119	7	864,426
W Gulf	2004-2005	501,571	244,049	79,459	175,347	0	0	30	32	0	83	0	235	1,000,806
	2005-2006	312,526	294,042	67,222	136,637	127,032	0	9	0	0	0	148	10,941	948,557
	2006-2007	358,757	346,873	249,701	61,047	0	0	0	0	0	0	0	361	1,016,739
	2007-2008	420,772	278,557	105,853	163,046	23,947	0	0	0	0	0	0	451	992,626
	2008-2009	267,623	171,136	64,587	197,220	166,728	3,671	6,507	12,196	21,692	0	202	170	911,732
	2009-2010	530,290	373,595	134,551	1,251	23	0	0	0	35	0	0	0	1,039,745
	2010-2011	58,129	101,710	42,499	222,334	329,332	71,245	119,994	24,718	0	93	0	0	970,054

*Monroe County is only part of the Eastern Zone from November to March
Source: Accumulated Landings System datafile (7/12/2012)

Table 2.2.2. Gulf of Mexico king mackerel landings by region and month. Landings (pounds whole weight) were calculated for the two zones *by reported area fished*: E Gulf (areas 10-109* and 7480-7489**) and W Gulf (areas 110-219) for the most recent fishing seasons.

Region	Fishing Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Total
E Gulf	2004-2005	31,020	7,033	2,899	24,675	46,582	43,060	155,665	295,691	94,578	2,495	12,016	5,968	721,682
	2005-2006	8,929	9,211	2,590	6,936	11,658	150,750	187,567	255,920	93,783	50,919	17,367	11,212	806,842
	2006-2007	30,486	23,942	19,816	47,019	71,853	52,571	179,993	203,665	140,346	4,028	6,734	13,639	794,092
	2007-2008	42,750	25,148	4,720	21,588	93,690	104,464	114,036	161,206	199,267	8,050	4,738	14,484	794,141
	2008-2009	36,062	9,681	17,317	52,214	77,064	143,157	262,543	251,519	27,161	3,784	26,409	24,732	931,643
	2009-2010	79,614	38,043	75,634	154,229	5,270	52,430	352,255	139,206	2,298	47,289	237	1,474	947,979
	2010-2011	16,910	17,482	44,666	130,934	43,267	21,957	180,720	300,595	147,914	1,443	56	7	905,951
W Gulf	2004-2005	498,168	245,216	80,837	176,991	0	0	30	32	0	225	0	126	1,001,625
	2005-2006	310,022	288,998	67,350	137,194	127,569	0	9	0	0	0	44	145	931,331
	2006-2007	346,962	334,388	237,633	58,887	37	6	0	0	0	0	9	476	978,398
	2007-2008	396,750	262,641	103,089	162,418	24,046	96	0	0	5	0	46	568	949,659
	2008-2009	248,054	164,181	61,387	190,933	166,606	3,704	6,507	12,196	21,750	0	115	185	875,618
	2009-2010	498,792	351,984	131,146	29	23	0	0	0	35	0	0	0	982,009
	2010-2011	58,129	101,710	42,037	210,240	300,313	49,141	105,367	24,718	0	93	0	0	891,748

* Area 109 includes the eastern coast of Alabama
**Areas 10-39 and 7480-7489 are only part of the Eastern Zone from November to March
Source: Accumulated Landings System datafile (7/12/2012)

Council Conclusions:

2.3 Action 3 – Establish a Transit Provision for Travel through Areas that are Closed to King Mackerel Fishing.

Alternative 1: No Action – do not establish a transit provision.

Alternative 2: Establish a provision allowing transit through the Florida west coast Northern and Southern Subzones when those zones are closed for vessels possessing Atlantic group king mackerel that were legally harvested in the EEZ off Monroe County.

South Atlantic Preferred **Alternative 3:** Establish a provision allowing transit through Collier County when the Eastern Zone, Southern Subzone is closed for vessels possessing Atlantic group king mackerel that were legally harvested in the EEZ off Monroe County only from April 1 – June 30.

Gulf Preferred **Alternative 4:** Establish a provision allowing transit through areas closed to king mackerel fishing for vessels possessing king mackerel that were legally harvested in the EEZ off areas open to king mackerel fishing. **(SA Mackerel AP Preferred) (Gulf AP Preferred, but only for vessels with VMS)**

Alternative 5: Establish a provision allowing transit through the Eastern Zone, Northern Subzone when that area is closed for vessels possessing king mackerel that were legally harvested in the EEZ off Collier County.

Note: For Alternatives 2-5, the following conditions apply:
Only for vessels in direct and continuous transit and with gear stowed
Only for fishermen holding a federal commercial king mackerel permit

Discussion: Current regulations prohibit fishing for or retaining king mackerel in or from a closed zone. Therefore, **Alternative 1** would not allow transit through any closed area even if the fish were harvested from an open area, because retention of king mackerel in a closed area is prohibited. Fishermen must either forgo fishing opportunities or expend extra time and fuel to land fish in an open zone.

Often the Eastern Zone, Southern Subzone, comprised of Collier and Monroe Counties, closes in early spring (see Table 2.1.1). Beginning April 1 of each year, Monroe County is considered to contain Atlantic migratory group king mackerel and the Southern Subzone is comprised of only Collier County. Some fishermen fish in the northern portion of Monroe County, which is a sparsely populated area. To land those fish they must travel to the Florida Keys where dealers in Monroe County are located. This trip could be up to 100 miles. **Alternative 2** would allow fishermen who legally harvest king mackerel from Monroe County after April 1 of each year to transport and land their catch in other areas of the Gulf that are closed to king mackerel fishing.

South Atlantic Preferred **Alternative 3** would do the same as **Alternative 2**, but only allow landing in Collier County. The Florida Fish and Wildlife Conservation Commission recently changed their regulations to allow transit under these circumstances through Collier County. This alternative would reduce the potential for abuse and ease the enforcement burden.

Gulf Preferred Alternative 4 would allow transit through any closed area in the Gulf or South Atlantic. Many fishermen live and work near a boundary between two zones, and may wish to fish in one zone but land in another. When the landing zone is closed, those fishermen are forced to land away from their homeport. **Gulf Preferred Alternative 4** would give them an option to transit the closed zone and land closer to home.

This situation is particularly problematic for fishermen who might fish in Collier County but have their homeport in Lee County. The Northern Subzone usually closes before the Southern Subzone, so transit into the Northern Subzone is not allowed. **Alternative 5** would allow transit through Lee County when the Northern Subzone is closed.

Alternatives 2-5 would reduce the economic burden on fishermen by allowing them to return to their homeport after fishing. These alternatives would also promote safety at sea by reducing travel time.

Transit under **Alternatives 2-5** would be allowed for vessels traveling through the closed area with fishing gear appropriately stowed. The term "transit" is defined as on a direct and continuous course through a closed area. The term "appropriately stowed" means:

1) A gillnet must be left on the drum. Any additional gillnets not attached to the drum must be stowed below deck.
2) All rods and reels must be removed from rod holders and stowed securely on or below deck. Terminal gear (i.e., hook, leader, sinker, flasher, or bait) must be disconnected and stowed separately from the rod and reel. Sinkers must be disconnected from down riggers and stowed separately.

Council Conclusions:

2.4 Action 4 – Establish State ACLs for Atlantic Migratory Group King Mackerel and Spanish Mackerel for North Carolina.

Alternative 1: No Action - retain one commercial ACL each for Atlantic migratory groups of king mackerel and Spanish mackerel

Alternative 2: Establish a separate commercial ACL of Atlantic group king mackerel for North Carolina based on:

Option a- the average of the proportion of landings in North Carolina from 2007-08 through 2011-12.

Option b- the average of the proportion of landings in North Carolina from 2002-03 through 2011-2012.

Option c- 50% based on the proportion of landings in North Carolina 2002-03 through 2011-2012 and 50% based on the proportion of landings in North Carolina 2007-08 through 2011-12 (Boyles Law).

Option d- the average of the proportion of landings in North Carolina from 1997-98 through 2011-12. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

Alternative 3: Establish a separate commercial ACL of Atlantic group Spanish mackerel for North Carolina based on:

Option a- the average of the proportion of landings in North Carolina from 2007-08 through 2011-12.

Option b- the average of the proportion of landings in North Carolina from 2002-03 through 2011-2012.

Option c- 50% based on the proportion of landings in North Carolina 2002-03 through 2011-2012 and 50% based on the proportion of landings in North Carolina 2007-08 through 2011-12 (Boyles Law).

Option d- the average of the proportion of landings in North Carolina from 1997-98 through 2011-12. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

Alternative 4: Allow for transfer of quota between the General Atlantic Group king mackerel and Spanish mackerel ACLs and the North Carolina king mackerel and Spanish mackerel ACLs. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

Discussion: The South Atlantic Council is concerned that the commercial ACLs will be filled by fishermen in one state before fish are available to fishermen in other states (particularly North Carolina). This becomes more probable as the ACLs are lowered. Allocating by region would be similar to how commercial quotas are managed in the Mid-Atlantic and New England areas for some species. Fishermen and some state representatives have expressed a desire to move in this direction. North Carolina currently monitors quotas and reports catches to ACCSP and to NMFS, including state-by-state quotas of some Mid-Atlantic species.

Alternative 1 would not allocate any portion of the Atlantic migratory group king mackerel or Spanish mackerel commercial ACLs to North Carolina. **Alternative 2** would allocate a portion of the commercial ACL for Atlantic migratory group king mackerel to North Carolina based on a percentage of historic landings in North Carolina, with different time periods under **Options a-d**. If a portion of the king mackerel or Spanish mackerel commercial ACL is allocated to North Carolina (**Alternatives 2** and **3**), the North Carolina ACL would be tracked through dealer reports of fish landed in North Carolina. The North Carolina Division of Marine Fisheries would monitor landings and close sales of king mackerel and/or Spanish mackerel in North Carolina when the quota is met. Table 2.4.1 shows the expected percentage of the Atlantic group king mackerel commercial ACL that would be allocated to North Carolina and to the general mackerel commercial ACL for all other states.

Table 2.4.1. Expected portion of Atlantic group king mackerel ACL that would be allocated to North Carolina under each option**.**

	North Carolina KM Commercial Allocation		**General Atlantic Group KM Commercial Allocation**	
	% of Quota	Lbs under Current ACL	% of Quota	Lbs under Current ACL
Option a NC proportion of total landings 2007/08-2011/12	24.8%	920,080	75.2%	2,789,920
Option b NC proportion of total landings 2002/03-2011/12	33.2%	1,231,720	66.8%	2,478,280
Option c Boyles Law (a+b)/2	29.0%	1,075,900	71.0%	2,634,100
Option d NC proportion of total landings 1997/98-2011/12	37.2%	1,443,360	62.8%	2,436,644

Alternative 3 would allocate a portion of the commercial ACL for Atlantic migratory group Spanish mackerel to North Carolina based on a percentage of historic landings in North Carolina, with different time periods under **Options a-d**. **Table 2.4.2** shows the expected percentage of the Atlantic group Spanish mackerel commercial ACL that would be allocated to North Carolina and to the general Spanish mackerel commercial ACL for all other states.

Table 2.4.2. Expected portion of Atlantic group Spanish mackerel ACL that would be allocated to North Carolina under each option**.**

	North Carolina SM Commercial Allocation		**General Atlantic Group SM Commercial Allocation**	
	% of Quota	Lbs under Current ACL	% of Quota	Lbs under Current ACL
Option a NC proportion of total landings 2007/08-2011/12	18.7%	677,323	81.3%	2,942,677
Option b NC proportion of total landings 2002/03-2011/12	16.7%	604,880	83.3%	3,015,120
Option c Boyles Law (a+b)/2	17.7%	641,101	82.3%	2,978,899
Option d NC proportion of total landings 1997/98-2011/12	18.2%	569,660	81.8%	2,560,340

* Data request for earlier years in progress.

Alternative 4 would allow for quota to be transferred between North Carolina and the general Atlantic group ACLs, similar to quota transfers between states for Mid-Atlantic summer flounder. The provision would provide a way for unused quota to be moved into or out of the North Carolina allocation so that the total commercial ACL could be met.

Council Conclusions:

2.5 Action 5 - Modify the Framework Procedure.

Alternative 1: No Action – Do not modify the framework procedure adopted through Amendment 18.

South Atlantic Preferred/Gulf Preferred Alternative 2: Modify the framework procedure to include changes to ABCs, ABC/ACL control rules and, accountability measures (AMs) under the standard documentation process for open framework actions. Accountability measures that could be changed would include: **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

Inseason AMs

- Closures and closure procedures
- Trip limit reductions or increases
- Designation of an IFQ program as the AM for species in the IFQ program
- Implementation of gear restrictions

Postseason AMs

- Adjustment of season length
- Implementation of a closed season
- Adjustment or implementation of bag, trip, or possession limit
- Reduction of the ACL to account for the previous year overage
- Revoking a scheduled increase in the ACL if the ACL was exceeded in the previous year
- Implementation of gear restrictions
- Reporting and monitoring requirements

Alternative 3: Modify the framework procedure to include changes to accountability measures (AMs) under the standard documentation process for open framework actions. Accountability measures that could be changed would include:

Inseason AMs

- Closure procedures
- Trip limit reductions or increases

Postseason AMs

- Adjustment of season length
- Adjustment of bag, trip, or possession limit

South Atlantic Preferred/Gulf Preferred Alternative 4: Modify the framework procedure to include designation of responsibility to each Council for setting regulations for the migratory groups of each species. **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

This pertains to:
Responsibilities of Each Council:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:
    a. The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for (1) the Eastern Zone - East Coast Subzone for Gulf migratory group king mackerel and (2) the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.
2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that zone is located.
3. Both councils must concur on recommendations that affect both migratory groups.

South Atlantic Preferred/Gulf Preferred Alternative 5. Make editorial changes to the framework procedure to reflect changes to the names of the Council advisory committees and panels. **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

Discussion: The Councils currently have three different regulatory vehicles for addressing fishery management issues. First, they may develop a fishery management plan or plan amendment to establish management measures. The amendment process can take one to three years depending on the analysis needed to support the amendment actions. Second, the Councils may vote to request an interim or emergency rule that could remain effective for 180 days with the option to extend it for an additional 186 days. Interim and emergency rules are only meant as short-term management tools while permanent regulations are developed through an amendment. Third, the Councils may prepare a framework action based on a predetermined procedure that allows changes to specific management measures and parameters. Typically, framework actions take less than a year to implement, and, like plan amendments, are effective until amended. The current framework procedure was implemented through Amendment 18 (GMFMC and SAFMC 2011). The section below highlights the changes proposed in the alternatives to this action.

Proposed Language for Updated Framework Procedure
(Proposed changes are highlighted)

This framework procedure provides standardized procedures for implementing management changes pursuant to the provisions of the Coastal Migratory Pelagic Fishery Management Plan (FMP) managed jointly between the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils). Two basic processes are included: the open framework process and the closed framework process. The open framework addresses issues where more policy discretion

exists in selecting among various management options developed to address an identified management issue, such as changing a size limit to reduce harvest. The closed framework addresses much more specific factual circumstances, where the FMP and implementing regulations identify specific action to be taken in the event of specific facts occurring, such as closing a sector of a fishery when the quota is or is projected to be harvested.

Open Framework:

1. Situations under which this framework procedure may be used to implement management changes include the following:
    a. A new stock assessment resulting in changes to the overfishing limit, acceptable biological catch, or other associated management parameters. In such instances the Councils may, as part of a proposed framework action, propose an annual catch limit (ACL) or series of ACLs and optionally an annual catch target (ACT) or series of ACTs, as well as any corresponding adjustments to MSY, OY, and related management parameters.
    b. New information or circumstances. The Councils will, as part of a proposed framework action, identify the new information and provide rationale as to why this new information indicates that management measures should be changed.
    c. Changes are required to comply with applicable law such as the Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, or are required as a result of a court order. In such instances the Regional Administrator (RA) will notify the Councils in writing of the issue and that action is required. If there is a legal deadline for taking action, the deadline will be included in the notification.

2. Open framework actions may be implemented in either of two ways: abbreviated documentation or standard documentation process.
    a. Abbreviated documentation process: Regulatory changes that may be categorized as a routine or insignificant may be proposed in the form of a letter or memo from the Councils to the RA containing the proposed action, and the relevant biological, social and economic information to support the action. Either Council may initiate the letter or memo, but both Councils must approve it. If multiple actions are proposed, a finding that the actions are also routine or insignificant must also be included. If the RA concurs with the determination and approves the proposed action, the action will be implemented through publication of appropriate notification in the Federal Register. Changes that may be viewed as routine or insignificant include, among others:
        i. Reporting and monitoring requirements;
        ii. Permitting requirements;
        iii. Gear marking requirements;
        iv. Vessel marking requirements;
        v. Restrictions relating to maintaining fish in a specific condition (whole condition, filleting, use as bait, etc.);
        vi. Bag and possession limit changes of not more than one fish;
        vii. Size limit changes of not more than 10% of the prior size limit;
        viii. Vessel trip limit changes of not more than 10% of the prior trip limit;

ix. Closed seasons of not more than 10% of the overall open fishing season,
x. Species complex composition;
xi. Restricted areas (seasonal or year-round) affecting no more than a total of 100 nautical square miles;
xii. Re-specification of ACL, ACT or quotas that had been previously approved as part of a series of ACLs, ACTs or quotas;
xiii. Specification of MSY proxy, OY, and associated management parameters (such as overfished and overfishing definitions) where new values are calculated based on previously approved specifications;
xiv. Gear restrictions, except those that result significant changes in the fishery, such as complete prohibitions on gear types;
xv. Quota changes of not more than 10%, or retention of portion of an annual quota in anticipation of future regulatory changes during the same fishing year.

b. Standard documentation process: Regulatory changes that do not qualify as a routine or insignificant may be proposed in the form of a framework document with supporting analyses. Non-routine or significant actions that may be implemented under a framework action include:
   i. Specification of ACTs or sector ACTs;
   ii. Specification of ABC and ABC/ACL control rules;
   iii. Rebuilding plans and revisions to approved rebuilding plans;
   iv. The addition of new species to existing limited access privilege programs (LAPP);
   v. Changes specified in section 2(a) that exceed the established thresholds;
   vi. Changes to accountability measures (AMs) including:
      Inseason AMs
      1. Closures and closure procedures
      2. Trip limit reductions or increases
      3. Designation of an existing IFQ program as the AM for species in the IFQ program
      4. Implementation of gear restrictions
      Postseason AMs
      5. Adjustment of season length
      6. Implementation of closed seasons/time periods
      7. Adjustment or implementation of bag, trip, or possession limit
      8. Reduction of the ACL/ACT to account for the previous year overage
      9. Revoking a scheduled increase in the ACL/ACT if the ACL was exceeded in the previous year
      10. Implementation of gear restrictions
      11. Reporting and monitoring requirements

3. Either Council may initiate the open framework process to inform the public of the issues and develop potential alternatives to address those issues. The framework process will include the development of documentation and public discussion during at least one meeting for each Council.

4. Prior to taking final action on the proposed framework action, each Council may convene their advisory committees and panels, as appropriate, to provide recommendations on the proposed actions.

5. For all framework actions, the initiating Council will provide the letter, memo, or completed framework document along with proposed regulations to the RA in a timely manner following final action by both Councils.

6. For all framework action requests, the RA will review the Councils' recommendations and supporting information and notify the Councils of the determinations, in accordance with the Magnuson-Stevens Act (Section 304) and other applicable law.

Closed Framework:
Consistent with existing requirements in the FMP and implementing regulations, the RA is authorized to conduct the following framework actions through appropriate notification in the Federal Register:

1. Close or adjust harvest any sector of the fishery for a species, sub-species, or species group that has a quota or sub-quota at such time as projected to be necessary to prevent the sector from exceeding its sector-quota for the remainder of the fishing year or sub-quota season;
2. Reopen any sector of the fishery that had been prematurely closed;
3. Implement an in-season AM for a sector that has reached or is projected to reach, or is approaching or is projected to approach its ACL, or implement a post-season AM for a sector that exceeded its ACL in the current year.

Responsibilities of Each Council:

1. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:
   The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for:
   a. The Eastern Zone - East Coast Subzone for Gulf migratory group king mackerel
   b. The east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.

2. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that zone is located.

3. Both councils must concur on recommendations that affect both migratory groups.

Alternative 1 would retain the current CMP framework procedure without any changes. This framework procedure provides the Councils and NMFS the flexibility to respond quickly to changes in the CMP fishery. The framework has both open and closed components. The open components provide more policy discretion, whereas the closed components address more specific, factual circumstances. Measures that can be changed under the procedure are identified, as well as the appropriate process needed for each type of change.

South Atlantic/Gulf Preferred Alternative 2 would allow changes to management measures under the standard documentation process of the open framework procedure, including AMs (see highlighted portion of section 2b of the framework). **South Atlantic/Gulf Preferred Alternative 2** includes a comprehensive list of the specific AMs that could be changed through the process, and includes all AMs currently in place. Other items would also be added to the framework procedure to be consistent with the frameworks of other FMPs. These items include the acceptable biological catch (ABC) and the ABC and ACL control rules. Adding these items would expedite changes needed after a new stock assessment. **Alternative 3** would limit the management measures and types of AMs that could be changed through a framework action. Table 2.5.1 lists the types of AMs that would be included under these alternatives, and an example of a change to an AM that would be possible through the framework.

It is important to note that some items included in **South Atlantic/Gulf Preferred Alternative 2** and **Alternative 3** are currently listed under the abbreviated process of the open framework procedure as management measures. Although similar, AMs differ from management measures in that they are tied in some way to the ACL. For example, through the abbreviated process, the Councils and NMFS may implement closed seasons of not more than 10% of the overall open fishing season. The reason for the closed season may be to protect spawning populations or to extend a fishing season later into the year. This is a management measure and would remain in effect until changed through another framework action. On the other hand, **South Atlantic/Gulf Preferred Alternative 2** would allow the Councils and NMFS to implement a measure through the standard process whereby the Regional Administrator has the authority to set a closed season in the year following a year in which the ACL is exceeded. In this case, the reason for the closed season is to prevent another overage of the ACL. This is an AM and the closed season would only be in effect temporarily. Therefore, the current framework allows changes to management measures, but the proposed alternatives would allow changes to AMs, including adding new AMs to the existing suite.

Table 2.5.1. Examples of proposed AMs that could be changed through a framework action, rather than a plan amendment.

AM type	Example
In-season	
Closure	Create an in-season closure when the ACL/ACT is reached or projected to be reached
Trip limit change	Implement or reduce a trip limit when landings reach 75% of the quota
LAPP	Allow an IFQ program to act as the commercial AM, and remove other AMs (as was done for grouper and tilefish)
Gear restrictions	Prohibit longlines when landings reach 75% of the quota
Post-season AMs	**In a year following a year with an overage of the ACL/ACT:**
Season length	Reduce the length of the season by the amount needed to prevent another overage
Closed season/time period	Prohibit fishing during a two-month closed season (as was done for greater amberjack) Prohibit fishing on weekends
Bag/trip/possession limit	Reduce the bag limit by the amount needed to prevent another overage
Reduction of ACL/ACT	Subtract the amount of the overage
Revoke an ACL/ACT increase	Freeze the ACL/ACT at the current level until overages cease
Gear restrictions	Prohibit use of longline gear shoreward of the 20 fathom contour
Reporting and monitoring	Require daily instead of weekly reporting to better track the ACL/ACT

A section outlining each Council's responsibilities was in the previous CMP framework, but was inadvertently omitted when the new framework was developed in Amendment 18 (GMFMC and SAFMC 2011). **South Atlantic/Gulf Preferred Alternative 4** would reinstate that language in addition to expanding the responsibilities to include those for Spanish mackerel and cobia. Section 1 (highlighted in the framework above) allows each Council to set regulations for the respective migratory groups of each species. An exception is included for Florida East Coast zones of king mackerel and cobia, which are considered to contain Gulf migratory group fish, but are located within the South Atlantic Council's jurisdiction. Section 2 (highlighted in the framework above) allows similar exceptions if future stock assessments set biological boundaries different from management boundaries. Section 3 (highlighted in the framework above) ensures both Councils are involved when actions would affect fish in both areas. The Councils could choose this alternative in addition to either **South Atlantic/Gulf Preferred Alternative 2** or **Alternative 3**.

South Atlantic/Gulf Preferred Alternative 5 would fix language in the framework that refers to the Socioeconomic Panel (SEP), which no longer exists under that name due to reorganization of the Scientific and Statistical Committee (SSC). The more general proposed language would

accommodate future changes (see highlighted portion of section 4 of the framework). The Councils could choose this alternative in addition to any of the other alternatives.

No direct physical, biological, or ecological effects would be expected from modifications of the framework procedure. However, if modifications increase the ease with which regulations can be implemented as needed, long-term biological benefits would increase, such as increased stock size. Framework changes may also result in a faster implementation of measures beneficial to fishery participants. Indirect positive economic effects are expected to result from these potential benefits to the stocks and/or to fishery participants. Further, timeliness in the regulatory process removes uncertainty with regard to changes in management while protecting the stock.

Council Conclusions:

2.6 Action 6. Modify the Gulf and Atlantic Migratory Group Cobia Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs).

Alternative 1: No Action. The entire Gulf migratory group cobia ACL applies to the Gulf Council jurisdictional area and the entire South Atlantic migratory group cobia ACL applies to the South Atlantic jurisdictional area. The ACLs and ACTs that were established by Amendment 18 are as follows:

Gulf	South Atlantic
ACL = 1,460,000 lbs	ACL = OY = 1,571,399 lb Commercial ACL (8% ACL) = 125,712 lb Recreational ACL (92% ACL) = 1,445,687 lb
Stock ACT = 1,310,000 lbs	Recreational ACT = 1,184,688 lb

Alternative 2: The ACL = ABC as determined by the SSCs for each migratory group. The entire Gulf migratory group cobia ACL applies to the Gulf Council jurisdictional area and the entire South Atlantic migratory group cobia ACL applies to the South Atlantic jurisdictional area. The ACLs and ACTs would be as follows:

Gulf Migratory Group	South Atlantic Migratory Group
(See Table 2.6.1 for values)	
ACL = ABC = x lbs	ACL = ABC = OY = x lb Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb
Stock ACT = 90%ACL = x lbs	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb

Alternative 3: The ACL for each jurisdictional area would be determined as follows:

- The Gulf migratory group cobia ~~ACL (based on the~~ ABC (as determined by the SSC) would be divided into a Gulf ~~jurisdictional~~ Zone ACL and a~~n~~ ~~east coast of~~ Florida East Coast Zone ACL (FL/GA border to Council jurisdictional boundary) based on the options below.
  Option a: Use ~~2002~~2003-2012 (10 years) landings to establish the percentage split for the Gulf ABC.
  Option b: Use 2008-2012 (5 years) landings to establish the percentage split for the Gulf ABC.
  Option c: Use Boyles law: 50% of landings from ~~2002~~2003-2012 + 50% of landings from 2008-2012 to establish the percentage split for the Gulf ABC.
  Option d: Use 1998-2012 (15 years) landings to establish the percentage split for the Gulf ABC. (SA Mackerel AP Preferred)
  Option e: Based on yellowtail: 50% of average landings from 1993-2008 + 50% of average landings from 2006-2008 to establish the percentage split for the Gulf ABC.
  Option f: Based on mutton: 50% of average landings from 1990-2008 + 50% of average landings from 2006-2008 to establish the percentage split for the Gulf ABC.

- The South Atlantic ~~jurisdictional area~~ ACL would ~~be~~ equal to the ~~ACL~~ ABC for the Atlantic migratory group cobia ~~(based on the ABC~~ (as determined by the SSC). ~~plus the portion of the Gulf migratory group ACL for the east coast of Florida.~~

- Management measures set by the South Atlantic Council for the South Atlantic migratory group would also apply to the Gulf migratory group Florida East Coast Zone.

The ACLs and ACTs would be as follows:

Gulf Migratory Group		South Atlantic Migratory Group
(see Table 2.6.3 for values for each option)		
Gulf Zone	FL East Coast Zone	
~~ACL = x lbs~~ACL = x%ABC = x lbs	ACL = x%ABC = x lbs Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb	ACL = ABC = OY = x lb Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb
Stock ACT = 90%ACL = x lbs	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb

Discussion: Amendment 18 (GMFMC/SAFMC 2011) established ABC control rules for Gulf and Atlantic migratory groups of cobia. Section 600.310(b)(B) of the National Standard 1 guidelines state that "each SSC shall provide its Regional Fishery Management Council recommendations for ABC as well as other scientific advice, as described in Magnuson-Stevens Act section 302(g)(1)(B)." The Councils' SSCs recommended the previous ABCs for the both migratory groups of cobia based on the Gulf Council's control rule for stocks for which landings

data exist and expert opinion indicates that landings are a small portion of the stock biomass (Tier 3a).

In Amendment 18 (GMFMC/SAFMC 2011), the Councils established the ABCs and ACLs for the separate migratory groups of cobia using the Council boundary in Monroe County. However, the determination in SEDAR 28 was that the biological boundary should be at the Florida/Georgia line. The stock assessment results define Georgia north through the Mid-Atlantic area for the Atlantic migratory group, and the entire east coast of Florida through Texas for the Gulf migratory group. To adjust for this difference between the Councils' jurisdictional areas and the areas used by the stock assessment, the portion of the Gulf migratory group ACL attributable to the east coast of Florida and Atlantic side of the Florida Keys (i.e., the area within the South Atlantic Council's jurisdiction) would need to be reassigned to the South Atlantic Council. Action 6 adjusts the framework to allow the South Atlantic Council to create regulations for this area, even though the stock assessment considers those fish part of the Gulf migratory group, similar to how the East Coast Subzone for king mackerel is managed.

ACLs and ACTs for Gulf and Atlantic migratory groups of cobia were also designated in Amendment 18 (GMFMC/SAFMC 2011). These harvest limits and targets would remain in effect with **Alternative 1** for this action, and they would not be updated according to the SSC's new ABC recommendation based on the 2012 stock assessment (SEDAR 28). The actions in Amendment 18 actually provided definitions for these levels, creating *de facto* control rules for their establishment. For both migratory groups, ACL was defined as equal to ABC. For the Atlantic migratory group, sector ACLs were defined as the ACL times the sector allocation, and the recreational ACT was defined as the ACL times [(1-PSE) or 0.5, whichever is greater]. For the Gulf migratory group, the stock ACT was defined as 90% of the ACL. Thus the numerical values associated with the ACLs and ACTs are dependent on the ABC. Therefore a change in the ABC should result in a change in the ACLs and ACTs. By keeping the numerical values currently specified, the Council would be changing the intent of the ACL and ACT definitions, and removing associations with ABC.

Alternatives 2 and **3** for this action would maintain the definitions established in Amendment 18 (GMFMC/SAFMC 2011). When the SSC recommends an ABC for a species, they systematically take into account uncertainty, which establishes a buffer between the ABC and OFL. With those factors built into the primary harvest limit from which the other limits are tiered, the risk of overfishing is significantly reduced regardless of how close the ACL and OY are set to the ABC. For Gulf migratory group cobia the ABC is 7% of the OFL, but for Atlantic migratory group cobia an OFL was not established. Amendment 18 set the cobia ACLs equal to the ABCs, with no buffers, because: 1) There was no indication either stock was overfished or undergoing overfishing; 2) AMs implemented through Amendment 18 are in place to correct for any ACL overages should they occur.

The SEDAR 28 stock assessment for South Atlantic migratory group cobia (2013c) determined that the stock is not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.26) were: $F_{Current}$/MFMT = 0.599; $SSB_{Current}$/MSST = 1.75.

The Gulf Council's review (GMFMC 2013a) of the SEDAR 28 stock assessment of Gulf of Mexico cobia (2013a) determined that the stock was not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.38, steepness = 0.8) were: $F_{Current}$/MFMT = 0.659; $SSB_{Current}$/MSST = 1.739.

After reviewing the SEDAR 28 stock assessments, the Gulf and South Atlantic SSCs recommended new ABCs to their respective Councils. Please see tables in Alternatives 2 and 3 for more information.

Alternative 2 would apply all of the ABC for the cobia Gulf migratory group to the Gulf jurisdictional area; however, the ABC is based on landings that include the east coast of Florida. Thus, the Gulf would be "credited" with landings that were actually from the South Atlantic jurisdictional area. Conversely, the South Atlantic would lose the amount of the landings on the Florida east coast, but that area would still be within the South Atlantic management area. The result would be an ACL for the South Atlantic that is lowered by the amount of east coast landings, but in the future Florida east coast landings of cobia would still count against the South Atlantic ACL.

Table 2.6.1. ACLs and ACTs for Atlantic and Gulf migratory group cobia (as recommended by the Council SSCs, based on results from SEDAR 28) for each option in Alternative **2**.

Year	**SA Migratory Group ABC**	**SA Zone ACL**		**SA Zone ACT**	**Gulf Migratory Group ABC**	**Gulf Zone ACL**	**Gulf Zone ACT**
		Commercial	Recreational	Recreational		Stock	Stock
2014					2.46	2.46	2.21
2015					2.52	2.52	2.27
2016					2.60	2.60	2.34

Alternative 3 compensates for the difference in the biological boundary and the management boundary by creating a Florida East Coast Zone. This cobia zone would be similar to the king mackerel Florida East Coast Subzone in that the fish would be Gulf migratory group king mackerel and part of the Gulf ABC, but would have a separate ACL and be managed by the South Atlantic Council. The cobia zone would differ from the king mackerel subzone in that it would remain the same year-round without a boundary shift. In essence, **Alternative 3** would take the portion of the Gulf ABC attributable to the Florida east coast and allow the South Atlantic Council to set management measures, as they have historically done for this area.

To determine to appropriate proportion of the Gulf migratory group ABC to assign to the Florida East Coast Zone ACL, landings from various time periods could be used. **Options a**, **b**, and **d** would use consecutive ranges of years terminating in 2012. **Options c**, **e**, and **f** would use Boyle's Law, which uses 50% of landings from recent years and 50% of landings from a longer time period. The proportion of landings for the Florida east coast and the resulting ACL for each option is shown in Table 2.6.2.

Table 2.6.2. Landings for the Gulf migratory group cobia (as defined by SEFSC) for each option in Alternative 3 and the percentage attributable to the Florida east coast. The Florida East Coast Zone (FLEC) would range from the FL/GA border to the Council jurisdictional boundary in the Florida Keys. The Gulf zone would range from the TX/Mexico border to the Council jurisdictional boundary.

		Landings (lbs ww)			
Option	**Method/Years**	**Gulf Total**	**FLEC Zone**	**Gulf Zone**	**% FLEC Zone**
Opt a*	Average (2003-2012)	1,732,052	633,563	1,098,490	36.6
Opt a	Average (2002-2012)	1,702,899	616,726	1,086,173	36.2
Opt b	Average (2008-2012)	1,528,211	671,623	856,588	43.9
Opt c*	(0.5*(Average (2003-2012)))+ (0.5*(Average (2008-2012)))	1,630,132	652,593	977,539	40.0
Opt c	(0.5*(Average (2002-2012)))+ (0.5*(Average (2008-2012)))	1,615,555	644,175	971,381	39.9
Opt d	Average (1998-2012)	1,729,311	623,255	1,106,056	36.0
Opt e	(0.5*(Average (1993-2008)))+ (0.5*(Average (2006-2008)))	1,804,756	577,702	1,227,054	32.0
Opt f	(0.5*(Average (1990-2008)))+ (0.5*(Average (2006-2008)))	1,794,279	580,520	1,213,760	32.4

Source: SEFSC, ALS and MRIP databases

The percent from Table 2.6.2 would be applied to the Gulf migratory group ABC to obtain the ACL for the Florida East Coast Zone (FLEC ACL = x%ABC). The Gulf Zone ACL would be the remainder (Gulf ACL = Gulf ABC - FLEC ABC). The ACLs for each option are shown in Table 2.6.3. The Gulf Council chose to manage the cobia stock under a combined ACL for both the recreational and commercial sectors. They also chose to set a stock ACT that is 90% of the stock ACL. The South Atlantic Council chose to manage the commercial and recreational sectors separately and set an allocation of 8% commercial and 92% recreational. They also chose to set a recreational ACT, but not a commercial ACT. The allocations and ACTs set by the South Atlantic Council would apply to the Florida East Coast Zone.

Table 2.6.3. ACLs and ACTs for Gulf migratory group cobia (as recommended by the Gulf SSC, based on results from SEDAR 28) for each option in Alternative 3. Management measures set by the South Atlantic Council for the South Atlantic migratory group would also apply to the Gulf migratory group Florida East Coast Zone. All weights for ABC, ACL, and ACT are in millions of pounds, whole weight. Note: ACLs and ACTs for the Atlantic migratory group would be the same as in **Alternative 2** and are shown in Table 2.6.1.

Option	**% landings from FLEC**	**Year**	**Gulf Migratory Group ABC**	**FLEC Zone ACL**		**FLEC Zone ACT**	**Gulf Zone ACL**	**Gulf Zone ACT**
				Commercial	Recreational	Recreational	Stock	Stock
Opt a*	36.6	2014	2.46	0.07	0.83	0.68	1.56	1.40
		2015	2.52	0.07	0.85	0.69	1.60	1.44
		2016	2.60	0.08	0.88	0.72	1.65	1.48
Opt a	36.2	2014	2.46	0.07	0.82	0.67	1.57	1.41
		2015	2.52	0.07	0.84	0.69	1.61	1.45
		2016	2.60	0.08	0.87	0.71	1.66	1.49
Opt b	43.9	2014	2.46	0.09	0.99	0.81	1.38	1.24
		2015	2.52	0.09	1.02	0.83	1.41	1.27
		2016	2.60	0.09	1.05	0.86	1.46	1.31
Opt c*	40	2014	2.46	0.08	0.91	0.74	1.48	1.33
		2015	2.52	0.08	0.93	0.76	1.51	1.36
		2016	2.60	0.08	0.96	0.78	1.56	1.40
Opt c	39.9	2014	2.46	0.08	0.90	0.74	1.48	1.33
		2015	2.52	0.08	0.93	0.76	1.51	1.36
		2016	2.60	0.08	0.95	0.78	1.56	1.41
Opt d	36	2014	2.46	0.07	0.81	0.67	1.57	1.42
		2015	2.52	0.07	0.83	0.68	1.61	1.45
		2016	2.60	0.07	0.86	0.71	1.66	1.50
Opt e	32	2014	2.46	0.06	0.72	0.59	1.67	1.51
		2015	2.52	0.06	0.74	0.61	1.71	1.54
		2016	2.60	0.07	0.77	0.63	1.77	1.59
Opt f	32.4	2014	2.46	0.06	0.73	0.60	1.66	1.50
		2015	2.52	0.07	0.75	0.62	1.70	1.53
		2016	2.60	0.07	0.78	0.63	1.76	1.58

Council Conclusions:

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Fishery and Status of the Stocks

Two migratory groups, Gulf of Mexico (Gulf) and Atlantic, are recognized for king mackerel, Spanish mackerel, and cobia. Commercial landings data come from the Southeast Fisheries Science Center (SEFSC) Accumulated Landings System (ALS), the Northeast Fisheries Science Center (NEFSC) Commercial Fisheries Data Base System (CFDBS), and SEFSC Coastal Fisheries Logbook (CFL) database. Recreational data come from the Marine Recreational Fisheries Statistics Survey (MRFSS), the Headboat Survey (HBS), and the Texas Parks and Wildlife Department (TPWD). All landings are in whole weight.

3.1.1 Description of the Fishery

A detailed description of the coastal migratory pelagic (CMP) fishery was included in Amendment 18 to the Fishery Management Plan for Coastal Migratory Pelagic Resources in the Gulf of Mexico and Atlantic Region (GMFMC and SAFMC 2011) and is incorporated here by reference. Amendment 18 can be found at http://www.gulfcouncil.org/docs/amendments/Final%20CMP%20Amendment%2018%20092311%20w-o%20appendices.pdf.

King Mackerel

A king mackerel commercial vessel permit is required to retain king mackerel in excess of the bag limit in the Gulf and Atlantic. These permits are under limited access. In addition, a limited-access gillnet endorsement is required to use gillnets in south Florida. For-hire vessels must have either a Gulf or South Atlantic charter/headboat CMP vessel permit, depending on where they fish. The Gulf permit is under limited access, but the South Atlantic permit is open access. The commercial permits have an income requirement of 25% of earned income or $10,000 from commercial or charter/headboat fishing activity in one of the three calendar years preceding the application. As of February 5, 2013, there were 1,488 valid or renewable federal commercial king mackerel permits.

For the commercial sector, the area occupied by Gulf migratory group king mackerel is divided into Western and Eastern Zones. The 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 Eastern Zone, which includes only waters off of Florida, is divided into the East Coast and West Coast Subzones (Figure 3.1.1.1A). The East Coast Subzone is from the Flagler/Volusia county line south to the Miami-Dade/Monroe county line and only exists from November 1 through March 31, when Gulf migratory group king mackerel migrate into that area. During the rest of the year, king mackerel in that area are considered part of the Atlantic migratory group (Figure 3.1.1.1B).

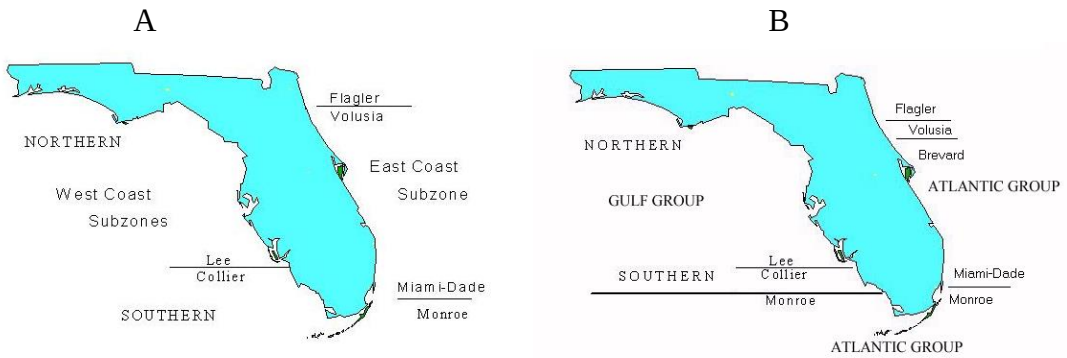

Figure 3.1.1.1. Gulf migratory group king mackerel Eastern Zone subzones for A) November 1 – March 31 and B) April 1- October 31.

The West Coast Subzone, from the Alabama/Florida state line to the Monroe/Miami-Dade county line, is further divided into Northern and Southern regions at the Lee/Collier County line. The fishing year for the hook-and-line sector in both subzones runs July 1-June 30; in the Southern Subzone, the gillnet season opens on the day after the Martin Luther King, Jr. holiday. Fishing is allowed during the first weekend thereafter, but not on subsequent weekends.

Management measures for the South Atlantic apply to king mackerel from New York to Florida. The Atlantic migratory group of king mackerel fishing year is March 1 through end of February. The quota for this migratory group is not divided into zones; however, different areas have different trip limits at different times of the year.

Commercial landings of Gulf migratory group king mackerel increased as the total quota for the Gulf increased until 1997-1998 when the quota was set at 3.39 mp. After that, landings have been relatively steady at around 3.3 mp. The quota was decreased to 3.26 mp starting with the 2000-2001 season. Commercial landings of Atlantic king mackerel have also increased in recent years. The recent three-year annual average was 3.6 mp versus 2.8 mp for the previous ten years (Table 3.1.1.1).

Table 3.1.1.1. Annual commercial landings of king mackerel.

	Landings (lbs)	
Fishing Year	**Gulf**	**Atlantic**
2000-2001	3,079,256	2,101,530
2001-2002	2,932,532	2,017,251
2002-2003	3,231,723	1,737,833
2003-2004	3,183,778	1,708,341
2004-2005	3,228,862	2,734,198
2005-2006	3,011,990	2,250,990
2006-2007	3,232,497	2,994,818
2007-2008	3,449,030	2,667,227
2008-2009	3,867,599	3,107,996
2009-2010	3,816,157	3,564,108
2010-2011	3,539,492	3,405,650

Source: SEFSC, ALS database
*For 00/01-04/05, the Atlantic fishing year is Apr-Mar; for 06/07-10/11, the fishing year is Mar-Feb.

King mackerel have been a popular target for recreational fishermen for many years. Sixty-eight percent of the Gulf annual catch limit (ACL) and 62.9% of the Atlantic ACL is allocated to the recreational sector. From the late 1980s to the late 1990s, Gulf landings averaged about 4.9 mp per year. In the most recent ten years, average annual landings have been about 3.7 mp. The recent ten-year average for the Atlantic migratory group recreational landings is 4.2 mp per year (Table 3.1.1.2).

Table 3.1.1.2. Annual recreational landings of king mackerel.

	Landings (lbs)	
Fishing Year	**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

Source: SEFSC, Feb 2013 ACL data sets; MRFSS, HBS, and TPW databases.

Spanish Mackerel

A commercial Spanish mackerel permit is required for vessels fishing in the Gulf or South Atlantic. This permit is open access. For-hire vessels must have a charter/headboat CMP permit. The commercial permit has an income requirement of 25% of earned income or $10,000 from commercial or charter/headboat fishing activity in one of the previous three calendar years. As of February 5, 2013, there were 1,748 valid federal Spanish mackerel permits.

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

The area of the Atlantic migratory group of Spanish mackerel is divided into two zones: the Northern Zone includes waters off New York through Georgia, and the Southern Zone includes waters off the east coast of Florida. One quota is set for both zones, which is adjusted for management purposes. The fishing year for Atlantic migratory group Spanish mackerel is March-February. This fishing year was implemented in August 2005; before then, the fishing year was April-March. Because of the change in fishing year, the 2005/2006 fishing year has only 11 months of landings and has been normalized for comparison with other years.

Landings compiled for SEDAR 28 divide the two migratory groups at the Council boundary, although the management boundary is at the Dade/Monroe County line. Additionally, landings were compiled by calendar year rather than fishing year. For consistency with previous analyses, landings based on the correct boundary and calendar year are included here. Updates for recent years will be added in the next version of this amendment.

Commercial landings over the past five years have averaged 1.3 mp annually in the Gulf and 3.7 mp annually in the Atlantic. Commercial landings of Spanish mackerel fell sharply in 1995 after Florida implemented a constitutional amendment banning certain types of nets, but average landings then increased back to near historical levels (Table 3.1.1.3).

Table 3.1.1.3. 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

Source: ALS database
*For 00/01-04/05, the Atlantic fishing year is Apr-Mar; for 06/07-10/11, the fishing year is Mar-Feb.

Recreational catches of Spanish mackerel in the Gulf have remained rather stable since the early 1990's at around 2.0 to 3.0 mp, despite increases in the bag limit from three fish in 1987 to ten fish in 1992 to 15 fish in 2000. Recreational landings in the Atlantic also have remained fairly steady over time and averaged around 1.6 mp during the recent five years (Table 3.1.1.4). The recreational allocation in the Atlantic is 45%.

Table 3.1.1.4. 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

Source: SEFSC, Feb 2013 ACL data sets; MRFSS, HBS, TPWD databases

Cobia

Currently, no commercial vessel permit is required for cobia. Charter/headboats must have a charter/headboat CMP permit to land cobia. The regulations in the FMP also apply to cobia in the Mid-Atlantic region. Two migratory groups of cobia were created through Amendment 18 (GMFMC/SAFMC 2011), with the division occurring at the Council boundary in Monroe County, Florida. However, the data workshop for SEDAR 28 determined the division between migratory groups should be at the Florida/Georgia state line. The landings tables below use the SEDAR division; Action 7 addresses this difference in terms of the ACL.

Commercial landings have declined since the highest landings in 1996 (Vondruska 2010), with a steeper decline between 2004 and 2005, especially in the Gulf (Table 3.1.1.5). Recreational cobia landings have fluctuated during the past 10 years (Table 3.1.1.6).

Table 3.1.1.5. Annual commercial landings of cobia.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000	212,010	43,532
2001	177,866	40,791
2002	183,531	42,236
2003	194,833	35,305
2004	179,290	32,650
2005	136,851	28,675
2006	151,045	33,785
2007	147,187	31,576
2008	139,413	33,783
2009	137,305	42,278
2010	194,933	56,544
2011	238,799	33,978

Source: SEDAR 28; ALS data

Table 3.1.1.6. Annual recreational landings of cobia.

Fishing Year	Landings (lbs)	
	Gulf	Atlantic
2000	1,508,489	464,236
2001	1,555,656	483,926
2002	1,227,708	381,849
2003	2,060,423	615,522
2004	2,090,425	1,028,231
2005	1,461,039	815,600
2006	1,572,637	1,231,415
2007	1,685,402	776,180
2008	1,312,126	546,297
2009	996,105	711,821
2010	1,317,728	876,505
2011	1,683,588	330,071

Source: SEDAR 28; MRFSS, HBS, and TPWD databases

3.1.2 Status of Stocks

The benchmark assessments for Spanish mackerel and cobia are complete (SEDAR 28 2013a-d) and were reviewed by the South Atlantic Scientific and Statistical Committee (SSC) in April 2013 and by the Gulf SSC in May 2013. Both SSCs made recommendations to the respective Councils for overfishing level (OFL) and acceptable biological catch (ABC). A king mackerel benchmark assessment is scheduled to begin in late 2013 (SEDAR 38).

King Mackerel

Both the Gulf and Atlantic migratory groups of king mackerel were assessed by SEDAR in 2008/2009 (SEDAR 16 2009). The assessment determined the Gulf migratory group of king mackerel was not overfished and was uncertain whether the Gulf migratory group was experiencing overfishing. Subsequent analyses showed that $F_{current}/F_{MSY}$ has been below 1.0 since 2002. Consequently, the most likely conclusion is the Gulf migratory group king mackerel stock is not undergoing overfishing. Atlantic migratory group king mackerel were also determined to not be overfished; however, it was uncertain whether overfishing is occurring, and thought to be at a low level if it is occurring.

Spanish Mackerel

Both the Gulf and Atlantic migratory groups of Spanish mackerel were assessed by SEDAR 28 in 2013. The SEDAR 28 stock assessment for South Atlantic migratory group cobia (2013d) determined that the stock is not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.35) were: $F_{Current}$/MFMT = 0.526; $SSB_{Current}$/MSST = 2.29. The Gulf Council's review (GMFMC 2013b) of the SEDAR 28 stock assessment of Gulf of Mexico Spanish mackerel (2013b) determined that the stock was not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.38) were: $F_{Current}$/MFMT = 0.40; $SSB_{Current}$/MSST = 2.96.

Cobia
Both the Gulf and Atlantic migratory groups of cobia were assessed by SEDAR 28 in 2013. The SEDAR 28 stock assessment for South Atlantic migratory group cobia (2013c) determined that the stock is not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.26) were: $F_{Current}$/MFMT = 0.599; $SSB_{Current}$/MSST = 1.75. The Gulf Council's review (GMFMC 2013a) of the SEDAR 28 stock assessment of Gulf of Mexico cobia (2013a) determined that the stock was not overfished or experiencing overfishing. Stock status indicators for the base case model (M = 0.38, steepness = 0.8) were: $F_{Current}$/MFMT = 0.659; $SSB_{Current}$/MSST = 1.739.

3.2 Description of the Physical Environment

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

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. Oceanic conditions are primarily affected by the Loop Current, the discharge of freshwater into the Northern Gulf, and a semi-permanent, anticyclonic gyre in the western Gulf. Gulf water temperatures range from 12º C to 29º C (54º F to 84º F) depending on time of year and depth of water.

The Madison/Swanson and Steamboat Lumps Marine Reserves (219 square nautical miles), which are no-take marine reserves where all fishing except for surface trolling during May through October is prohibited (Figure 3.2.1.1). The Tortugas North and South Marine Reserves are no-take marine reserves cooperatively implemented by the Florida, NOAA's National Ocean Service (NOS), the Gulf of Mexico Fishery Management Council (Gulf Council), and the National Park Service (185 square nautical miles). In addition, essential fish habitat (EFH) requirements, habitat areas of particular concern (HAPC), and adverse effects of fishing prohibited the use of anchors in these HAPCs were addressed in the following Gulf Council Fishery Management Plans: Shrimp, Red Drum, Reef Fish, Stone Crab, Coral and Coral Reefs in the Gulf, and Spiny Lobster and the Coastal Migratory Pelagic resources of the Gulf and South Atlantic (GMFMC 2005).

Individual reef areas and bank HAPCs of the northwestern Gulf containing pristine coral areas are protected by preventing use of some fishing gear that interacts with the bottom. These areas are: East and West Flower Garden Banks; Stetson Bank; Sonnier Bank; MacNeil Bank; 29 Fathom; Rankin Bright Bank; Geyer Bank; McGrail Bank; Bouma Bank; Rezak Sidner Bank; Alderice Bank; and Jakkula Bank (Figure 3.2.1.1; 263.2 square nautical miles). Some of these areas were made marine sanctuaries by NOS and these marine sanctuaries are currently being revised. 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 the significant coral resources on Stetson Bank.

Other environmental sites of special interest relevant to CMP species in the Gulf include the Florida Middle Grounds HAPC, where pristine soft corals are protected from use of any fishing gear interfacing with bottom (348 square nautical miles), and the Pulley Ridge HAPC, which is closed to anchoring, trawling gear, bottom longlines, buoy gear, and all traps/pots to protect deepwater hermatypic coral reefs (2,300 square nautical miles). In addition, fishing by a vessel operating as a charter vessel or headboat, a vessel in the Alabama special management zone that does not have a commercial permit for Gulf reef fish, or a vessel with such a permit fishing for Gulf reef fish, is limited to hook-and-line gear with no more than three hooks. Nonconforming gear is restricted to bag limits, or for reef fish without a bag limit, to 5% by weight of all fish aboard.

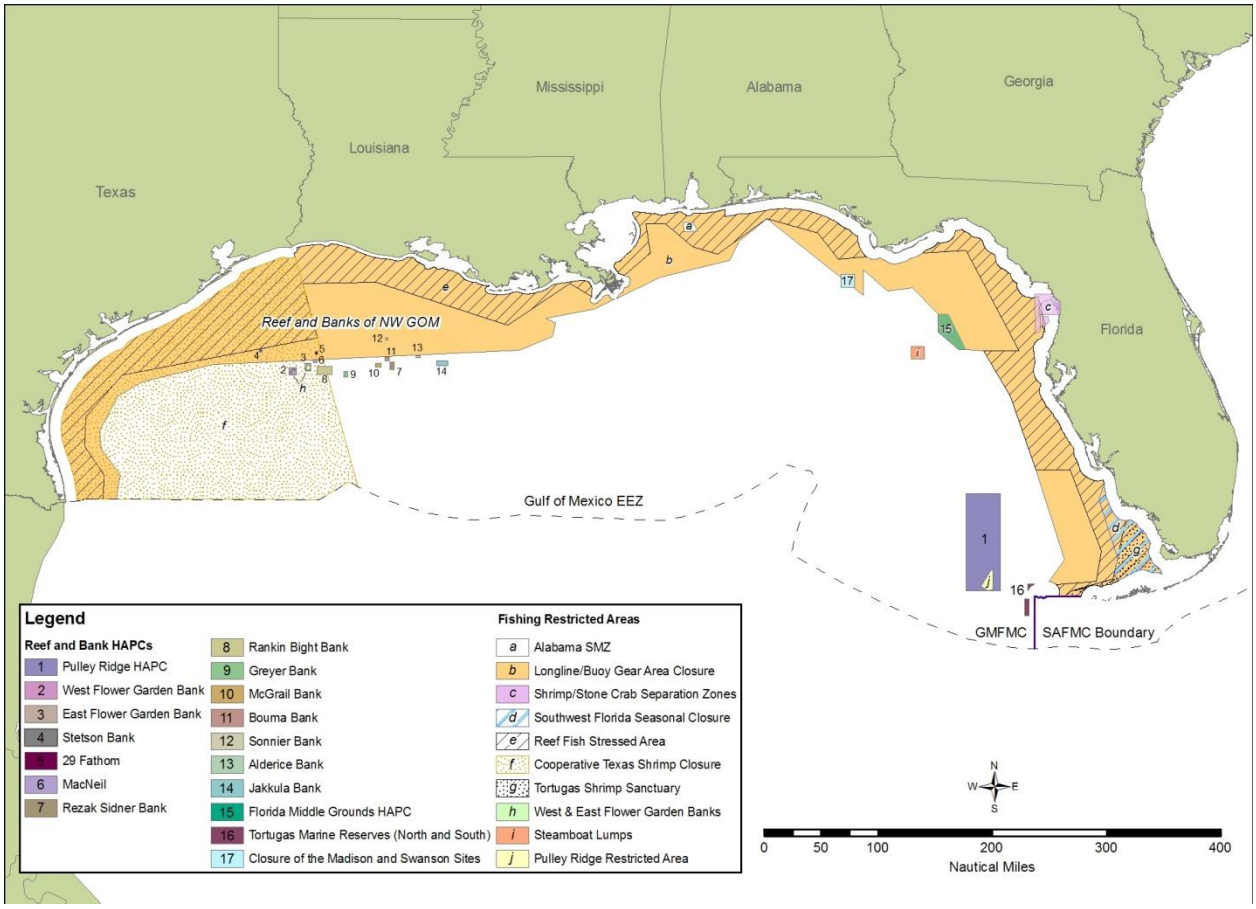

Figure 3.2.1.1. Environmental Sites of Special Interest Relevant to CMP Species in the Gulf of Mexico.

3.2.2 South Atlantic

The South Atlantic Fishery Management Council (South Atlantic Council) has management jurisdiction of the federal waters (3-200 nm) offshore of North Carolina, South Carolina, Georgia, and Florida. The continental shelf off the southeastern U.S., extending from the Dry Tortugas, Florida, to Cape Hatteras, North Carolina, encompasses an area in excess of 100,000

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

In the northern region, additional physical processes are important and the shelf environment can be subdivided into three oceanographic zones (Atkinson et al. 1985; Menzel 1993), the outer shelf, mid-shelf, and inner shelf. The outer shelf (40-75 m) is influenced primarily by the Gulf Stream and secondarily by winds and tides. On the mid-shelf (20-40 m), the water column is almost equally affected by the Gulf Stream, winds, and tides. Inner shelf waters (0-20 m) are influenced by freshwater runoff, winds, tides, and bottom friction. Water masses present from the Dry Tortugas, Florida, to Cape Canaveral, Florida, include Florida Current water, waters originating in Florida Bay, and shelf water. From Cape Canaveral, Florida, to Cape Hatteras, North Carolina four water masses found are: Gulf Stream water; Carolina Capes water; Georgia water; and Virginia coastal water.

Spatial and temporal variation in the position of the western boundary current has dramatic effects on water column habitats. Variation in the path of the Florida Current near the Dry Tortugas induces formation of the Tortugas Gyre (Lee et al. 1992 and 1994). This cyclonic eddy has horizontal dimensions on the order of 100 km and may persist in the vicinity of 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). There are a large number of fishes that inhabit the water column as adults. Pelagic fishes include numerous clupeoids, flying fish, jacks, cobia, bluefish, dolphin, barracuda, and the mackerels (Schwartz 1989). Some pelagic species are associated with particular benthic habitats, while other species are truly pelagic.

3.3 Description of the Biological/Ecological Environment

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

On April 20, 2010, an explosion occurred on the Deepwater Horizon MC252 oil rig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for several years. There have been no observed fish kills from the oil spill in federal waters. The highest concern is that the oil spill may have impacted spawning success of species that spawn in the summer months, either by reducing spawning activity or by reducing survival of the eggs and larvae. The oil spill occurred during spawning months for every species in the CMP FMP; however, most species have a protracted spawning period that extends beyond the months of the oil spill.

Species in the fishery management plan are migratory and move into specific areas to spawn. King mackerel, for example, move from the southern portion of their range to more northern areas for the spawning season. In the Gulf, that movement is from Mexico and south Florida to the northern Gulf (Godcharles and Murphy 1986). However, environmental factors, such as temperature can change the timing and extent of their migratory patterns (Williams and Taylor 1980). The possibility exists that mackerel would be able to detect environmental cues when moving toward the area of the oil spill that would prevent them from entering the area. These fish might then remain outside the area where oil was in high concentrations, but still spawn.

If eggs and larvae were affected, impacts on harvestable-size coastal migratory pelagic fish will begin to be seen when the 2010 year class becomes large enough to enter the fishery and be retained. King mackerel and cobia mature at ages of 2-3 years and Spanish mackerel mature at age 1-2; therefore, a year class failure in 2010 could be felt as early as 2011 or 2012. The impacts would be realized as reduced fishing success and reduced spawning potential, and would need to be taken into consideration in the next Southeast Data, Assessment, and Review (SEDAR) assessment.

The oil and dispersant from the spill may have direct negative impacts on egg and larval stages. Oil present in surface waters could affect the survival of eggs and larvae, affecting future recruitment. Effects on the physical environment such as low oxygen and the inter-related effects that culminate and magnify through the food web could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encounter oil. In addition, effects of oil exposure may not always be lethal, but can create sub-lethal effects on the early life stages of fish. There is the potential that the stressors can be additive, and each stressor may increase the susceptibility to the harmful effects of the other.

The oil spill resulted in the development of major monitoring programs by NMFS and other agencies, as well as by numerous research institutions. Of particular concern was the potential health hazard to humans from consumption of contaminated fish and shellfish. NOAA, the Food and Drug Administration, the Environmental Protection Agency, and the Gulf States

implemented a comprehensive, coordinated, multi-agency program to ensure that seafood from the Gulf of Mexico is safe to eat. In response to the expanding area of the Gulf surface waters covered by the spill, NMFS issued an emergency rule to temporarily close a portion of the Gulf of Mexico exclusive economic zone (EEZ) to all fishing [75 FR 24822] to ensure seafood safety. The initial closed area (May 2, 2010) extended from approximately the mouth of the Mississippi River to south of Pensacola, Florida, and covered an area of 6,817 square statute miles. The coordinates of the closed area were subsequently modified periodically in response to changes in the size and location of the area affected by the spill. At its largest size on June 2, 2010, the closed area covered 88,522 square statute miles, or approximately 37% of the Gulf of Mexico EEZ.

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

King Mackerel

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

Spanish Mackerel

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

Cobia

The cobia is a member of the family Rachycentridae but is managed in the Fishery Management Plan for CMP Resources in the Gulf of Mexico and Atlantic because of its migratory behavior. The cobia is distributed worldwide in tropical, subtropical and warm-temperate waters. In the western Atlantic Ocean it occurs from Nova Scotia, Canada, south to Argentina, including the Caribbean Sea. It is abundant in warm waters off the coast of the U.S. from the Chesapeake Bay south and throughout the Gulf of Mexico. Cobia prefer water temperatures between 68°-86°F. Seeking shelter in harbors and around wrecks and reefs, the cobia is often found off south

Florida and the Florida Keys. As a pelagic fish, cobia are found over the continental shelf as well as around offshore reefs. It prefers to reside near any structure that interrupts the open water such as pilings, buoys, platforms, anchored boats, and flotsam. The cobia is also found inshore inhabiting bays, inlets, and mangroves.

3.3.1 Reproduction

King Mackerel

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, with a peak between late May and early July with another between late July and early August. Maturity may first occur when the females are 450 to 499 mm (17.7 to 19.6 in) in length and usually occurs by the time they are 800 mm (35.4 in) in length. Stage five ovaries, which are the most mature, are found in females by about age 4 years. Males are usually sexually mature at age 3, at a length of 718 mm (28.3 in). Females in U.S. waters, between the sizes of 446-1,489 mm (17.6 to 58.6 in) release 69,000-12,200,000 eggs. Because both the Atlantic and Gulf populations spawn while in the northernmost parts of their ranges, there is some thought that they are reproductively isolated groups.

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

Spanish Mackerel

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

Cobia

Cobia form large aggregations, spawning during daylight hours between June and August in the Atlantic Ocean near the Chesapeake Bay, off North Carolina in May and June, and in the Gulf of Mexico during April through September. Spawning frequency is once every 9-12 days, spawning 15-20 times during the season. During spawning, cobia undergo changes in body coloration from brown to a light horizontal-striped pattern, releasing eggs and sperm into offshore open water. Cobia have also been observed to spawn in estuaries and shallow bays with the young heading offshore soon after hatching. Cobia eggs are spherical, averaging 1.24mm in diameter. Larvae are released approximately 24-36 hours after fertilization.

3.3.2 Development, Growth and Movement Patterns

King Mackerel

Juveniles are generally found closer to shore than adults (to < 9 m) and occasionally in estuaries. Adults are migratory, and the Fishery Management Plan for CMP Resources in the Atlantic and Gulf of Mexico 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 in the northern Gulf in the summer. Food availability and water temperature are likely causes of these migratory patterns. King mackerel mature at approximately age 2 to 3 and have longevities of 24 to 26 years for females and 23 years for males (GMFMC/SAFMC 1985; MSAP 1996; Brooks and Ortiz 2004).

Spanish Mackerel

Juveniles are most often found in coastal and estuarine habitats and at temperatures >25° C and salinities >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).

Cobia

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

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

3.4 Description of the Economic Environment

3.4.1 Economic Description of the Commercial Fishery

Number of Vessels, Harvest, and Ex-vessel Value

An economic description of the commercial fisheries for the CMP species is contained in Vondruska (2010) and is incorporated herein by reference. Updated select summary statistics are provided in Table 3.4.1.1. Landings information is provided in Section 3.1.

Table 3.4.1.1. Five-year average performance statistics, including number of vessels landing each species, value of the species for those vessels, value of all species for those vessels, and the average value for those vessels.

Column 1 - Species	Number of Vessels	Ex-vessel Value Species from Column 1 (millions)	Ex-vessel Value All Species (millions)	Average Ex-vessel Value per Vessel
King mackerel, Atlantic migratory group	776	$4.90	$27.24	$35,100
Spanish mackerel, Atlantic migratory group	387	$1.87	$11.99	$31,000
Cobia, Atlantic migratory group	432	$0.20	$17.99	$41,600
King mackerel, Gulf migratory group	662	$5.38	$32.06	$48,400
Spanish mackerel, Gulf migratory group	208	$0.28	$10.33	$49,700
Cobia, Gulf migratory group	266	$0.07	$30.38	$114,200

Notes: Each row should be interpreted individually, as there will be substantial double counting across rows in columns 2 and 4, e.g., the same vessel might fish for different migratory groups of the same or different species.
Five-year averages in column 3 are based on fishing years for king and Spanish mackerels (2007/2008, 2008/2009,…, 2011/2012) and for calendar years for cobia (2008-2012).
Five-year averages in column 4 are based on calendar years (2007-2011).
All value analyses account for inflation by adjusting dollar amounts reported from 2007-2012 (i.e., current dollars) to 2011 dollars (i.e., constant dollars) using price indices from the Bureau of Labor Statistics, specifically SERIES CUUR0000SA0, CPI-U, ALL ITEMS, NOT SEASONALLY ADJUSTED, BASE=1982-84.
Source: NMFS SEFSC Coastal Fisheries Logbook for landings and NMFS Accumulated Landings System for prices. Note that small amounts (0.03% of king mackerel, 1.95% of Spanish mackerel, and 2.85% of cobia) are landed in the Northeast and are not counted here. Similar, landings and revenue from State waters by vessels without federal permits are not included.

Economic Activity

Estimates of the average annual economic activity (impacts) associated with the commercial fisheries for CMP species addressed in the amendment were derived using the model developed for and applied in NMFS (2009) and are provided in Table 3.4.1.2. Business activity for the commercial sector is characterized in the form of full-time equivalent jobs, income impacts (wages, salaries, and self-employed income), and output (sales) impacts (gross business sales). Income impacts should not be added to output (sales) impacts because this would result in double counting.

As noted in Table 3.4.1.1, the annual period refers to either the fishing year or calendar year, as appropriate to the management of the species. The estimates of economic activity include the direct effects (effects in the sector where an expenditure is actually made), indirect effects (effects in sectors providing goods and services to directly affected sectors), and induced effects (effects induced by the personal consumption expenditures of employees in the direct and indirectly affected sectors). Estimates are provided for the economic activity associated with the

ex-vessel revenues from the individual CMP species as well as the revenues from all species harvested by these same vessels. The estimates of ex-vessel value are replicated from Table 3.4.1.1.

Table 3.4.1.2. Average annual economic activity associated with the CMP fishery.

Species	Average Ex-vessel Value[1] (millions)	Total Jobs	Harvester Jobs	Output (Sales) Impacts (millions)	Income Impacts (millions)
Atlantic migratory group king mackerel	$4.90	884	115	$64.52	$27.50
- all species[2]	$27.24	4,914	641	$358.66	$152.86
Atlantic migratory group Spanish mackerel	$1.87	337	44	$24.62	$10.49
- all species	$11.99	2,163	282	$157.87	$67.28
Gulf migratory group king mackerel	$5.38	970	127	$70.84	$30.19
- all species	$32.06	5,783	755	$422.12	$179.90
Gulf migratory group Spanish mackerel	$0.28	51	7	$3.69	$1.57
- all species	$10.33	1,863	243	$136.01	$57.97
Atlantic migratory group cobia	$0.20	36	5	$2.63	$1.12
- all species	$17.99	3,245	423	$236.87	$100.95
Gulf migratory group cobia	$0.07	13	2	$0.92	$0.39
- all species	$30.38	5,480	715	$400.00	$170.48

[1]2011 dollars.
[2]Includes ex-vessel revenues and economic activity associated with the average annual harvests of all species harvested by vessels that harvested the subject CMP species.

Permits
The numbers of commercial permits associated with the CMP fishery on May 29, 2013, are provided in Table 3.4.1.3

Table 3.4.1.3. Number of permits associated with the CMP fishery.

	Valid[1]	Valid or Renewable
King Mackerel	1,401	1,486
King Mackerel Gillnet	22	23
Spanish Mackerel	1,813	Not applicable

[1]Non-expired. Expired permits may be renewed within one year of expiration.

3.4.2 Economic Description of the Recreational Fishery

The recreational fishery is comprised of the private sector and for-hire sector. The private sector includes anglers fishing from shore (all land-based structures) and private/rental boats. The for-

hire sector is composed of the charter vessel and headboat (also called party boat) sectors. Charter vessels generally carry fewer passengers and charge a fee on an entire vessel basis, whereas headboats carry more passengers and payment is per person.

Harvest
Recreational harvest information is provided in Section 1.7.

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

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

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

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

Estimates of average annual recreational effort, 2007-2011, for the CMP species addressed in this amendment are provided in Tables 3.4.2.1-4. In each table, where appropriate, the "total" refers to the total number of target or catch trips, as appropriate, while "all trips" refers to the total number of trips across all species regardless of target intent of catch success. The estimates were evaluated by calendar year and not fishing year. As a result, while the results may not be fully reflective of effort associated with specific stocks (e.g., Gulf migratory group versus Atlantic migratory group for king or Spanish mackerel), the results are consistent with fishing activity based on area fished.

Among the three species examined, Spanish mackerel is subject to more target and catch effort than the other two species for the Gulf states (Table 3.4.2.1). Spanish mackerel is also subject to more catch effort than target effort, whereas more trips target than catch king mackerel and cobia.

The effort situation is somewhat different for the South Atlantic states (Table 3.4.2.2). While Spanish mackerel still records the highest average number of catch trips per year, the difference over king mackerel is not as pronounced as in the Gulf. Further, more trips target king mackerel than Spanish mackerel (and cobia). Further, both species, as well as cobia, are subject to more target effort than catch effort. East Florida dominates for all three species and effort type.

If examined by mode, in the Gulf, the private mode accounts for the most target and catch effort for king mackerel and cobia (Table 3.4.2.3). For Spanish mackerel, however, the shore mode dominates target effort, while the private mode accounts for the most catch trips. In the South Atlantic, the private mode leads for all three species and effort type (Table 3.4.2.4).

Table 3.4.2.1. Average annual (calendar year) recreational effort (thousand trips) in the Gulf of Mexico, by species and by state, across all modes, 2007-2011.

	Target Trips					
Species	Alabama	W Florida	Louisiana	Mississippi	Total	All Trips
King Mackerel	84	385	1	1	472	23,600
Spanish Mackerel	68	762	0	1	830	
Cobia	17	160	8	11	196	
	Catch Trips					
King Mackerel	49	229	3	2	283	23,600
Spanish Mackerel	83	1,070	18	13	1,185	
Cobia	8	71	12	3	94	

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.2. Average annual (calendar year) recreational effort (thousand trips) in the South Atlantic, by species and by state, across all modes, 2007-2011.

	Target Trips					
	E Florida	Georgia	North Carolina	South Carolina	Total	All Trips
King Mackerel	365	11	166	86	629	19,842
Spanish Mackerel	186	4	258	64	512	
Cobia	121	4	50	17	193	
	Catch Trips					
King Mackerel	263	7	63	22	355	19,842
Spanish Mackerel	242	9	200	54	505	
Cobia	37	3	15	4	60	

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.3. Average annual (calendar year) recreational effort (thousand trips) in the Gulf of Mexico, by species and by mode, across all states, 2007-2011.

	Target Trips				
	Shore	Charter	Private	Total	All Trips
King Mackerel	210	30	231	472	23,600
Spanish Mackerel	534	17	280	830	
Cobia	78	7	112	196	
	Catch Trips				
King Mackerel	49	94	140	283	23,600
Spanish Mackerel	529	55	600	1,185	
Cobia	11	12	71	94	

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.4. Average annual (calendar year) recreational effort (thousand trips) in the South Atlantic, by species and by mode, across all states, 2007-2011.

	Target Trips				
	Shore	Charter	Private	Total	All Trips
King Mackerel	102	27	500	629	19,842
Spanish Mackerel	231	8	273	512	
Cobia	29	5	159	193	
	Catch Trips				
King Mackerel	7	49	298	355	19,842
Spanish Mackerel	189	22	294	505	
Cobia	6	5	49	60	

Source: NMFS MRFSS/MRIP and SERO.

Tables 3.4.2.5-12 contain estimates of the average annual (2007-2011) target trips and catch trips, by species, for each state and mode.

Table 3.4.2.5. Average annual (calendar year) recreational effort (thousand trips), Alabama, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	38	10	5	10	42	29	84	49
Spanish Mackerel	38	36	2	7	28	40	68	83
Cobia	1	0	1	1	16	7	17	8

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.6. Average annual (calendar year) recreational effort (thousand trips), West Florida, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	172	38	25	83	188	108	385	229
Spanish Mackerel	495	491	15	40	252	539	762	1,070
Cobia	77	10	4	6	79	55	160	71

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.7. Average annual (calendar year) recreational effort (thousand trips), Louisiana, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	0	0	0	1	0	2	1	3
Spanish Mackerel	0	1	0	2	0	15	0	18
Cobia	0	0	2	5	6	7	8	12

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.8. Average annual (calendar year) recreational effort (thousand trips), Mississippi, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	0	0	0	1	1	1	1	2
Spanish Mackerel	0	1	0	6	0	6	1	13
Cobia	0	0	0	0	11	3	11	3

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.9. Average annual (calendar year) recreational effort (thousand trips), East Florida, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	18	5	19	35	328	223	365	263
Spanish Mackerel	119	116	1	3	67	123	186	242
Cobia	12	1	3	4	106	33	121	37

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.10. Average annual (calendar year) recreational effort (thousand trips), Georgia, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	0	0	0	0	11	7	11	7
Spanish Mackerel	2	2	0	1	2	7	4	9
Cobia	0	0	0	0	4	3	4	3

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.11. Average annual (calendar year) recreational effort (thousand trips), North Carolina, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	37	1	2	9	128	53	166	63
Spanish Mackerel	67	41	4	12	187	148	258	200
Cobia	16	5	1	1	33	9	50	15

Source: NMFS MRFSS/MRIP and SERO.

Table 3.4.2.12. Average annual (calendar year) recreational effort (thousand trips), South Carolina, by species and by mode, 2007-2011.

	Shore		Charter		Private		Total	
	Target	Catch	Target	Catch	Target	Catch	Target	Catch
King Mackerel	47	1	5	5	33	16	86	22
Spanish Mackerel	43	31	3	7	17	16	64	54
Cobia	1	1	1	0	15	4	17	4

Source: NMFS MRFSS/MRIP and SERO.

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

Headboat effort and harvest data, however, is collected through the NMFS Southeast Fisheries Science Center Headboat Survey (Headboat Survey) program. The average annual (2007-2011) number of headboat angler days is presented in Table 3.4.2.13. Due to confidentiality issues, Georgia estimates are combined with those of East Florida on the Atlantic, while Alabama is combined with West Florida as part of the summarization process for the Gulf (i.e., as part of the estimation process and not a result of confidentiality merging). As shown in Table 3.4.2.13, in both regions, Florida dominates, followed by Texas in the Gulf and South Carolina in the South Atlantic.

Table 3.4.2.13. Southeast headboat angler days, 2007-2011.

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

Source: Headboat Survey, NMFS, SEFSC, Beaufort Lab.
*Confidential.
**Because the average totals are used to represent expectations of future activity, the 2011 number of trips is provided as best representative of the emergent headboat sector in Mississippi.

Permits

The numbers of pelagic for-hire (charter or headboat) permits on March 21, 2013, are provided in Table 3.4.2.14. The for-hire permits do not distinguish between charter vessels and headboats, though information on the primary method of operation is collected on the permit application form. Some vessels may operate as both a charter vessel and a headboat, depending on the season or purpose of the trip. An estimated 70 headboats in the Gulf and an estimated 75 headboats in the South Atlantic participate in the Headboat Survey.

There are no specific federal permitting requirements for recreational anglers to harvest coastal migratory pelagic species. 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.

Table 3.4.2.14. Number of pelagic for-hire (charter vessel/headboat) permits.

	Valid[1]	Valid or Renewable
Gulf of Mexico	1,210	1,337
Gulf Historical Captain	34	40
South Atlantic	1,475	Not applicable

[1]Non-expired. Expired permits may be renewed within one year of expiration.

Economic Value, Expenditures, and Economic Activity

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

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

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

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

These value estimates should not be confused with angler expenditures or the economic activity (impacts) associated with these expenditures. While expenditures for a specific good or service may represent a proxy or lower bound of value (a person would not logically pay more for

something than it was worth to them), they do not represent the net value (benefits minus cost), nor the change in value associated with a change in the fishing experience.

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

Estimates of the regional economic activity (impacts) associated with the recreational fishery for king mackerel, Spanish mackerel, and cobia were derived using average coefficients for recreational angling across all fisheries (species), as derived by an economic add-on to the MRFSS, and described and utilized in NMFS (2009) and are provided in Tables 3.4.2.15-20. Business activity is characterized in the form of FTE jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. Neither income nor value-added impacts should be added to output (sales) impacts because this would result in double counting. Job and output (sales) impacts, however, may be added across sectors.

Estimates of the average expenditures by recreational anglers are provided in NMFS (2009) and are incorporated herein by reference. Estimates of the average recreational effort (2007-2011) and associated economic impacts (2008 dollars) are provided in Table 3.4.2.15. Target trips were used as the measure of recreational effort. As previously discussed, more trips may catch some species than target the species. Where such occurs, estimates of the economic activity associated with the average number of catch trips can be calculated based on the ratio of catch trips to target trips because the average output impact and jobs per trip cannot be differentiated by trip intent. For example, if the number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the associated activity would equal three times the estimate associated with target trips. Table 3.4.2.16 contain estimates of the average annual (2007-2011) target trips and catch trips, by species, for each state and mode.

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

The distribution of the estimates of economic activity by state and mode are consistent with the

effort distribution with the exception that charter anglers, on average, spend considerably more money per trip than anglers in other modes. As a result, the number of charter trips can be a fraction of the number of private trips, yet generate similar estimates of the amount of economic activity. For example, as derived from Table 3.4.2.15, the average number of charter king mackerel target trips in West Florida (25,300 trips) was only approximately 13% of the number of private trips (187,979), whereas the estimated output (sales) impacts by the charter anglers (approximately $8.5 million) was approximately 93% of the output impacts of the private trips (approximately $9.1 million).

Table 3.4.2.15. Summary of king mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), Gulf states. Output and value added impacts are not additive.

	Alabama	**West Florida**	**Louisiana**	**Mississippi**	**Texas**
	Shore Mode				
Target Trips	37,876	171,848	0	0	unknown
Output Impact	$2,954,870	$12,418,993	$0	$0	
Value Added Impact	$1,589,549	$7,215,028	$0	$0	
Jobs	34	124	0	0	
	Private/Rental Mode				
Target Trips	41,782	187,979	347	1,341	unknown
Output Impact	$2,592,292	$9,100,990	$30,176	$40,782	
Value Added Impact	$1,419,221	$5,411,790	$14,841	$19,545	
Jobs	26	85	0	0	
	Charter Mode				
Target Trips	4,628	25,300	426	139	unknown
Output Impact	$2,569,513	$8,471,685	$216,259	$46,055	
Value Added Impact	$1,414,431	$5,022,837	$122,791	$25,951	
Jobs	32	82	2	0	
	All Modes				
Target Trips	84,286	385,127	773	1,480	unknown
Output Impact	$8,116,675	$29,991,669	$246,435	$86,836	
Value Added Impact	$4,423,200	$17,649,655	$137,633	$45,497	
Jobs	92	290	2	1	

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

Table 3.4.2.16. Summary of king mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), South Atlantic states. Output and value added impacts are not additive.

	North Carolina	South Carolina	Georgia	East Florida
	Shore Mode			
Target Trips	37,113	47,408	0	17,947
Output Impact	$9,912,562	$5,147,891	$0	$546,734
Value Added Impact	$5,519,852	$2,866,467	$0	$317,409
Jobs	112	59	0	5
	Private/Rental Mode			
Target Trips	127,556	33,068	11,070	328,019
Output Impact	$7,424,590	$1,551,501	$184,435	$13,227,424
Value Added Impact	$4,186,496	$905,280	$111,875	$7,904,088
Jobs	75	17	2	130
	Charter Mode			
Target Trips	1,540	5,476	318	19,418
Output Impact	$639,289	$1,969,232	$21,318	$8,115,065
Value Added Impact	$358,770	$1,112,535	$12,442	$4,777,567
Jobs	8	24	0	78
	All Modes			
Target Trips	166,209	85,952	11,388	365,384
Output Impact	$17,976,441	$8,668,624	$205,752	$21,889,223
Value Added Impact	$10,065,119	$4,884,283	$124,317	$12,999,064
Jobs	195	99	2	214

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

Table 3.4.2.17. Summary of Spanish mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), Gulf states. Output and value added impacts are not additive.

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

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

Table 3.4.2.18. Summary of Spanish mackerel target trips (2007-2011 average) and associated economic activity (2012 dollars), South Atlantic states. Output and value added impacts are not additive.

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

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

Table 3.4.2.19. Summary of cobia target trips (2007-2011 average) and associated economic activity (2012 dollars), Gulf states. Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	781	76,520	0	439	unknown
Output Impact	$60,929	$5,529,895	$0	$6,302	
Value Added Impact	$32,776	$3,212,688	$0	$3,142	
Jobs	1	55	0	0	
	Private/Rental Mode				
Target Trips	15,521	79,002	6,142	10,866	unknown
Output Impact	$962,974	$3,824,876	$534,117	$330,449	
Value Added Impact	$527,206	$2,274,415	$262,698	$158,375	
Jobs	9	36	5	3	
	Charter Mode				
Target Trips	641	4,059	2,250	0	unknown
Output Impact	$355,890	$1,359,153	$1,142,213	$0	
Value Added Impact	$195,905	$805,838	$648,547	$0	
Jobs	4	13	11	0	
	All Modes				
Target Trips	16,943	159,581	8,392	11,305	unknown
Output Impact	$1,379,793	$10,713,924	$1,676,331	$336,751	
Value Added Impact	$755,888	$6,292,940	$911,244	$161,516	
Jobs	15	104	16	3	

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

Table 3.4.2.20. Summary of cobia target trips (2007-2011 average) and associated economic activity (2012 dollars), South Atlantic states. Output and value added impacts are not additive.

	North Carolina	South Carolina	Georgia	East Florida
	Shore Mode			
Target Trips	15,940	651	0	12,004
Output Impact	$4,257,436	$70,690	$0	$365,688
Value Added Impact	$2,370,772	$39,362	$0	$212,302
Jobs	48	1	0	4
	Private/Rental Mode			
Target Trips	33,009	15,471	4,056	106,004
Output Impact	$1,921,339	$725,876	$67,576	$4,274,630
Value Added Impact	$1,083,383	$423,539	$40,991	$2,554,318
Jobs	19	8	1	42
	Charter Mode			
Target Trips	1,091	972	47	3,370
Output Impact	$452,899	$349,542	$3,151	$1,408,372
Value Added Impact	$254,168	$197,477	$1,839	$829,148
Jobs	5	4	0	14
	All Modes			
Target Trips	50,040	17,094	4,103	121,378
Output Impact	$6,631,674	$1,146,108	$70,727	$6,048,689
Value Added Impact	$3,708,323	$660,378	$42,829	$3,595,768
Jobs	73	13	1	59

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

As previously noted, the values provided in Tables 3.4.2.15-20 only reflect effort derived from the MRFSS/MRIP. Because the headboat sector in the Southeast Region is not covered by the MRFSS/MRIP, the results in Tables 3.4.2.15-20 do not include estimates of the economic activity associated with headboat anglers. While estimates of headboat effort are available (see Table 3.4.2.13), species target information is not collected in the Headboat Survey, which prevents the generation of estimates of the number of headboat target trips for individual species. Further, because the model developed for NMFS (2009) was based on expenditure data collected through the MRFSS/MRIP, expenditure data from headboat anglers was not available and appropriate economic expenditure coefficients have not been estimated. As a result, estimates of the economic activity associated with the headboat sector comparable to those of the other recreational sector modes cannot be provided.

3.5 Description of the Social Environment

Coastal growth and development affects many coastal communities, especially those with either or both commercial and recreational working waterfronts. The rapid disappearance of these types of waterfronts has important implications as the disruption of various types of fishing-related businesses and employment. The process of "gentrification," which tends to push those of a lower socio-economic class out of traditional communities as property values and taxes rise has become common along coastal areas of the U.S. and around the world. Working waterfronts tend to be displaced with development that is often stated as the "highest and best" use of waterfront property, but often is not associated with water-dependent occupations. However, with the continued removal of these types of businesses over time the local economy becomes less diverse and more reliant on the service sector and recreational tourism. As home values increase, people within lower socio-economic strata find it difficult to live within these communities and eventually must move. Consequently they spend more time and expense commuting to work, if jobs continue to be available. Newer residents often have no association with the water-dependent employment and may see that type of work and its associated infrastructure as unappealing. They often do not see the linkage between those occupations and the aesthetics of the community that produced the initial appeal for many migrants. The demographic trends within counties can provide some indication as to whether these types of coastal change may be occurring if an unusually high rate of growth or change in the demographic character of the population is present. A rise in education levels, property values, fewer owner occupied properties and an increase in the median age can at times indicate a growing process of gentrification. Demographic profiles of coastal communities can be found in Amendment 18 (GMFMC and SAFMC 2011).

3.5.1 Gulf of Mexico Fishing Communities

A recently passed regulatory action includes a description of Gulf communities identified as being strongly associated with fishing for coastal migratory pelagics and is incorporated here by reference: Final amendment 18 to the fishery management plan for coastal migratory pelagic resources in the Gulf of Mexico and Atlantic regions (GMFMC and SAFMC 2011). http://www.gulfcouncil.org/docs/amendments/Final%20CMP%20Amendment%2018%20092311%20w-o%20appendices.pdf

The referenced description focuses on available geographic and demographic data to identify communities having a strong relationship with king mackerel, Spanish mackerel, and cobia fishing. A strong relationship is defined as having significant landings and revenue for these species. Thus, positive or negative impacts from regulatory change are expected to occur in places with greater landings.

The referenced analysis uses 2008 ALS data. Below, the Description of the Social Environment for the Gulf of Mexico and South Atlantic has been updated using 2011 ALS data, the most recent year available.

3.5.2 Gulf of Mexico Coastal Pelagic Fishing Communities

The figures below present the top fifteen communities based upon a regional quotient of commercial landings and value for coastal migratory pelagic species (Figures 3.5.2.1, 3.5.2.5, and 3.5.2.8). The regional quotient is the proportion of landings and value out of the total landings and value of that species for that region. The Keys communities are included in both Gulf and South Atlantic communities to allow comparison within each region. Profiles are included for the the top three communities (by commercial pounds landed) for each CMP species. This profile includes a figure which presents the local quotient and a description of the CMP permits held by community members. The local quotient is the proportion of landings and value for the top species out of the total landings and value of all species combined for that community.

<u>King Mackerel</u>
In Figure 3.5.2.1, Destin, Florida lands over 31% of all king mackerel for Gulf fishing communities and those landings represent over 28% of the value. Several Florida Keys communities (Key West, Islamorada, and Marathon) are included in the top fifteen. These communities make up a significant portion of the landings and value (22% of landings and 16.8% of value) of commercial king mackerel. In addition, two other Florida communities make up the top fifteen, three Louisiana communities, one Texas community, and one Mississippi community.

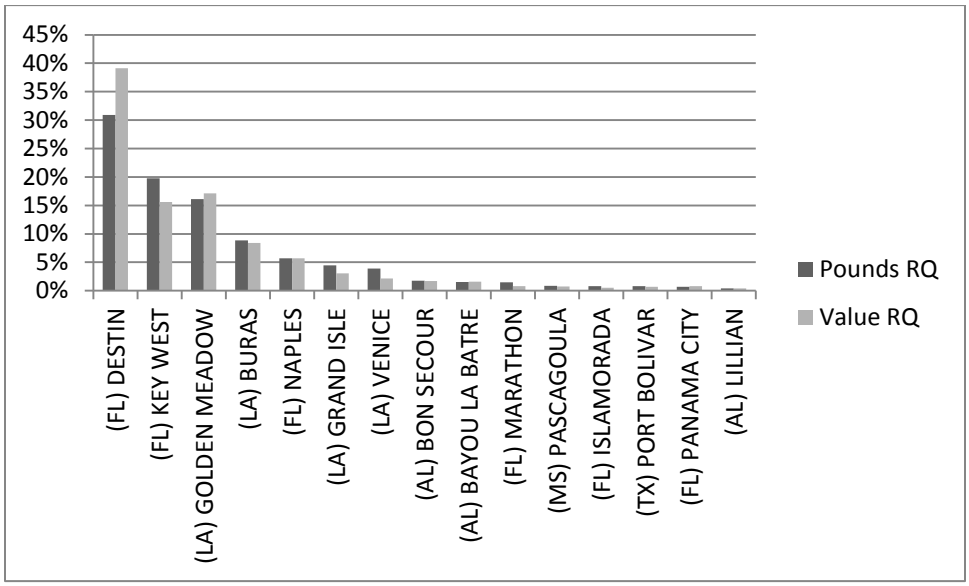

Figure 3.5.2.1. Top Fifteen Gulf of Mexico Communities Ranked by Pounds and Value Regional Quotient of King Mackerel. Source: ALS 2011

<u>Destin</u>
Destin, Florida community members held 81 CMP permits (44 king mackerel and 37 Spanish mackerel) in 2012. Destin ranks first in terms of commercial king mackerel landings in 2011

(Figure 3.5.2.1). Of the commercially landed species in Destin, king mackerel makes up about 24% of all landings and is the most commonly landed species (Figure 3.5.2.2).

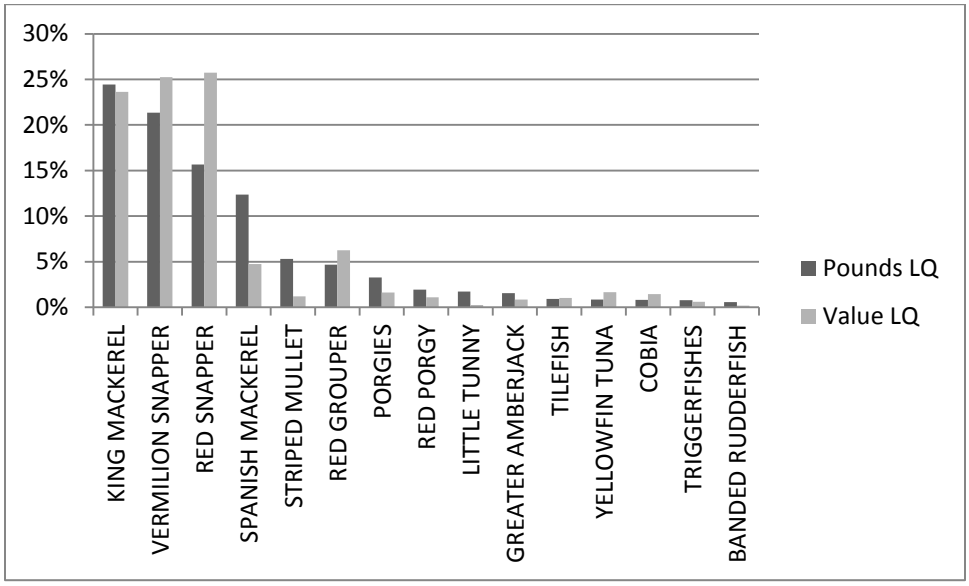

Figure 3.5.2.2. The top fifteen species in terms of proportion (lq) of total landings and value for Destin, Florida. Source: ALS 2011

<u>Key West</u>

Key West, Florida community members held 130 CMP permits (120 king mackerel permits and 10 king mackerel gill net permits) in 2012. Key West ranks second in terms of commercial king mackerel landings in 2011 (Figure 3.5.2.1). Of the commercially landed species in Key West, king mackerel makes up about 24% of all landings and is the fourth most commonly landed species (Figure 3.5.2.3).

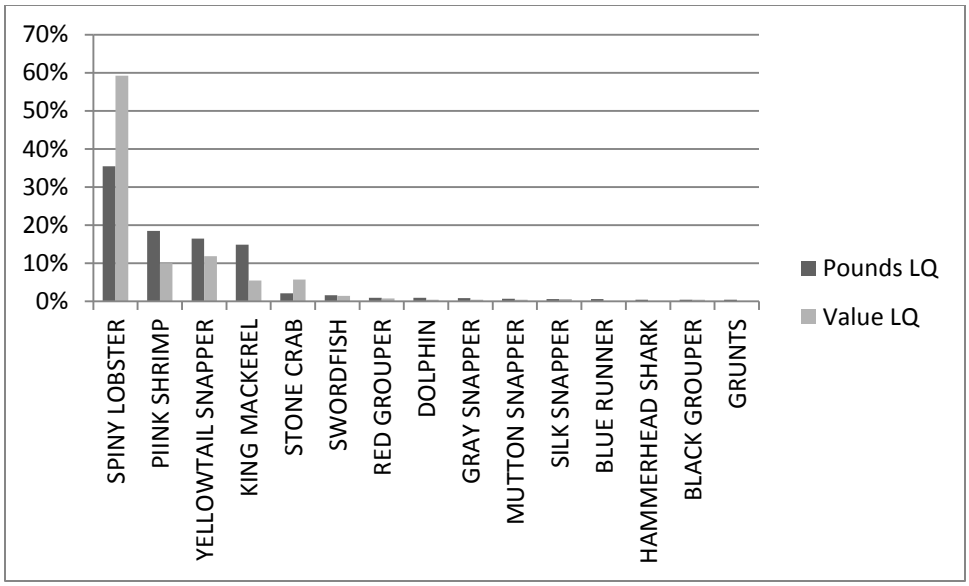

Figure 3.5.2.3. The top fifteen species in terms of proportion (lq) of total landings and value for Key West, Florida. Source: ALS 2011

Golden Meadow

Golden Meadow, Louisiana community members held a total of four CMP permits in 2012. Golden Meadow ranks third in terms of commercial king mackerel landings in 2011 (Figure 3.5.2.1). Of the commercially landed species in Golden Meadow, king mackerel makes up about 6% of all landings and is the fifth most commonly landed species (Figure 3.5.2.4).

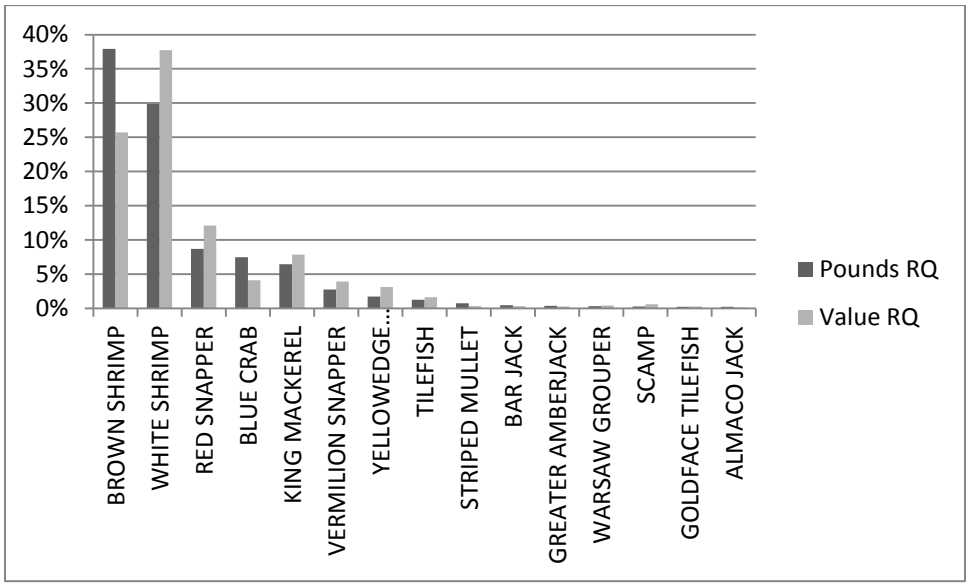

Figure 3.5.2.4. The top fifteen species in terms of proportion (lq) of total landings and value for Golden Meadow, Louisiana. Source: ALS 2011

Spanish Mackerel

In Figure 3.5.2.5, Destin, Florida lands over 28% of all Spanish mackerel for Gulf fishing communities and those landings represent about 31.5% of the value. The second ranked

community of Bayou La Batre, Alabama includes about 23% of the landings and about 20% of the value of Spanish mackerel. Nine other Florida communities make up the top fifteen (including two Florida Keys communities), three additional Alabama communities, and one Louisiana community. No Texas or Mississippi communities are included in the top 15 for Spanish mackerel.

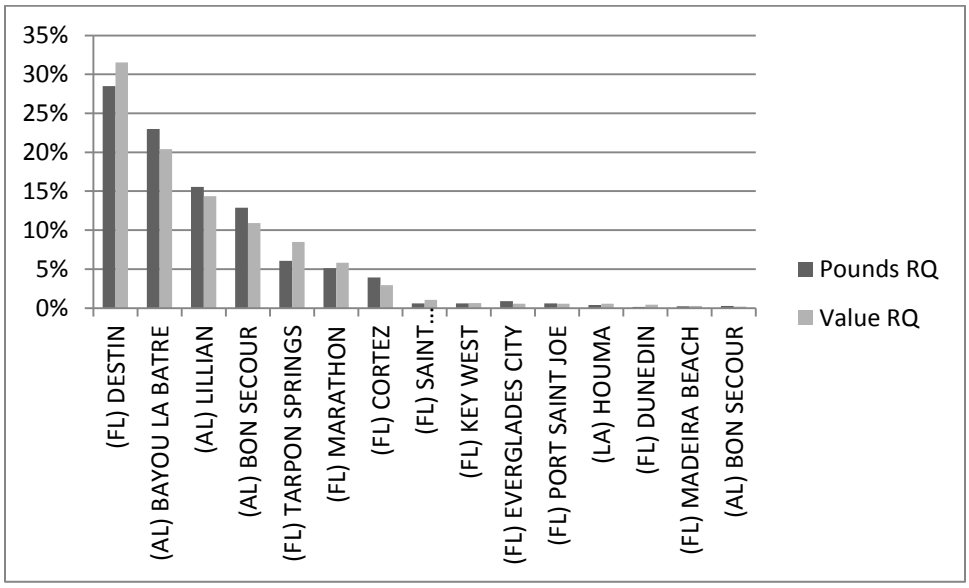

Figure 3.5.2.5. Top Fifteen Gulf of Mexico Communities Ranked by Pounds and Value of Regional Quotient of Spanish Mackerel. Source: ALS 2011

Destin

Destin ranks first in terms of commercial Spanish mackerel landings in 2011 (Figure 3.5.2.5). Of the commercially landed species in Destin, Spanish mackerel makes up about 12% of all landings and 5% of all value and is the fourth most commonly landed species (Figure 3.5.2.2).

Bayou la Batre

Bayou la Batre, Alabama community members held eight CMP permits (four king mackerel and four Spanish mackerel permits) in 2012. Bayou la Batre ranks second in terms of commercial Spanish mackerel landings in 2011 (Figure 3.5.2.5). Of the commercially landed species in Bayou la Batre, Spanish mackerel makes up about 2% of all landings and is the fifth most commonly landed species (Figure 3.5.2.6).

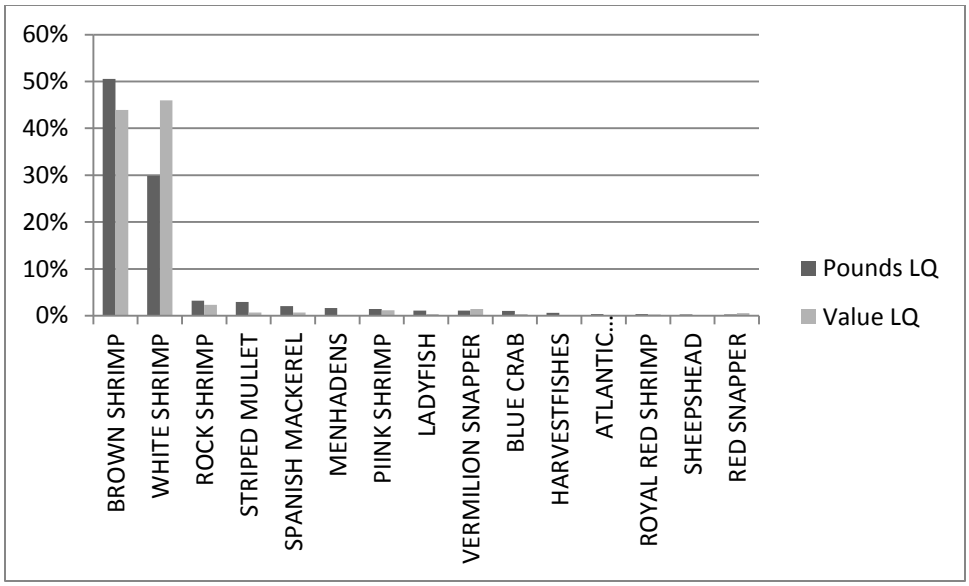

Figure 3.5.2.6. The top fifteen species in terms of proportion (lq) of total landings and value for Bayou la Batre, Alabama. Source: ALS 2011

<u>Lillian</u>

Lillian, Alabama community members held no CMP permits in 2012. Lillian ranks third in terms of commercial Spanish mackerel landings in 2011 (Figure 3.5.2.5). Of the commercially landed species in Lillian, Spanish mackerel makes up about 22% of all landings and 27% of all value and is the third most commonly landed species (Figure 3.5.2.7).

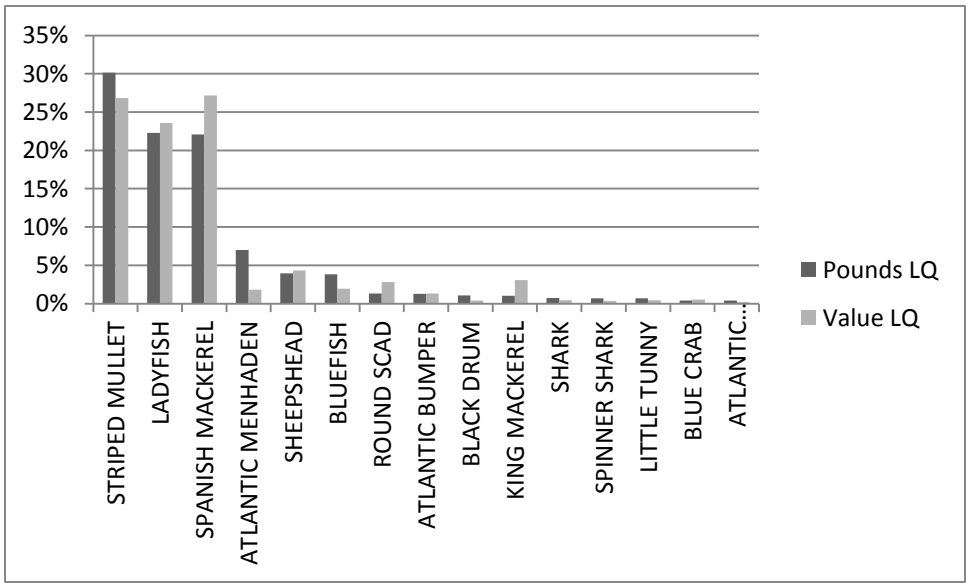

Figure 3.5.2.7. The top fifteen species in terms of proportion (lq) of total landings and value for Lillian, Alabama. Source: ALS 2011

Cobia

In Figure 3.5.2.8, Destin, Florida lands over 36% of all cobia for Gulf fishing communities and those landings represent about 47% of the value. Several Florida Keys communities (Key West, Islamorada, and Key Largo) are included in the top fifteen. These communities make up a 17.5% of the landings and 15.5% value of commercial cobia. Nine other Florida communities make up the top fifteen (including two Florida Keys communities) and two from Louisiana. No Alabama, Texas, or Mississippi communities are included in the top 15 for cobia.

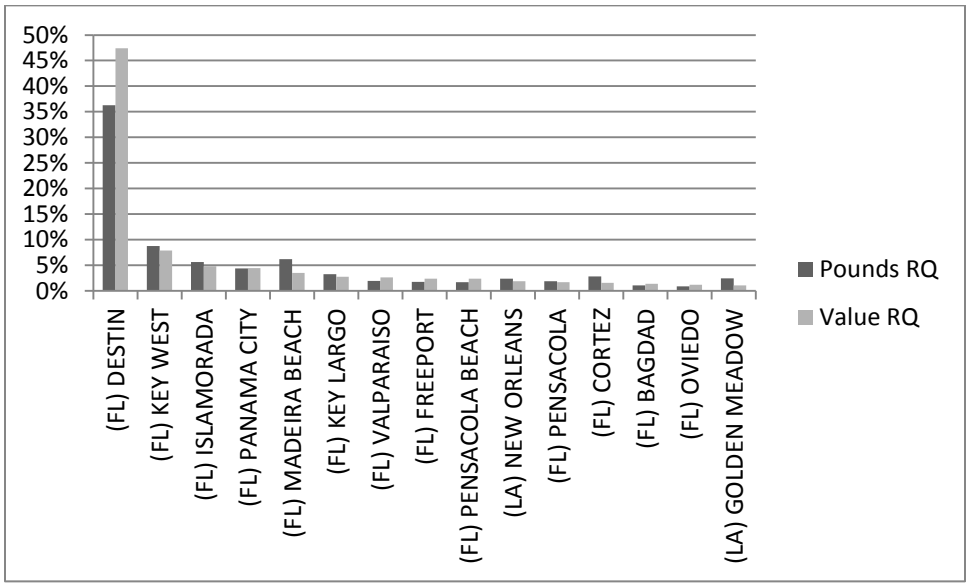

Figure 3.5.2.8. Top Fifteen Gulf of Mexico Communities Ranked by Pounds and Value of Regional Quotient of Cobia. Source: ALS 2011

Destin

Destin, Florida ranks first in terms of commercial cobia landings in 2011 (Figure 3.5.2.8). Of the commercially landed species in Destin, cobia makes up about 0.8% of all landings and is the thirteenth most commonly landed species (Figure 3.5.2.2)

Key West

Key West, Florida ranks second in terms of commercial cobia landings in 2011 (Figure 3.5.2.8). Of the commercially landed species in Key West, cobia makes up about 0.2% of all landings and is the twenty-sixth most commonly landed species (Figure 3.5.2.3)

Islamorada

Islamorada, Florida community members held a confidential number of king mackerel gill net permits, 11 king mackerel permits, and 23 Spanish mackerel permits in 2012. Islamorada ranks third in terms of commercial cobia landings in 2011 (Figure 3.5.2.8). Of the commercially landed species in Islamorda, cobia makes up about 1% of all landings and is the eighth most commonly landed species (Figure 3.5.2.9)

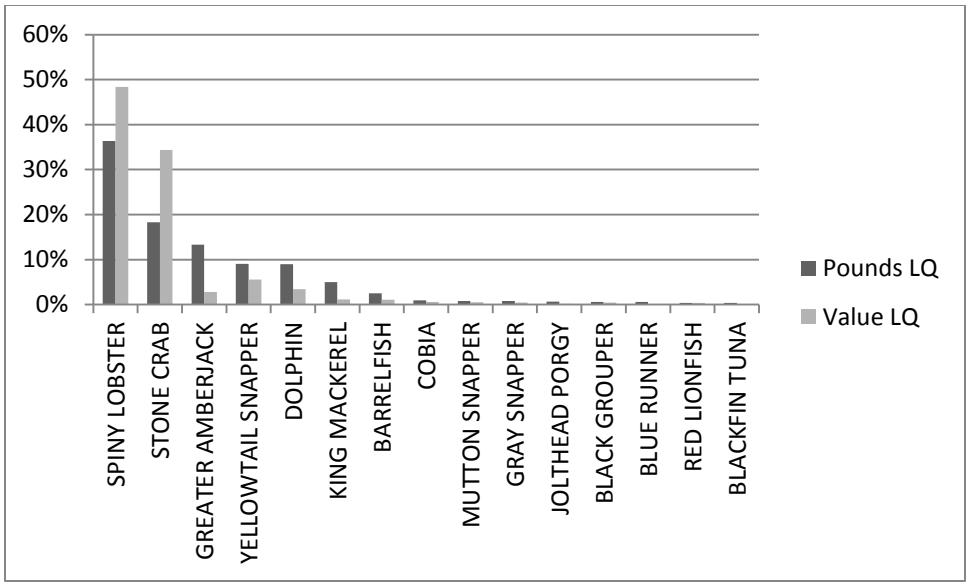

Figure 3.5.2.9. The top fifteen species in terms of proportion (lq) of total landings and value for Islamorada, Florida. Source: ALS 2011

Gulf of Mexico Recreational Fishing Communities

Landings for the recreational sector are not available by species at the community level; therefore, it is difficult to identify communities as dependent on recreational fishing for coastal migratory pelagic species. The 20 Gulf of Mexico communities which scored highest for recreational fishing engagement based on the analysis described above are listed in Table 3.5.2.1. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top 20 list suggesting a greater importance for recreational fishing.

Table 3.5.2.1. Top ranking Gulf of Mexico communities based on recreational fishing engagement and reliance, in descending order.

Community	County	State
Destin	Okaloosa	FL
Orange Beach	Baldwin	AL
Panama City	Bay	FL
Port Aransas	Nueces	TX
Pensacola	Escambia	FL
Panama City Beach	Bay	FL
Naples	Collier	FL
St. Petersburg	Pinellas	FL
Freeport	Brazoria	TX
Biloxi	Harrison	MS
Galveston	Galveston	TX
Clearwater	Pinellas	FL
Fort Myers Beach	Lee	FL
Sarasota	Sarasota	FL
Tarpon Springs	Pinellas	FL
Dauphin Island	Mobile	AL
Apalachicola	Franklin	FL
Carrabelle	Franklin	FL
Port St. Joe	Gulf	FL
Marco Island	Collier	FL

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

3.5.3 South Atlantic Fishing Communities

The communities displayed in the maps below represent a categorization of communities based upon their overall value of local commercial landings divided by the overall value of commercial landings referred to as a "regional quotient." These data were assembled from the accumulated landings system which includes all species from both state and federal waters landed in 2010. All communities were ranked on this "regional quotient" and divided by those who were above the mean and those below. Those above the mean were then divided into thirds with the top tier classified as Primarily Involved in fishing; the second tier classified as Secondarily Involved; and the third classified as being Tangentially Involved. The communities included within the maps below were only those communities that were categorized as primarily or secondarily involved. This breakdown of fisheries involvement is similar to the how communities were categorized in the community profiling of South Atlantic fishing communities (Jepson et al. 2005). However, the categorization within the community profiles included other aspects associated with fishing such as infrastructure and other measures to determine a community's status with regard to reliance upon fishing. While these communities represent all fishing, communities those that are more involved in the coastal migratory pelagic species are represented in more depth within their respective county descriptions.

The social vulnerability index (SoVI) was created to understand social vulnerability of communities to coastal environmental hazards and can also be interpreted as a general measure

of vulnerability to other social disruptions, such as adverse regulatory change or manmade hazards. Detailed information about the SoVI can be found in Amendment 18 (GMFMC and SAFMC 2011). High social vulnerability does not necessarily mean that there will be adverse effects of proposed actions in this amendment, only that there may be a potential for adverse effects under the right circumstances. Fishing communities in these counties may have more difficulty adjusting to regulatory changes if those impacts affect employment or other critical social capital. The SoVI for counties in each state is illustrated in the maps (Figures 3.5.3.4 and 3.5.3.12-14) below.

3.5.4 South Atlantic Coastal Pelagic Fishing Communities

The figures below present the top fifteen communities based upon a regional quotient of commercial landings and value for coastal migratory pelagic species (Figures 3.5.4.1 – 3.5.4.3). The regional quotient is the proportion of landings and value out of the total landings and value of that species for that region. The Keys communities are included in both South Atlantic and Gulf communities to allow comparison within each region. In Figure 3.5.4.1, Cocoa, Florida lands over 25% of all king mackerel for South Atlantic fishing communities and those landings represent over 30% of the value. Only four North Carolina communities make up the top fifteen, and no South Carolina or Georgia communities are included in this graph.

Those communities that are categorized within the top fifteen for regional quota are profiled under their county description which includes the top fifteen species landed within each community by local quotient (lq) and represents those species ranked according to their contribution to landings and value out of total landings and value for each community. Only those communities that have landings or landed value of 3% or more will be profiled under a county description.

King Mackerel

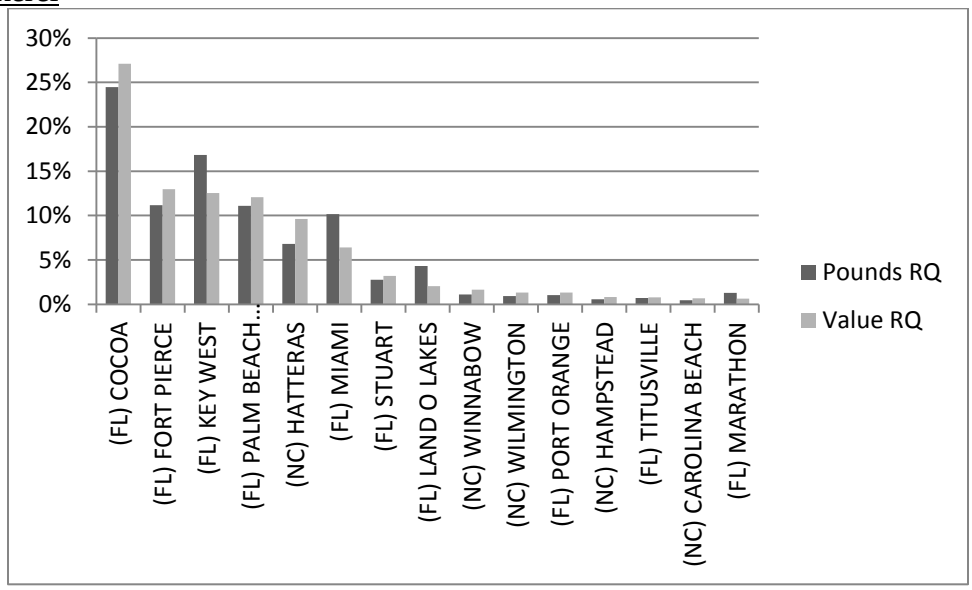

Figure 3.5.4.1. Top Fifteen South Atlantic Communities Ranked by Pounds and Value Regional Quotient of King Mackerel. Source: ALS 2011

Spanish Mackerel

For Spanish mackerel in the Atlantic (Figure 3.5.4.2), Fort Pierce has almost 32% of the landings and 50% of the value. Cocoa is second with about 16.5% of landings and about 31% of value. Although Hatteras, North Carolina ranked third for value, the community had lower landings than Palm Beach Gardens, Florida. No South Carolina or Georgia communities are included in the top fifteen for Spanish mackerel.

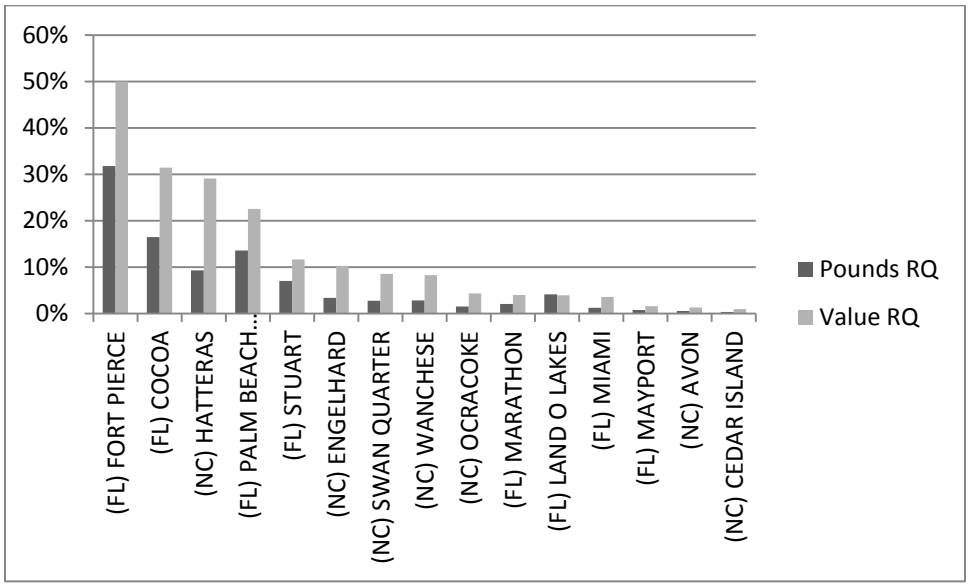

Figure 3.5.4.2. Top Fifteen South Atlantic Communities Ranked by Pounds and Value of Regional Quotient of Spanish Mackerel. Source: ALS 2011

Cobia

Cocoa, Florida was also tops in pounds and value for cobia landed in the South Atlantic with about 19% of the value and almost 21% of the landings (Figure 3.5.4.3). One North Carolina community and one South Carolina community are included in the top fifteen, and no Georgia communities are included.

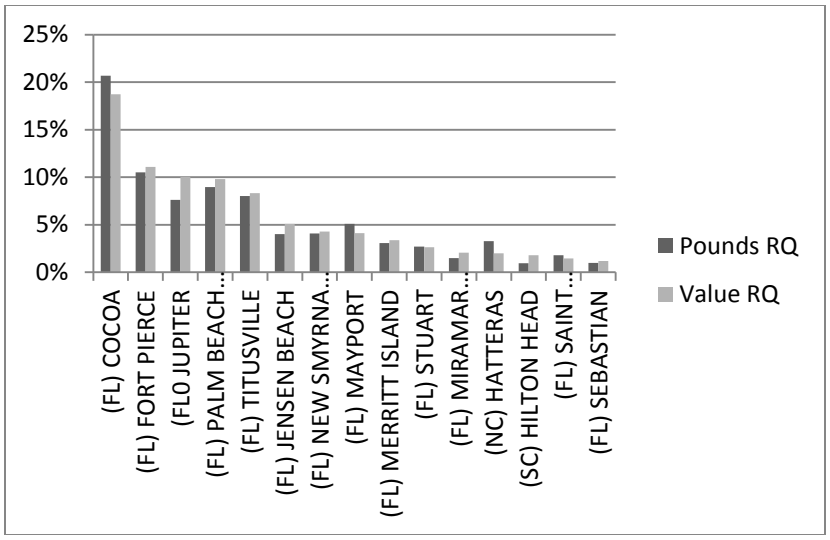

Figure 3.5.4.3. Top Fifteen South Atlantic Communities Ranked by Pounds and Value Regional Quotient (rq) of Cobia. Source ALS 2010.

South Atlantic Recreational Fishing Communities

Recreational fishing communities in the South Atlantic are listed in Table 3.5.4.1. These communities were selected by their ranking on a number of criteria including number of charter permits per thousand population and recreational fishing infrastructure as listed under the MRIP survey identified within each community.

Table 3.5.4.1. South Atlantic Recreational Fishing Communities.

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

Florida Counties

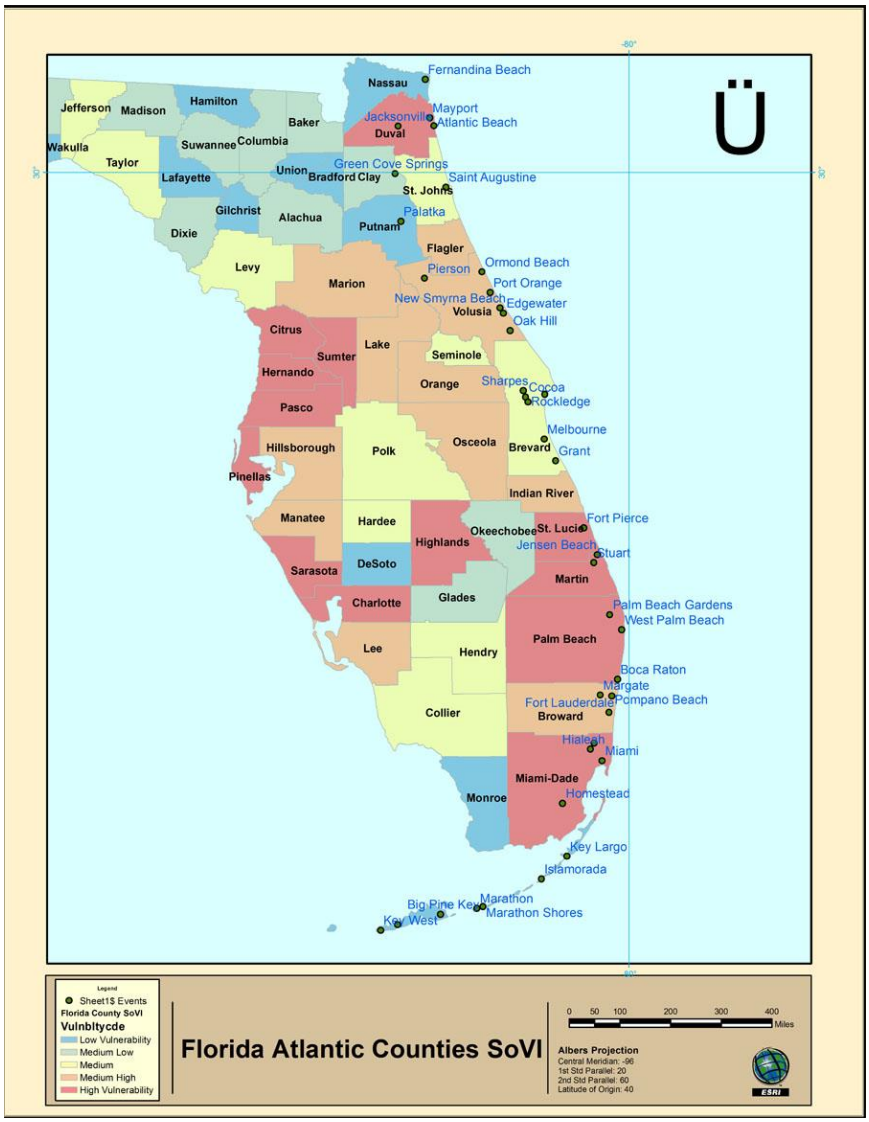

Figure 3.5.4.4. The Social Vulnerability Index applied to South Atlantic Florida Counties.

A good portion of Florida's east coast (Figure 3.5.4.4) is considered either medium high or highly vulnerable in terms of social vulnerability. In fact, the only counties not included in those two categories are Nassau, St. John's and Monroe. Those counties with communities with significant landings of coastal pelagics are profiled below.

In 2012, Florida vessels had 1,690 king mackerel and Spanish mackerel commercial permits, including king mackerel gillnet permits (there is no cobia permit at this time) (Table 3.5.4.2). Monroe County (Florida Keys) has the largest number of king mackerel and Spanish mackerel permits, followed by Palm Beach County. In general, the more southern counties have more CMP permits. Most vessels have permits for both king and Spanish mackerel.

Table 3.5.4.2. Number of CMP permits in Florida counties (2012).

County*	King Mackerel Gill Net	King Mackerel	Spanish Mackerel	Total
Brevard	0	84	85	**169**
Broward	0	47	60	**107**
Duval	0	27	26	**53**
Indian River	0	51	54	**105**
Martin	4	55	72	**131**
Miami-Dade	0	82	153	**235**
Monroe	11	152	245	**408**
Nassau	0	5	5	**10**
Palm Beach	0	150	156	**306**
St Johns	0	6	7	**13**
St Lucie	0	52	69	**121**
Volusia	0	15	17	**32**
Total	**15**	**726**	**949**	**1,690**

*Based on mailing address of permit holder.

Duval County

Detailed demographic information about Duval County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities in Duval County are Jacksonville and Mayport, but because Jacksonville is a large city, the commercial fisheries have less of a local economic impact than in a smaller community like Mayport. Figure 3.5.4.5 shows the top fifteen commercial species landed in Mayport. Overall, white shrimp is the most important commercial fishery in the community, and just over 3% of landings consisting of CMP species with king mackerel making up the largest proportion of CMP landings.

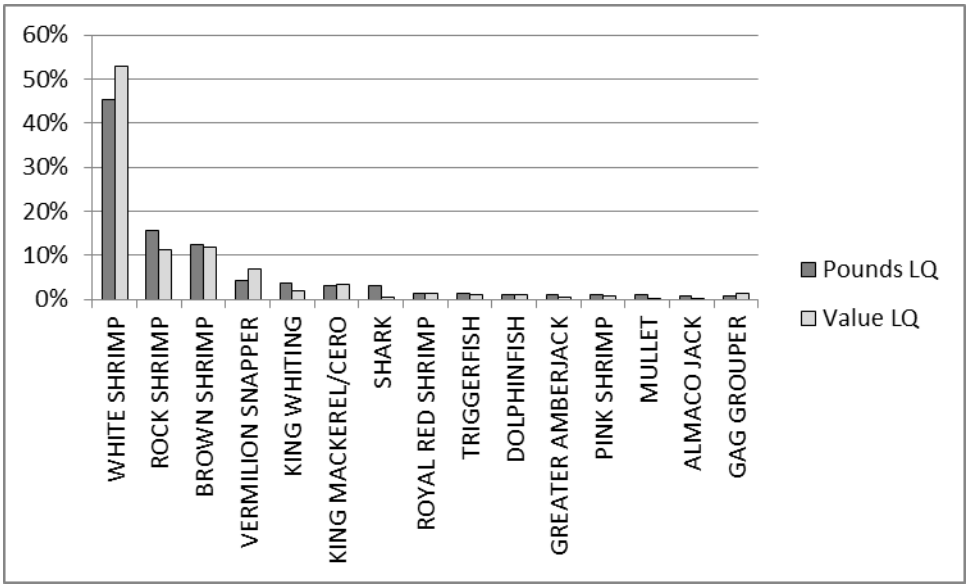

Figure 3.5.4.5. The top fifteen species in terms of proportion (lq) of total landings and value for Mayport, Florida. Source: ALS 2010

Brevard County
Detailed demographic information about Brevard County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities are Cape Canaveral, Cocoa, Melbourne, and Titusville. Brevard County is also home to a large cruise terminal and the Kennedy Space Center in Cape Canaveral. Both Cocoa and Cape Canaveral are included in the top fifteen South Atlantic communities with CMP landings.

Cocoa is the top community in the South Atlantic for king mackerel and cobia commercial landings, and the second community for Spanish mackerel. King mackerel and Spanish mackerel make up almost 70% of landings in the community and about 70% of the local commercial value (Figure 3.5.4.6).

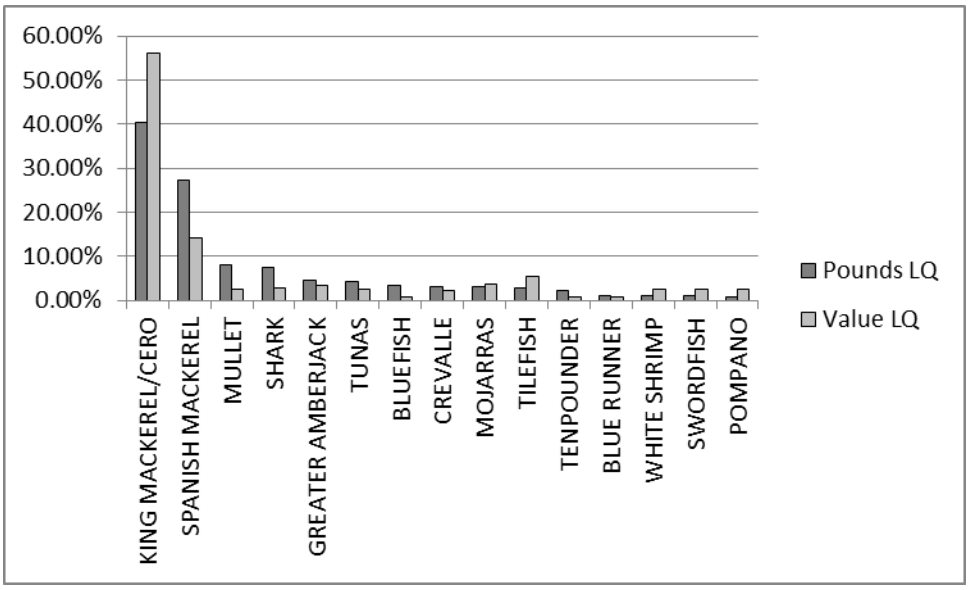

Figure 3.5.4.6. The top fifteen species in terms of proportion (lq) of total landings and value for Cocoa, Florida. Source: ALS 2010

Although Cape Canaveral is one of the top fifteen South Atlantic communities in commercial cobia landings, the species does not make up a significant portion of local landings (Figure 3.5.3.7). Deepwater and penaeid shrimp species are the majority of landings in this community.

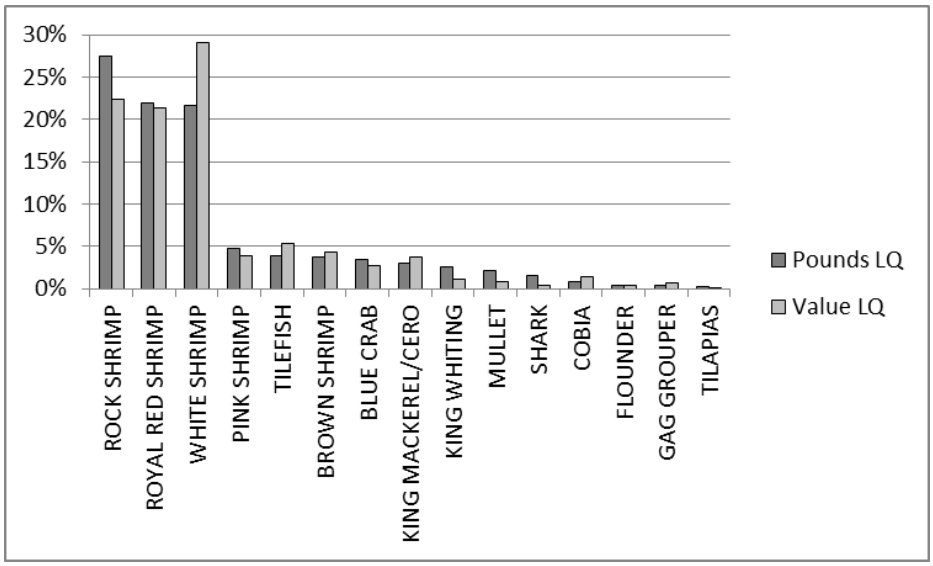

Figure 3.5.4.7. The top fifteen species in terms of proportion (lq) of total landings and value for Cape Canaveral, Florida. Source: ALS 2010

St. Lucie County

Detailed demographic information about St. Lucie County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities are Port St. Lucie and Fort Pierce.

Fort Pierce was included in the top fifteen communities for CMP species and the distribution of commercial landings is shown in Figure 3.5.4.8. Spanish mackerel and king mackerel make up more than 60% of all commercial landings and commercial value.

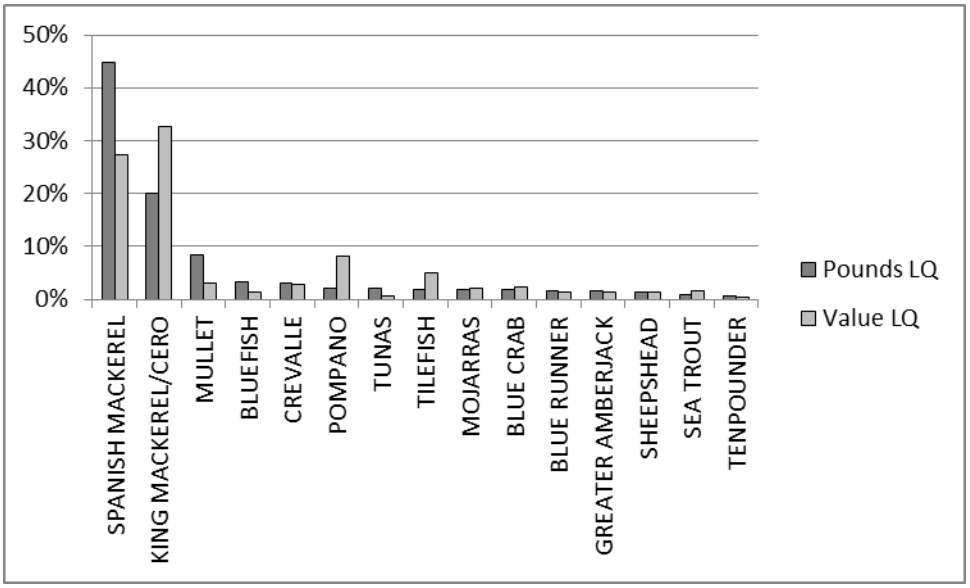

Figure 3.5.4.8. The top fifteen species in terms of proportion (lq) of total landings and value for Fort Pierce, Florida. Source: ALS 2010

Martin County
Detailed demographic information about Martin County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities are Stuart, Port Salerno, Jensen Beach, and Hobe Sound. Stuart is one of the top fifteen communities in the South Atlantic for CMP species. Spanish mackerel and king mackerel make up about 45% of commercial landings in Stuart and almost 50% of commercial fishing value (Figure 3.5.4.9).

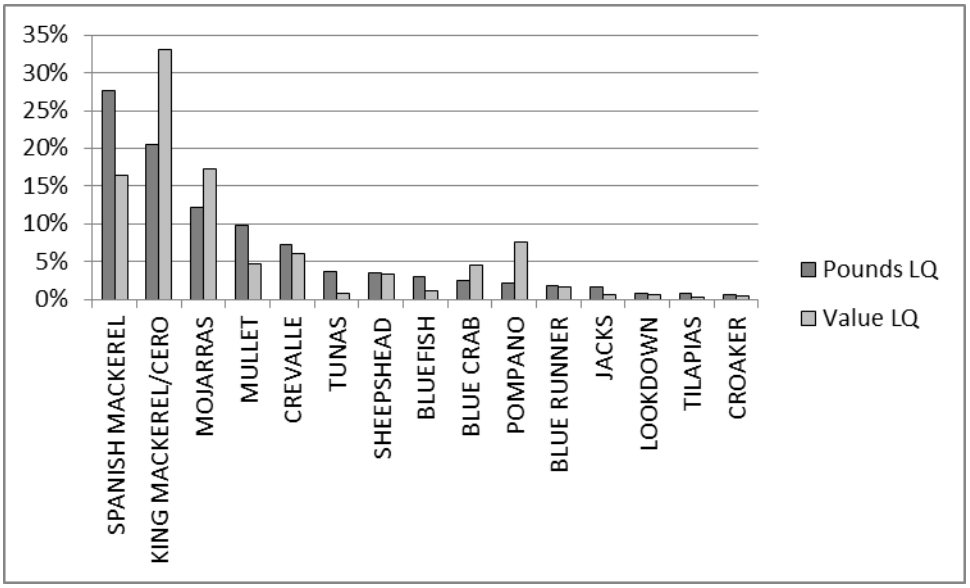

Figure 3.5.4.9. The top fifteen species in terms of proportion (lq) of total landings and value for Stuart, Florida. Source: ALS 2010

Palm Beach County
Detailed demographic information about Palm Beach County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities are Atlantic Beach, Boynton Beach, Delray Beach, Jupiter, Lake Worth, Palm Beach, and Palm Beach Gardens. Palm Beach Gardens is one of the top fifteen South Atlantic communities for CMP species, and king mackerel and Spanish mackerel make up about 40% of local landings and about 20% of local fishery value (Figure 3.5.4.10). Although swordfish and tuna make up about the same proportion of landings, these two fisheries make up a substantial part of the local fishery value.

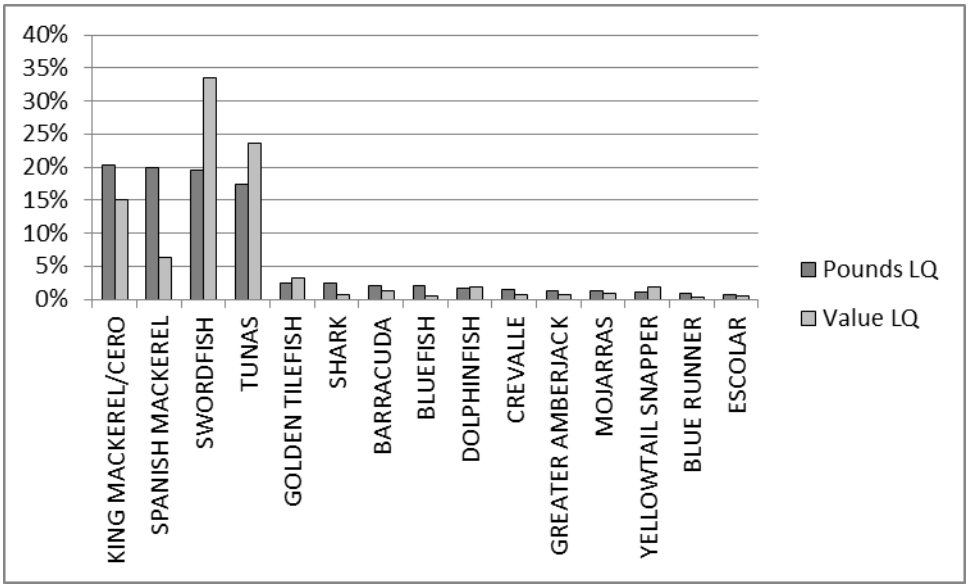

Figure 3.5.4.10. The top fifteen species in terms of proportion (lq) of total landings and value for Palm Beach Gardens, Florida. Source: ALS 2010

Monroe County

Detailed demographic information about Monroe County can be found in Amendment 18 (GMFMC and SAFMC 2011). The primary fishing communities are Key Largo, Islamorada, Tavernier, Marathon, Big Pine Key, Summerland Key, and Key West. Key West is one of the top fifteen communities in the South Atlantic and in the Gulf (see section 3.5.4). Spiny lobster and pink shrimp are the primary commercial species in Key West (Figure 3.5.4.11), with king mackerel making up almost 20% of local landings.

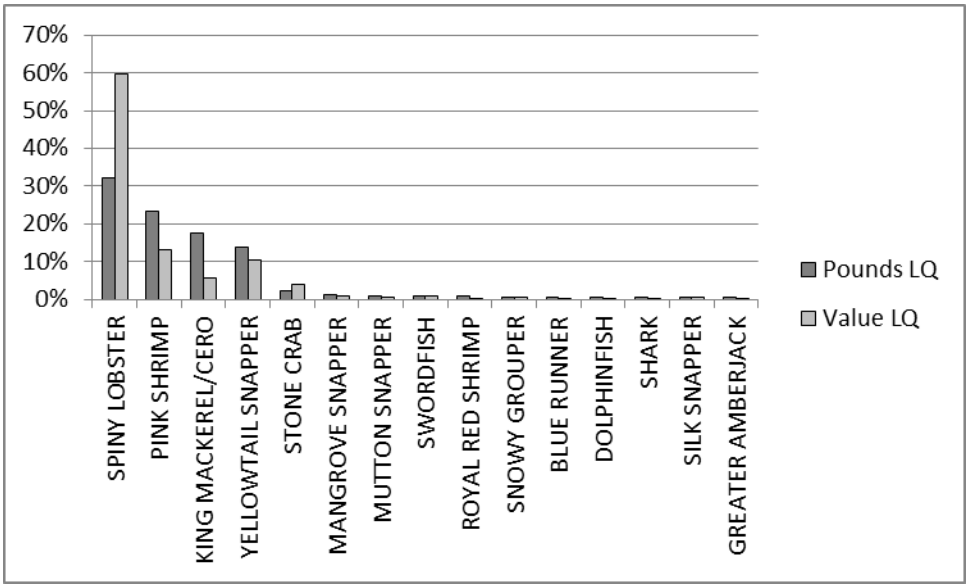

Figure 3.5.4.11. The top fifteen species in terms of proportion (lq) of total landings and value for Key West, Florida. Source: ALS 2010

Georgia Counties

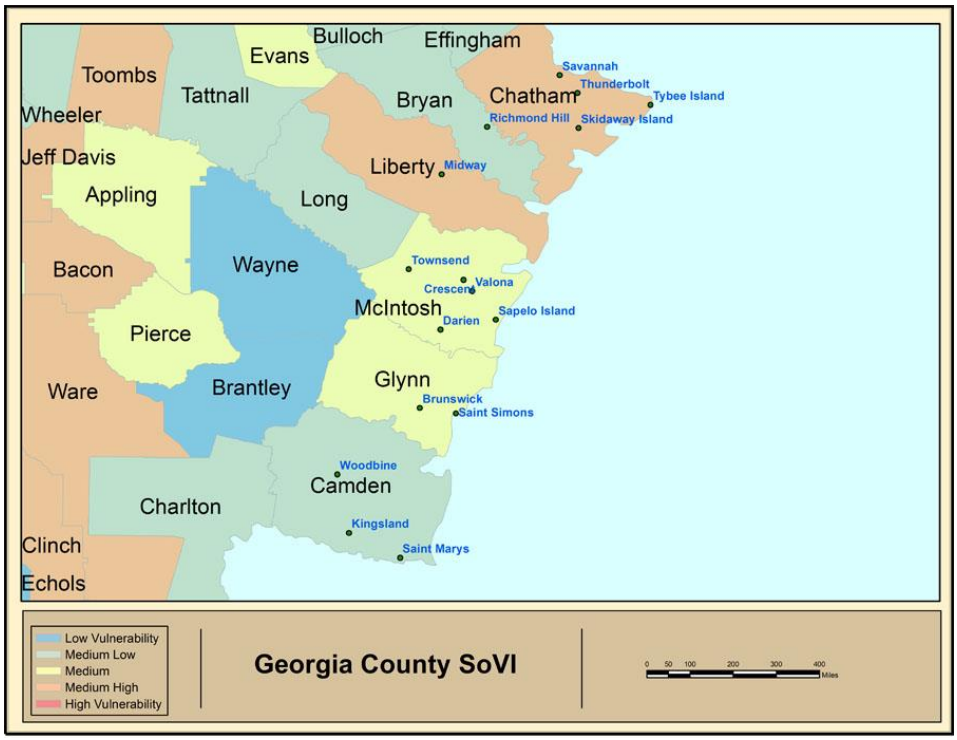

Figure 3.5.4.12. The Social Vulnerability Index applied to Georgia Coastal Counties.

There were two counties in Georgia with medium high vulnerability and those were Liberty and Chatham (Figure 3.5.4.12). The fishing communities located in those counties are Savannah, Thunderbolt, Tybee Island and Skidaway Island in Chatham County, and Midway in Liberty County. There are few king mackerel and Spanish mackerel permits in Georgia, with the largest number in McIntosh County (Table 3.5.4.3).

Table 3.5.4.3. Number of CMP permits in Georgia counties (2012).

County*	King Mackerel	Spanish Mackerel	Total
Camden	1	1	**2**
Chatham	1	1	**2**
Glynn	1	1	**2**
McIntosh	3	2	**5**
Putnam	1	0	**1**
Telfair	1	1	**2**
Other	3	1	**4**
Total	**11**	**7**	**18**

*Based on the mailing address of the permit holder.

Georgia had no communities with landings or value over 3% for any coastal pelagic. While there were no substantial commercial landings within the state, the recreational fishery may be important. However, it is unfeasible to place recreational landings at the community level. Recreational fishing communities in the state are listed above in Table 3.5.4.1.

South Carolina Counties

Coastal South Carolina had no counties that were either medium or highly vulnerable (Figure 3.5.4.13). This does not mean that communities could not be vulnerable to adverse impacts because of regulatory action. It may suggest that coastal South Carolina is more resilient and capable of absorbing such impacts without substantial social disruption. South Carolina had no communities with landings or value over 3% for any coastal pelagic. While there were no substantial commercial landings within the state, the recreational fishery may be important. However, it is unfeasible to place recreational landings at the community level. Recreational fishing communities in the state are listed above in Table 3.5.4.1.

South Carolina Counties

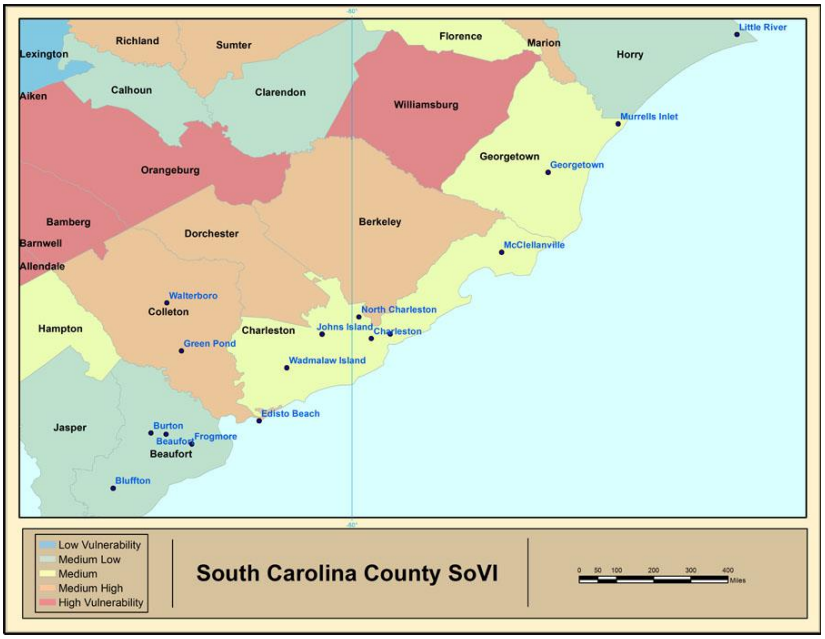

Figure 3.5.4.13. The Social Vulnerability Index applied to South Carolina Coastal Counties.

In comparison to other states, South Carolina has a lower number of king mackerel and Spanish mackerel permits. Most of the permit holders live in Georgetown County or Horry County, with some individuals from Charleston County (Table 3.5.4.3).

Table 3.5.4.4. Number of CMP permits in South Carolina counties (2012).

County*	King Mackerel	Spanish Mackerel	Total
Berkeley	1	0	**1**
Charleston	4	2	**6**
Georgetown	11	4	**15**
Hampton	2	1	**3**
Horry	7	6	**13**
Williamsburg	0	2	**2**
Total	**25**	**15**	**40**

*Based on mailing address of the permit holder.

South Carolina had no communities with landings or value over 3% for any coastal pelagic. While there were no substantial commercial landings within the state, the recreational fishery, particularly for cobia, is important for private anglers and the for-hire sector.

North Carolina Counties

There are a number of North Carolina counties classified as being either medium high or high on the social vulnerability scale and within those counties there are numerous fishing communities (Figure 3.5.4.14). Those counties that are considered to be either medium high or high on the SoVI are: New Hanover, Onslow, Carteret, Washington, Bertie, Chowan, Pasquotank, and Perquimans.

North Carolina has slightly more king mackerel permits than Spanish mackerel permits, and in general most vessels have both permits. Dare County has the highest number of CMP permits followed by Brunswick County. Carteret County and New Hanover County also have relatively significant numbers of CMP permits.

Table 3.5.4.5. Number of CMP permits in North Carolina counties (2012).

County*	King Mackerel	Spanish Mackerel	Total
Beaufort	1	1	**2**
Brunswick	55	37	**92**
Carteret	30	23	**53**
Dare	77	76	**153**
Hyde	4	8	**12**
New Hanover	35	13	**48**
Onslow	6	2	**8**
Pamlico	0	8	**8**
Pasquotank	0	1	**1**
Pender	10	4	**14**
Pitt	1	2	**3**
Randolph	3	3	**6**
Wake	1	0	**1**
Other	15	13	**28**
Total	**238**	**191**	**429**

*Based on mailing address of the permit holder.

Hatteras is the only community in North Carolina with landings or value over 3% for any coastal pelagic. While there were no substantial commercial landings within the state, the recreational fishery is important for private anglers and the for-hire sector.

North Carolina Counties

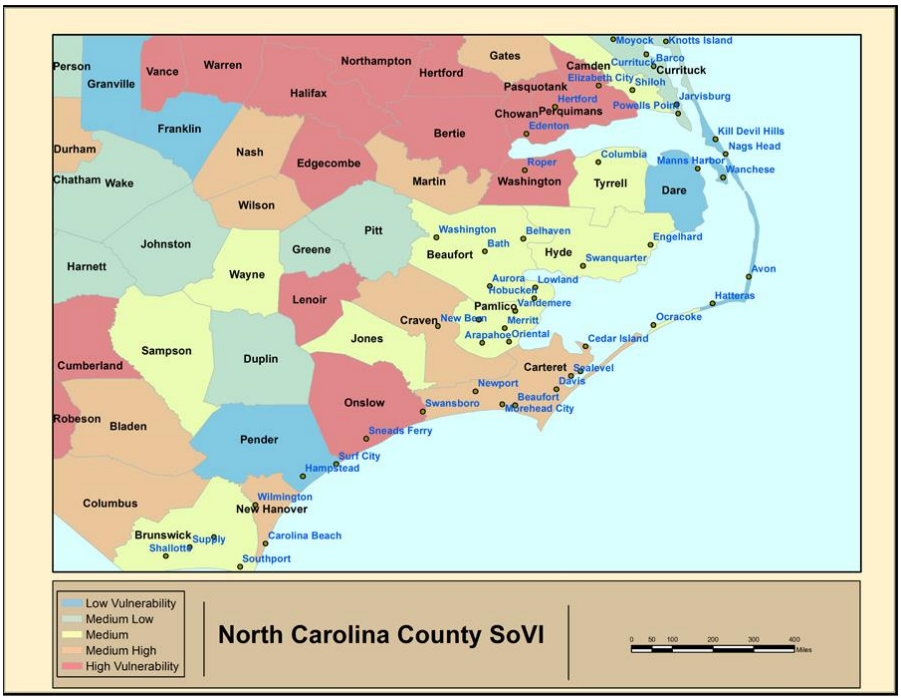

Figure 3.5.4.14. The Social Vulnerability Index applied to North Carolina Coastal Counties.

3.5.5 Environmental Justice Considerations

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

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

In order to identify the potential for EJ concern, the rates of minority populations (non-white, including Hispanic) and the percentage of the population that was below the poverty line were examined. The threshold for comparison that was used was 1.2 times the state average for minority population rate and percentage of the population below the poverty line. If the value for the community or county was greater than or equal to 1.2 times the state average, then the community or county was considered an area of potential EJ concern. Census data for the year 2010 was used. Estimates of the state minority and poverty rates, associated thresholds, and community rates are provided in Table 3.5.5.1 and 3.5.5.2; note that only communities that exceed the minority threshold and/or the poverty threshold are included in the table.

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

Table 3.5.5.1. Environmental Justice thresholds (2010 U.S. Census data) for counties in the Gulf of Mexico region. Only coastal counties (west coast for Florida) with minority and/or poverty rates that exceed the state threshold are listed.

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

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

Table 3.5.5.2. Environmental Justice thresholds (2010 U.S. Census data) for counties in the South Atlantic region. Only coastal counties (east coast for Florida) with minority and/or poverty rates that exceed the state threshold are listed.

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

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

King mackerel and Spanish mackerel are part of an important commercial fishery throughout the South Atlantic and Gulf regions, and specifically in Florida, and the fish are also targeted by recreational fishermen. Cobia has less importance commercially but is an extremely important recreational species, particularly in the Carolinas and for the for-hire sector on the Florida panhandle. The actions in this proposed amendment are expected to incur social and economic benefits to users and communities by implementing management measures that would contribute to conservation of the coastal pelagic stocks and to maintaining the commercial and recreational sectors of the fishery. Although there will be some short-term impacts due to some of the proposed management measures, the overall long-term benefits are expected to contribute to the social and economic health of South Atlantic and Gulf coastal communities.

Finally, the general participatory process used in the development of fishery management measures (e.g., scoping meetings, public hearings, and open South Atlantic and Gulf Council meetings) is expected to provide sufficient opportunity for meaningful involvement by

potentially affected individuals to participate in the development process of this amendment and have their concerns factored into the decision process. Public input from individuals who participate in the fishery has been considered and incorporated into management decisions throughout development of the amendment.

3.6 Description of the Administrative Environment

3.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The 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 Section 9. 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 to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. The Gulf Council consists of 17 voting members: 11 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 miles offshore from the seaward boundary of the States of North Carolina, South Carolina, Georgia, and east Florida to Key West. The South Atlantic Council has thirteen voting members: one from NMFS; one each from the state fishery agencies of North Carolina, South Carolina, Georgia, and Florida; and eight public members appointed by the Secretary. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard (USCG), and Atlantic States Marine Fisheries Commission (ASMFC).

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

The Councils use a Scientific and Statistical Committee 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 Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

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

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

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

More information about these agencies can be found from the following web pages:
Texas Parks & Wildlife Department - http://www.tpwd.state.tx.us
Louisiana Department of Wildlife and Fisheries http://www.wlf.state.la.us/
Mississippi Department of Marine Resources http://www.dmr.state.ms.us/
Alabama Department of Conservation and Natural Resources http://www.dcnr.state.al.us/
Florida Fish and Wildlife Conservation Commission http://www.myfwc.com
Georgia Department of Natural Resources, Coastal Resources Division http://crd.dnr.state.ga.us/
South Carolina Department of Natural Resources http://www.dnr.sc.gov/
North Carolina Department of Environmental and Natural Resources
http://portal.ncdenr.org/web/guest/

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1: Modify the Commercial Hook-and-Line Trip Limits for Gulf Group King Mackerel.

Alternative 1: No Action – Retain the existing commercial hook-and-line trip limits. **(Gulf AP Preferred)**

a. Western Zone at 3,000 pounds
b. Eastern Zone Northern Subzone at 1,250 pounds until 75% of the quota is taken, at which time the trip limit decreases to 500 pounds
c. Eastern Zone Southern Subzone at 1,250 pounds until 75% of the quota is taken, at which time the trip limit decreases to 500 pounds

Alternative 2: Set the commercial hook-and-line trip limit at 2,500 pounds with no reduction.

Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone

Alternative 3: Set the commercial hook-and-line trip limit at 3,000 pounds with no reduction. **(SA Mackerel AP Preferred)**

Gulf Preferred Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Gulf Preferred Option c: For the Eastern Zone Southern Subzone

Alternative 4: Set the commercial hook-and-line trip limit at 1,250 lbs with no reduction.

Option a: For the Western zone
Gulf Preferred Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone

4.1.1 Direct and Indirect Effects on the Physical/Biological Environments

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. These gears still have the potential to snag and entangle bottom structures and cause tear-offs or abrasions (Barnette 2001). If gear is lost or improperly disposed of, it can entangle marine life. Entangled gear often becomes fouled with algal growth. If fouled gear becomes entangled on corals, the algae may eventually overgrow and kill the coral.

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 reduces the overall population size. Impacts of these alternatives on the biological environment would depend on the resulting reduction or increases in the level of fishing effort to meet the renewal requirement specified under each alternative.

Indirect impacts of these alternatives on the physical and biological environments would depend on the resulting reduction or increase in the level of commercial king mackerel fishing effort in the Gulf. Based on Tables 2.1.2 and 2.1.3, the quota for each zone/subzone would still have been reached before the end of the 2012 fishing season regardless of the trip limit. Therefore, no change in overall effort would be expected with any of the alternatives and no change to the impacts on the physical and biological environments.

4.1.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would not be expected to affect the harvest or other customary uses of king mackerel resources. Therefore, **Alternative 1** is not expected to result in effects on the economic environment. **Alternatives 2-4** consider various adjustments to trip limits in the Western and Eastern Zones.

In this analysis, king mackerel fishermen are assumed to attempt to maximize net operating revenues per trip, subject to an array of constraints, including the prevailing king mackerel trip limit. It is also assumed that none of the trip limit adjustments considered would prevent fishermen from harvesting the totality of the king mackerel ACL because, in response to a trip limit reduction, more trips can be scheduled. Other factors constant, the implementation of a less restrictive trip limit would be expected to afford some fishermen additional flexibility in trip planning and in the selection of the catch composition that could increase their net revenues, potentially resulting in direct economic benefits. However, greater trip limits would be expected to shorten the fishing season and may contribute to market gluts, which could depress the fishermen's net revenues. Trip limit increases would only benefit fishermen for whom the initial trip limit constituted a binding constraint. Conversely, the establishment of a binding and more restrictive trip limit would be expected to hamper fishermen's ability to select the catch composition expected to maximize net revenues, potentially resulting in direct adverse economic effects. Negative economic effects are expected to be partially mitigated by market effects that would result from price increases expected from reduced king mackerel harvests.

Alternative 2 would set a uniform king mackerel trip limit of 2,500 lbs for all zones. For the Western Zone, **Alternative 2, Option a** would correspond to a 500 lb-trip limit reduction. A trip limit adjustment from 3,000 lbs to 2,500 lbs is expected to be binding for 14% of the king mackerel trips in the Western Zone. A cumulative distribution of king mackerel trips by zone and average king mackerel landings is provided in Table 4.1.2.2. The reduction in trip limit considered in **Alternative 2, Option a** is expected to result in negative direct economic effects by placing a binding constraint on 14% of the king mackerel trips in the Western Gulf. Positive market effects due to potential increases in king mackerel prices are also expected. While it is likely that the direct adverse economic effects that would stem from the reduction in trip limit would be greater than the potential market effects, it is not possible to determine the net economic effects that would result from trip limit adjustments because the catch composition and number of king mackerel trips that fishermen would elect to take in response to a trip limit change are unknown.

Table 4.1.2.2. King mackerel landings per trip by zone – Average cumulative percentages (2009/2010 to 2011/2012).

Pounds per trip	Western Zone	Eastern Zone	
		Northern	Southern
1,250 or less	51.6	99.8	98.5
1,500 or less	60.4	99.9	99.0
2,000 or less	71.2	100.0	99.4
2,500 or less	86.0	100.0	99.6
3,000 or less	100.0	100.0	100.0

Alternative 2, Options b and **c** would increase trip limits by 1,250 lbs in the Eastern Zone. As indicated above, trip limit increases are expected to grant additional flexibility in trip scheduling and in the selection of a catch composition, potentially resulting in increased net revenues. These direct economic benefits are expected to result in adverse market effects due to the shortened season and the associated increase in the supply of king mackerel during the season. Because 99.8% of king mackerel trips in the Eastern Zone Northern Subzone and 98.5% of the trips in the Eastern Zone Southern Subzone land 1,250 lbs of king mackerel or less, economic effects that would to result from **Alternative 2, Options b** or **c** are expected to be negligible. **Alternative 3** would establish a king mackerel trip limit of 3,000 lbs for all zones. For the Western Zone, **Gulf Preferred Alternative 3, Option a** would implement the same trip limit as the status quo alternative. Therefore, economic effects are not expected to result from **Gulf Preferred Alternative 3, Option a**. In the Eastern Zone, **Alternative 3, Options b** and **c** would more than double the current king mackerel trip limit. Economic effects that would result from **Alternative 3, Options b** or **c** are expected to be negligible because 99.8% of king mackerel trips in the Eastern Zone, Northern Subzone and 98.5% of the trips in the Eastern Zone Southern Subzone land 1,250 lbs of king mackerel or less.

Alternative 4 would set a king mackerel trip limit of 1,250 lbs across all zones. **Alternative 4, Option a** would correspond to a 1,750 lb-trip limit reduction for the Western Zone. The reduction in trip limit considered in **Alternative 4, Option a** is expected to result in negative direct economic effects by placing a binding constraint on 48.4% of the king mackerel trips in the Western Gulf. Positive market effects due to potential increases in king mackerel prices are also expected. While it is likely that the direct adverse economic effects that would stem from the reduction in trip limit would be greater than the potential market effects, it is not possible to determine the net economic effects that would result from **Alternative 4, Option a** because the catch composition and number of king mackerel trips that fishermen would elect to take in response to the trip limit reduction are unknown.

Gulf Preferred Alternative 4, Option b and **Alternative 4, Option c** would maintain a king mackerel trip limit of 1,250 lbs and eliminate the step-down provision that is currently enacted once 75% of the ACL is harvested in the Eastern Zone. Economic effects that would result from **Alternative 4, Options b** or **c** are expected to be negligible because the quasi-totality of king mackerel trips taken in the Eastern Zone land 1,250 lbs of king mackerel or less.

4.1.3 Direct and Indirect Effects on the Social Environment

Although impacts are not normally expected from retaining **Alternative 1**, this action is being considered due to problems expressed by fishermen who travel long distances to reach fishing grounds. For example, a trip limit of 1,250 lbs may not allow enough income on a trip to cover expenses. This problem is exacerbated when the trip limit is reduced to 500 lbs, leading to requests to remove the trip limit reduction. **Alternative 1** would preserve these trip limits, thereby allowing these problems to continue.

Some impacts would be expected from a reduction to the trip limits. However, only trips harvesting more than the **Alternative 1** trip limit would be impacted. Therefore, impacts will not affect all fishermen and all trips. Also, there will be a trade-off in expected impacts. For example, greater impacts would be expected the greater the reduction to the trip limit. But, each reduction to the trip limit would be expected to result in an increase to the season length, thereby providing benefits to fishermen.

Each option (**a**, **b**, and **c**) under **Alternatives 2-4** pertains to a particular zone. This discussion compares the alternatives by zone or subzone (each option in turn). In the Western Zone (**Options a**), no impacts would be expected from **Alternative 3** (**Gulf Preferred Option a**), as it retains the same trip limit as **Alternative 1** (3,000 lbs). A 2,500-lb trip limit (**Alternative 2**) would be expected to result in minor impacts, with those vessels that land between 2,500 and 3,000 lbs being affected by the trip limit reduction. However, the season would be extended accordingly. The 1,250-lb trip limit (**Alternative 4**) would affect the most trips, specifically those vessels that would land between 1,250 and 3,000 lbs per trip. In turn, this alternative would also result in the longest season.

The same pattern holds for both Eastern Zone subzones, except in the inverse: these alternatives and options provide larger trip limits than **Alternative 1** providing benefits to fishermen by allowing greater landings per trip. But, they would each be expected to result in a shorter season as the quota is caught faster. Also, **Alternatives 2-4** would remove the trip limit reduction for both subzones, benefiting fishermen who want larger trip limits, while also impacting the fleet by shortening the season. Thus, for both Eastern Zone subzones (**Options b** and **c**), **Alternative 3** would provide fishermen with the largest trip limit but result in the shortest season. The trip limit under **Alternative 2** is only 500 lbs per trip less than **Alternative 3** (including **Gulf Preferred Option c**), so impacts would be similar. **Alternative 4** (including **Gulf Preferred Option c**) would result in the fewest impacts compared to status quo, as the trip limit remains the same (1,250 lbs), but the trip limit reduction to 500 lbs would be removed. This would shorten the season somewhat, but enable fishermen to land more fish per trip.

4.1.4 Direct and Indirect Effects on the Administrative Environment

If **Options a-c** are chosen for any one of **Alternatives 2-4**, the burden on the administrative environment would be reduced relative to **Alternative 1** because all the trip limits in the Gulf would be the same. This situation would help enforcement, particularly in areas near the borders of two zones. The administrative burden would also be reduced by choosing any of **Alternatives 2-4** for the Northern and Southern Subzones because all the alternatives remove the trip limit

reduction at 75% of the quota. **Alternative 1** requires NMFS to process two regulatory notices (trip limit reduction and closure) in most years for each subzone. However, in some years the landings are at such a high rate that the trip limit reduction cannot be implemented before a closure is necessary. This creates confusion among constituents and requires additional outreach by NMFS staff.

4.2 Action 2: Change the Fishing Season for Gulf Group King Mackerel for the Eastern and Western Zone.

Alternative 1: No Action - the fishing season remains July 1 – June 30.

Gulf Preferred Alternative 2: Change the fishing season for Gulf group king mackerel season to September 1 – August 31.

Option a: For the Western Zone
Option b: For the Eastern Zone

Alternative 3: Change the fishing season for Gulf group king mackerel season to October 1 – September 30.

Option a: For the Western Zone
Option b: For the Eastern Zone

4.2.1 Direct and Indirect Effects on the Physical/Biological Environments

Alternative 1 would maintain the commercial king mackerel season at status quo, opening on July 1 and closing on June 30. As such, any direct or indirect effects to the physical, biological, and/or ecological environment would not be anticipated to be any different than those which currently occur. The impacts on the physical environment from CMP fishing are detailed in Section 4.1.1.

Gulf Preferred Alternative 2 would move the start date of the commercial king mackerel season to September 1. Such a move in the start date of the commercial fishing season may result in decreased fishing pressure. This time of year corresponds with the height of hurricane season, and temporal effort reduction resulting from poor weather conditions may result in a prolonged fishing season in some or all subzones. However, "bad weather days" are not anticipated to be frequent enough to result in a subzone not catching its quota. Additionally, a later start date might discourage movement of fishers from the Atlantic coast of Florida to south Louisiana and into the Florida Panhandle as has been the case for several years. Otherwise traveling fishers may be forced to pursue other species in the absence of an open commercial king mackerel fishing season in mid-summer months; however, this temporal shift in effort is also not anticipated to result in a subzone not catching its quota.

Alternative 3 would move the start date of the commercial king mackerel season to October 1, and would be subject to the same possible effects described for Preferred Alternative 2.

In summary, it is not possible to accurately predict what might happen in terms of changes in effort, but from a biological standpoint, there are no differences in the impacts to king mackerel

for **Alternative 1**, the **Alternative 2** and **Alternative 3**. All subzones are predicted to catch their respective annual quotas regardless of seasonal start dates. Consequently, no biological effects are anticipated from these alternatives because they merely address shifting of harvest time to coincide with availability of the resource in different areas.

4.2.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would maintain the current July 1 – June 30 fishing season in the Western and Eastern zones. Therefore, **Alternative 1** is not expected to result in effects on the economic environment.

Gulf Preferred Alternative 2, Options a and **b** would establish a September 1 – August 31 fishing season in the Western and Eastern zones, respectively. Average monthly percentages of the king mackerel ACL landed in the Western and Eastern zones are provided in Figures 4.3.2.1 and 4.3.2.2, respectively. The implementation of **Gulf Preferred Alternative 2, Option a** would trigger substantial adjustments in monthly landings in the Western Zone if fishermen continue to harvest the totality of the king mackerel ACL because king mackerel harvests during the months of July and August account for more than 60% of total king mackerel harvested in the Western Zone. While the cooler temperatures in the fall may allow some fishermen to improve the quality of harvested fish, a September 1 season start would cause potential disruptions to fishing operations. A later season would force fishermen to adjust trip planning and catch composition in July and August, especially in years during which king mackerel migrate earlier than usual. Therefore, a fall start to the fishing season would place added constraints to fishermen's attempts to maximize net revenues and could be expected to result in adverse direct economic effects. The magnitude of the economic effects would be determined by the extent and nature of adjustments to fishing trips in response to the new season in the Western Gulf.

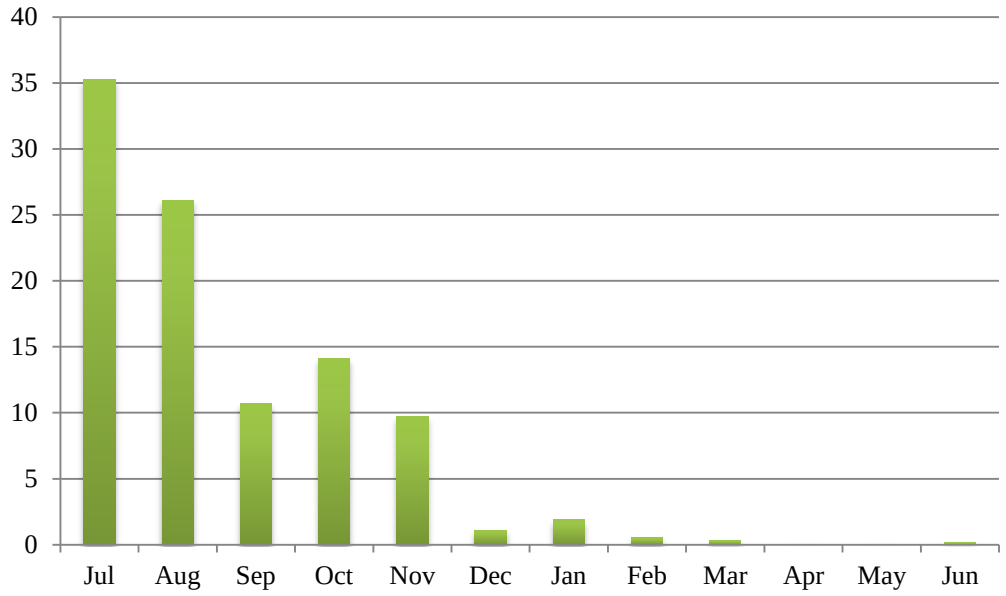

Figure 4.3.2.1. Average monthly percentage of Gulf group king mackerel landed in the Western Zone (2004-05 to 2010-11) – Source: Accumulated Landings System data (7/12/2012)

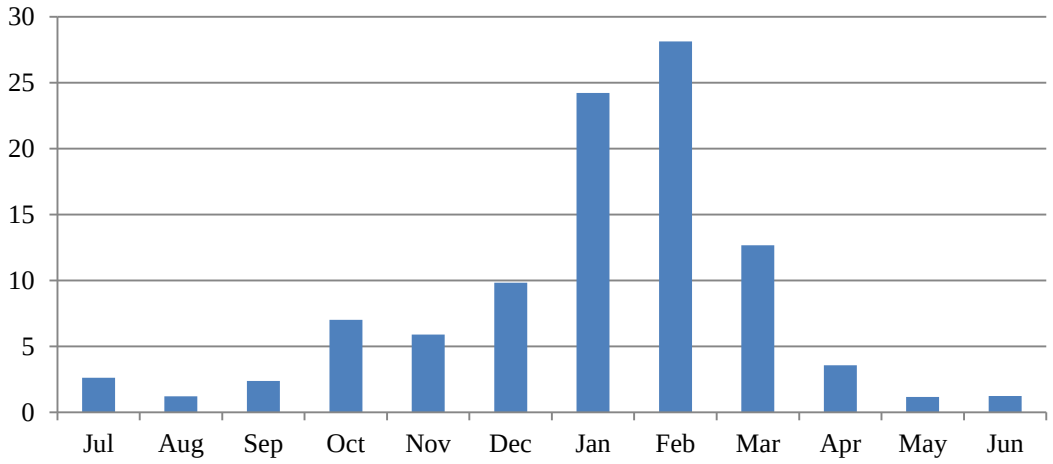

Figure 4.3.2.2. Average monthly percentage of Gulf group king mackerel landed in the Eastern Zone (2004-05 to 2010-11) – Source: Accumulated Landings System data (7/12/2012)

In response to the implementation of **Gulf Preferred Alternative 2, Option b**, fishing trips in the Eastern Gulf are expected to be minimally impacted because less than 4% of the king mackerel harvested in the Eastern Zone are landed during the months of July and August. Therefore, any disruptions to usual trip planning and catch composition as a result of **Gulf Preferred Alternative 2, Option b** are expected to be minimal, with negligible associated economic effects.

Alternative 3, Options a and **b** would establish an October 1 - September 30 king mackerel fishing season in the Western and Eastern Zones, respectively. In the Western Zone, more than 72% of the king mackerel annually harvested are landed before October 1. **Alternative 3, Option a** would be expected to cause potential disruptions to fishing operations in the Western Zone and result in direct adverse economic effects. The extent to which disruptions to fishing operations hamper fishermen's abilities to pursue net revenue maximizing strategies in the Western Zone would determine the magnitude of these economic effects. potential adverse economic effects that would result from **Alternative 3, Option a** are expected to be greater than effects expected from **Gulf Preferred Alternative 2, Option a b**ecause **Alternative 3, Option a** would postpone a greater proportion of king mackerel landings in the Western Zone by starting the fishing season one month later than the start date considered in **Gulf Preferred Alternative 2, Option a**. The October 1-September 30 fishing season considered in **Alternative 3, Option b** is expected to impact a small portion of the king mackerel annual landings in the Eastern Zone. Only 6.2% of the king mackerel landings in the Eastern Zone are landed between July 1 and September 30. Therefore, potential disruptions to trip planning and catch composition as a result of **Alternative 3, Option b** are expected to be minimal, with negligible associated economic effects.

4.2.3 Direct and Indirect Effects on the Social Environment

4.2.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would result in no change in the current administrative environment. **Gulf Preferred Alternative 2** could result in short-term increased administrative burden if subzone quotas are caught more quickly as a result of larger numbers of large king mackerel being more easily harvested closer to shore. The faster pace of landings would require faster notification of trip limit reductions and subsequent subzone closures. **Alternative 3** would likely result in a similar administrative burden as described for **Gulf Preferred Alternative 2**. Increased administrative burden is likely if different options (Option a: Western Subzone; Option b: Eastern Subzone) are selected for different alternatives. Law enforcement may find it difficult to enforce different fishing seasons, especially near the Florida/Alabama state line. Other administrative burdens that may result from all of the alternatives considered would take the form of development and dissemination of outreach and education materials to inform fishery participants of any changes to the fishing season.

4.3 Action 3: Establish Transit Provisions for Travel through Areas that are Closed to King Mackerel Fishing.

Alternative 1: No Action – do not establish a transit provision.

Alternative 2: Establish a provision allowing transit through the Florida west coast Northern and Southern Subzones when those zones are closed for vessels possessing Atlantic group king mackerel that were legally harvested in the EEZ off Monroe County.

South Atlantic Preferred Alternative 3: Establish a provision allowing transit through Collier County when the Eastern Zone, Southern Subzone is closed for vessels possessing Atlantic group king mackerel that were legally harvested in the EEZ off Monroe County only from April 1 – June 30.

Gulf Preferred Alternative 4: Establish a provision allowing transit through areas closed to king mackerel fishing for vessels possessing king mackerel that were legally harvested in the EEZ off areas open to king mackerel fishing. **(SA Mackerel AP Preferred) (Gulf AP Preferred, but only for vessels with VMS)**

Alternative 5: Establish a provision allowing transit through the Eastern Zone, Northern Subzone when that area is closed for vessels possessing king mackerel that were legally harvested in the EEZ off Collier County.

Note: For Alternatives 2-5, the following conditions apply:
Only for vessels in direct and continuous transit and with gear stowed
Only for fishermen holding a federal commercial king mackerel permit

4.3.1 Direct and Indirect Effects on the Physical/Biological Environments

The impacts on the physical environment from CMP fishing are detailed in Section 4.1.1. Indirect impacts of these alternatives on the physical and biological environments would depend on the resulting reduction or increases in the level of fishing effort in the commercial king mackerel sector of the CMP fishery.

A reduction of the indirect impacts would only occur with any of the alternatives if fishermen forego fishing opportunities because of their inability to transit through closed areas. This is most likely to occur in the Eastern Zone Southern Subzone. This subzone, comprised of Collier and Monroe Counties from November 1 – March 31, usually closes in early spring (see Table 2.2.1). Beginning April 1 of each year, Monroe County is considered to contain Atlantic migratory group king mackerel and the Southern Subzone is comprised of only Collier County. As a result, federal waters off Monroe County are part of an open zone, while federal waters off Collier County remain part of the closed Southern Subzone. Some fishermen fish in the northern portion of Monroe County, which is a sparsely populated area. To land those fish they must travel to the Florida Keys where dealers in Monroe County are located. **Alternatives 2-5** would allow fishermen who legally harvest king mackerel from Monroe County to transport and land their catch in other areas of the Gulf that are closed to king mackerel fishing. If these fishermen are more likely to fish for king mackerel if they can land in Collier County, than effort could increase and the impacts to the physical and biological environments could increase.

4.3.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would not establish a transit provision. The no action alternative would continue to prohibit the possession of legally harvested king mackerel in closed areas. **Alternative 1** would not affect the harvest or other customary uses of the king mackerel resources. Therefore, **Alternative 1** is not expected to result in effects on the economic environment. **Alternatives 2, 3,** and **5** would implement limited transit provisions for king mackerel caught in specific areas. **Alternative 2** would allow Atlantic group king mackerel harvested in the EEZ off Monroe County to transit through the Florida west coast Northern and Southern Subzones. Between April 1 and June 30, **South Atlantic Preferred** **Alternative 3** would allow Atlantic group king mackerel legally harvested in the EEZ off Monroe County to transit through Collier County when the Eastern Zone - Southern Subzone is closed. Vessels possessing king mackerel legally harvested in the EEZ off Collier County would be permitted to transit through the Eastern Zone Northern Subzone under **Alternative 5**. The most flexible transit provision is considered in **Gulf Preferred** **Alternative 4**. **Gulf Preferred** **Alternative 4** would allow vessels with legally harvested king mackerel to transit through areas closed to king mackerel fishing. Reducing binding constraints or eliminating restrictive regulations would generally be expected to benefit fishermen and result in economic benefits. The relaxation of transit provisions considered in alternatives other than the status quo is expected to afford fishermen more flexibility in trip planning and provide opportunities to adjust the cost structure and catch composition of trips that would harvest king mackerel. Under the status quo, some fishermen may elect to forego king mackerel harvests because of the prohibition to transit through closed areas and the potential increases in trip costs that would result from taking detours to avoid closed areas and be legally allowed to land king mackerel. In response to the establishment of favorable transit provisions,

some of the fishermen who have elected to limit their king mackerel harvests could increase their harvest. However, the potential increase in king mackerel landings by some fishermen could result in the ACL being reached sooner, triggering an earlier closure of the fishery relative to status quo. Overall, economic effects expected to result from a relaxation of transit restrictions are anticipated to be positive because the potential increases in net revenues that would result from the added flexibility in selecting catch composition and from costs savings from lower fuel expenditures are assumed to outweigh potential adverse economic effects that could result from earlier closures. All other parameters equal, more lenient transit provisions granted during longer time periods would be expected to result in greater economic benefits. Thus, compared to all other alternatives considered in this action, **Gulf Preferred Alternative 4** is expected to result in the greatest level of economic benefits. While **Alternatives 2, 3** and **5** are expected to result in economic benefits relative to status quo, it is not possible to rank them because transit provisions proposed in these alternatives apply to different areas and time intervals.

4.3.3 Direct and Indirect Effects on the Social Environment

Transit provisions would likely be beneficial to fishermen, dealers, and associated businesses. Allowing vessels to transit through closed areas to land fish harvested in open areas, with specifications for gear stowing, could reduce potential negative effects of landing requirements in the multiple zones and sub-zones in the CMP fishery. For example, harvest in an open zone or sub-zone could provide a supply to areas that are closed by allowing vessels to land in the closed areas. **Alternative 1 (No Action)** will not generate any of the benefits to the CMP fleet. **Alternatives 2-5** would be expected to have positive social effects on CMP fishermen and businesses that may depend on supply of mackerel. **Gulf Preferred Alternative 4** would provide more flexibility in landing sites than **Alternative 2**, **South Atlantic Preferred Alternative 3**, and **Alternative 5**, which would primarily benefit only fishermen in the Florida Keys. Florida Keys fishermen would be able to take advantage of working in a location with joint jurisdiction and maximize efficiency in the CMP fishing year for the different zones.

4.3.4 Direct and Indirect Effects on the Administrative Environment

Allowing transit through closed areas would increase the burden on enforcement. Currently, with **Alternative 1**, fishermen cannot possess king mackerel in excess of the bag limit in a closed zone or subzone. **Alternatives 2-5** would allow vessels in direct and continuous transit with gear stowed to possess king mackerel within a closed area, requiring enforcement officers to make a determination about these conditions. **South Atlantic Preferred Alternative 3** is consistent with Florida regulations passed in 2012. This consistency would ease enforcement in that area. **Gulf Preferred Alternative 4** would allow transit through any area closed to king mackerel fishing, which would be easier for both enforcement officers and fishermen to remember in which areas transit is allowed and in which it is not.

4.4 Action 4: Establish State Quotas for Atlantic Migratory Group King Mackerel and Spanish Mackerel for North Carolina.

Alternative 1: No Action - retain one commercial ACL each for Atlantic migratory groups of king mackerel and Spanish mackerel

Alternative 2: Establish a separate commercial ACL of Atlantic group king mackerel for North Carolina based on:

Option a- the average of the proportion of landings in North Carolina from 2007-08 through 2011-12.

Option b- the average of the proportion of landings in North Carolina from 2002-03 through 2011-2012.

Option c- 50% based on the proportion of landings in North Carolina 2002-03 through 2011-2012 and 50% based on the proportion of landings in North Carolina 2007-08 through 2011-12 (Boyles Law).

Option d- the average of the proportion of landings in North Carolina from 1997-98 through 2011-12. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

Alternative 3: Establish a separate commercial ACL of Atlantic group Spanish mackerel for North Carolina based on:

Option a- the average of the proportion of landings in North Carolina from 2007-08 through 2011-12.

Option b- the average of the proportion of landings in North Carolina from 2002-03 through 2011-2012.

Option c- 50% based on the proportion of landings in North Carolina 2002-03 through 2011-2012 and 50% based on the proportion of landings in North Carolina 2007-08 through 2011-12 (Boyles Law).

Option d- the average of the proportion of landings in North Carolina from 1997-98 through 2011-12. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

Alternative 4: Allow for transfer of quota between the General Atlantic Group king mackerel and Spanish mackerel ACLs and the North Carolina king mackerel and Spanish mackerel ACLs. **(SA Mackerel AP Preferred)** **(Gulf AP Preferred)**

4.4.1 Direct and Indirect Effects on the Physical/Biological Environments

There are no direct biological or ecological effects from establishing a state quota for North Carolina. The ACL and AMs provide biological protection and prevent overfishing (see the discussion under Administrative Effects for more detail on the monitoring program). This action does not change the level of catch, only how it is distributed.

Alternative 1 would retain one commercial quota each for Atlantic migratory groups of king and Spanish mackerel and this would not change the existing level of biological/ecological effects.

Separate commercial quotas in **Alternative 2** (king mackerel) and **Alternative 3** (Spanish mackerel) each have the same set of four options that would allocate differing amounts to North Carolina and the remainder of the South Atlantic Council's jurisdictional area based on different years of data. Both alternatives, along with the options, would not change the existing level of direct biological/ecological effects. There may be some potential indirect biological/ecological effects if establishing separate quotas results in the ACL being exceeded due to having two quotas to track for each species. Given the level of proficiency within the state of North

Carolina, and their extensive experience with a similar situation for northeast species, the potential of overruns of the ACL are expected to be minimal. In addition, improvements to quota monitoring reduce this potential (see the discussion under Administrative Effects for more detail on the monitoring program).

Alternative 4 allows for transfer of quota between the North Carolina quotas and the quotas for the remaining areas. This would help prevent ACL overages and reduce the potential for any indirect biological/ecological effects. Again, this is something North Carolina has considerable experience in administering under the Atlantic States Marine Fisheries Commission (ASMFC) management plans.

4.4.2 Direct and Indirect Effects on the Economic Environment

NOTE: North Carolina would monitor the landings and prohibit landings in the state when the North Carolina allocation is met. Fishing in the NC EEZ would not be prohibited, only landings.

In recent years, the overall average annual percent of the total king mackerel commercial landings from NC has steadily decreased. From the 2008-2009 season through the 2011-2012 season, the percent of the commercial landings from NC averaged 20.6%. From the 2002-2003 season through the 2007-2008 season, the percent of the commercial landings in NC averaged 41.65%. The reason for the decline in landings in NC is not entirely clear. Only in the 2009-2010 season did the commercial sector come close to catching their entire quota (96.1%) as shown in the landings time series in Table 4.2.1.

Table 4.2.1. Atlantic migratory group king mackerel commercial landings percentages for North Carolina vs. the rest of the Atlantic. Note: Landings from the mid-Atlantic region equal < 1%.

	North Carolina		**FL, GA and SC**		**Unused Quota**
	% of Quota	% of Total Landings	% of Quota	% of Total Landings	
2002 - 2003	20.9%	44.7%	25.9%	55.3%	53.1%
2003 - 2004	16.0%	34.3%	30.5%	65.5%	53.5%
2004 - 2005	28.2%	38.2%	45.5%	61.7%	26.3%
2005 - 2006	31%	51.1%	29.5%	48.6%	39.3%
2006 - 2007	32.4%	40.2%	48.3%	59.8%	19.3%
2007 - 2008	29.8%	41.4%	41.9%	58.3%	28.`%
2008 - 2009	25.7%	30.7%	58.1%	69.3%	16.2%
2009 - 2010	21.2%	22%	74.9%	77.9%	3.9%
2010 - 2011	7.9%	8.6%	83.9%	91.4%	8.2%
2011 - 2012	11.7%	21.1%	43.7%	78.9%	44.6%

Commercial ACL=3,710,000 lbs
Data source: SEFSC

Typically, Atlantic migratory group king mackerel migrate from Florida northwards and the peak of the season in North Carolina occurs months later than it does in Florida. However, there is concern that if the future commercial ACL for Atlantic migratory group king mackerel is reduced, the entire quota could be caught off of Florida before the fish migrate towards North Carolina. **Alternative 2** seeks to insure that king mackerel fishermen from North Carolina have continued access to the shared stock.

North Carolina's declining percent of the landings has become readily apparent since the 2008-2009 season. Prior to the 2008-2009 season, the percent of the total landings of king mackerel in North Carolina do not follow a specific trend, but all landings are higher than those from the 2008-2009 season and later. The longer the time series that determines North Carolina's separate allocation, the greater the benefit to that state should the entire ACL be caught prior to the end of the season in future years. Since **Option d** provides the longest time series compared to **Option b**, and **Option b** time series is longer than **Option a**, **Option d** would have the potential to provide greater direct positive economic effects for North Carolina and possible greater negative economic effects for South Carolina, Georgia, and Florida than would those states would experience under **Alternative 1** when the entire commercial ACL is caught and the fishery closed prior to the end of the season. **Option c** applies a compromise approach similar to how allocations were made between commercial and recreational sectors in the South Atlantic Council's Comprehensive ACL Amendment (SAFMC 2011). The potential positive economic effects to North Carolina and potential negative economic effects to South Carolina, Georgia, and Florida of **Option c** would fall between those of **Options b** and **d**.

Alternative 3 and its options are the same as in **Alternative 2**, however **Alternative 3** addresses a separate allocation of Atlantic migratory group Spanish mackerel for North Carolina. Table 4.2.2 for Spanish mackerel is analogous to Table 4.2.1 for king mackerel. The last three seasons in Table 4.2.2 show that the commercial fishery exceeded its allocation by as much as 26.3%. However, for the years that are not confidential, there is no discernible trend in the proportion of the overall commercial catch landed in North Carolina compared to landings from Florida, Georgia, and South Carolina. By allocating a portion of the commercial ACL to North Carolina, that state will be guaranteed that a change in the ACL will result in equivalent proportionally equivalent increases/decreases and not be affected by potential seasonal differences between the northern and southern portions of the stock's range.

Table 4.2.2. Atlantic migratory group Spanish mackerel commercial landings percentages for North Carolina vs. the rest of the Atlantic. Note: Landings from the mid-Atlantic region equal < 1%.

	North Carolina		**FL, GA and SC**		**Unused Quota**
	% of Quota	% of Total Landings	% of Quota	% of Total Landings	
2002 - 2003	18.1%	21.9%	60.8%	73.6%	17.4%
2003 - 2004	11.8%	12.2%	81.4%	84.5%	3.6%
2004 - 2005	Confidential				17.9%
2005 - 2006	Confidential				5.2%
2006 - 2007	Confidential				-0.6%
2007 - 2008	13.5%	15.8%	69.6%	81.9%	14.9%
2008 - 2009	Confidential				12.4%
2009 - 2010	26.6%	21.9%	84.9%	73.3%	-15.8%
2010 - 2011	25.2%	20.0%	99.5%	78.8%	-26.3%
2011 - 2012	24.1%	21.7%	85.5%	77.2%	-10.7%

ACL 2002-03 through 2005-06= 3,870,000 lbs; ACL 2006-07- present= 3,620,000 lbs
Data source: SEFSC

Since **Alternative 3, Option d** provides the longest time series compared to **Option a** or **Option b**, **Option d** would have the potential to provide longer time series in which to fine tune the proportion of overall Spanish mackerel landings that occurred in North Carolina. According to the non-confidential years in Table 4.2.2, greater direct positive economic effects for North Carolina occur under either **Option a** (19.85%) than under **Option b** (18.92%). Either **Option a** or **b** would have the potential to provide greater direct positive economic effects for North Carolina and possible greater negative economic effects for South Carolina, Georgia, and Florida than would those states would experience under **Alternative 1** when the entire commercial ACL is caught and the fishery closed prior to the end of the season. **Option c** applies a compromise approach similar to how allocations were made between commercial and recreational sectors in the South Atlantic Council's Comprehensive ACL Amendment (SAFMC 2011). The potential positive economic effects to North Carolina and potential negative economic effects to South Carolina, Georgia, and Florida of **Option e** would fall between those of **Option a** and **Option b**.

Should the councils choose to adopt any of the options in either **Alternative 2** or **Alternative 3** as their preferred option, and in future years the commercial ACL is not exceeded during the season, North Carolina would be constrained to land no more than the amount allocated to them under the preferred option of **Alternative 2** or **Alternative 3**. These alternatives may be to North Carolina's direct economic advantage in years where the ACL is caught and the fisheries occur later in the season in that state. However, there may be lost opportunity for North Carolina should the overall commercial ACL not be met, yet North Carolina had caught its separate allocation. The affected fishery would be closed in that state while remaining open in the rest of the Atlantic region.

4.4.3 Direct and Indirect Effects on the Social Environment

Allocations by state of the ACL for king mackerel and Spanish mackerel will have similar social effects as sector allocations, in that there could likely be some changes in fishing behavior and impacts to the social environment. The mere act of separating a particular threshold into further allocation could have the perception of creating scarcity in that limits have been imposed on each individual allocation. Each subsequent division will drive perceptions of scarcity and could change the fishing behavior of those within a particular sector. These impacts would not be expected under **Alternative 1**.

Benefits would be expected under **Alternatives 2** and **3** because a separate North Carolina allocation would allow fishermen in different states to have opportunity to harvest fish at different times of the year. Additionally, competition would be reduced, which may minimize any current or future derby conditions. However, fishermen associated with one of the allocations (North Carolina ACL or General Atlantic ACL) that reach the quota quickly may not benefit from the separate North Carolina allocation, because his/her ACL would be lower if it is not a total ACL. The North Carolina quotas may also result in perceptions of inequity or reduce ability for a state's fishery to grow.

In general, a larger allocation to North Carolina would be the most beneficial to fishermen in the state because it would allow landings levels to be maintained or increased, althoug larger allocations to North Carolina would reduce allocation to the other states. Also, separating an

allocation places North Carolina and the other states under a smaller ACL than previously accessible. If allocations are not substantially different from landings levels, there would be minimal impact on the fleet. The option for king mackerel allocation that would most likely benefit the North Carolina fishermen and possibly negatively impact fishermen in other states is **Option d** (Table 4.4.4.1). The option for Spanish mackerel allocation that would have similar impacts is **Option a** (Table 4.4.4.2)**.**

Table 4.4.4.1. Expected Allocations for King Mackerel under each option.

	North Carolina KM Allocation	General Atlantic Group KM Allocation
Option a	24.8%	75.2%
Option b	33.2%	66.8%
Option c	29%	71%
Option d	37.2%	62.8%

Table 4.4.4.2. Expected Allocations for Spanish Mackerel under each option.

	North Carolina SM Allocation	General Atlantic Group SM Allocation
Option a	18.7%	81.3%
Option b	16.7%	83.3%
Option c	17.7%	82.3%
Option d	18.2%	81.8%

4.4.4 Direct and Indirect Effects on the Administrative Environment

The monitoring and documentation needed to track separate North Carolina quotas exist within the state of North Carolina. They have extensive experience working with similar programs for a number of northeast species. Their trip ticket program is comprehensive and they call dealers to get updated landings as a quota gets closer to being met. Trip tickets from North Carolina are provided to the NMFS to track regional quotas.

With vastly improved commercial monitoring mechanisms recently implemented, it is unlikely that repeated commercial ACL overages would occur. The Commercial Landings Monitoring System (CLM) came online in June 2012 and is now being used to track commercial landings of federally managed fish species. This system is able to track individual dealer reports, track compliance with reporting requirements, project harvest closures using five different methods, and analyze why ACLs are exceeded. The CLM performs these tasks by taking into account: 1) spatial boundaries for each stock based on fishing area; 2) variable quota periods such as overlapping years or multiple quota periods in one year; and 3) overlapping species groups for single species as well as aggregated species. Data sources for the CLM system include the Standard Atlantic Fisheries Information System for Georgia and South Carolina, and the Bluefin

Data file upload system for Florida and North Carolina. The CLM system is also able to track dealer reporting compliance with a direct link to the permits database in NMFS Southeast Regional Office (SERO). Until the dealer amendment is implemented sometime later this year, the following procedure is in place:

- Permitted dealers are currently required to submit their landings electronically twice each month.
- Permitted dealers currently are required to report landing made from the 1st through the 15th of each month by close of business on the 20th of each month. They are required to report landings made on the 16th through the end of the month by close of business on the 5th of the following month. Some dealers submit landings throughout the reporting period and some submit after the end of the reporting period.
- Most dealers in the South Atlantic submit their landings electronically through Bluefin Data Inc and a small number of dealers submit their landings electronically through the Atlantic Coastal Cooperative Statistics Program's (ACCSP) web site. Bluefin Data Inc submits dealer reports to the Southeast Fisheries Science Center (SEFSC) on Mondays and Wednesdays. Because of Bluefin Data's schedule for data delivery, if the 5th or the 20th falls on a Sunday or a Tuesday then there would be a 1 day lag in SEFSC receiving all of the landings reports submitted on time. If the 5th or 20th fall on a Thursday then there would be a 4 day delay in the SEFSC receiving all of the landings reports submitted on time. Landings submitted through the ACCSP's web site are loaded nightly to the ACCSP data base. SEFSC loads data nightly from Bluefin Data and ACCSP. SEFSC generally transmits landings summaries to SERO two business days after the end of the reporting period, usually on the 7th and 22nd. If the end of the reporting period falls on a Thursday or Friday, SEFSC may send SERO preliminary summaries using the landings reports submitted in the middle of the reporting period and follow that with a more complete report two business days later.
- With the new dealer reporting regulations, dealers will be required to report on a Tuesday and SEFSC would generally submit landings summaries to SERO on Thursdays.
- Quota monitoring landings are posted to the SERO website the same day they are received from the SEFSC.

Additionally, the SEFSC is working with SERO, the Gulf of Mexico Fishery Management Council and South Atlantic Fishery Management Council (South Atlantic Council) to develop a Joint Dealer Reporting Amendment, which was recently approved by both Councils. The Joint Dealer Reporting Amendment would increase required reporting frequency for dealers to once per week, and require a single dealer permit for all finfish dealers the Southeast Region. The CLM and the new dealer reporting requirements constitute major improvements to how commercial fisheries are monitored, and go far beyond monitoring efforts that were in place when the National Standard 1 guidelines were developed. The new CLM quota monitoring system and actions in the Joint Generic Dealer Reporting amendment are expected to provide more timely and accurate data reporting and would thus reduce the incidence of quota overages.

Alternative 4 would increase the level of administrative burden as the quotas for North Carolina and the remaining area would need to be changes as quota was transferred. Other administrative burdens that may result from separate quotas would take the form of development and dissemination of outreach and education materials for fishery participants.

4.5 Action 5: Modify the Framework Procedure.

Alternative 1: No Action – Do not modify the framework procedure adopted through Amendment 18.

South Atlantic Preferred/Gulf Preferred Alternative 2: Modify the framework procedure to include changes to ABCs, ABC/ACL control rules and, accountability measures (AMs) under the standard documentation process for open framework actions. Accountability measures that could be changed would include: **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

Inseason AMs

- Closures and closure procedures
- Trip limit reductions or increases
- Designation of an IFQ program as the AM for species in the IFQ program
- Implementation of gear restrictions

Postseason AMs

- Adjustment of season length
- Implementation of a closed season
- Adjustment or implementation of bag, trip, or possession limit
- Reduction of the ACL to account for the previous year overage
- Revoking a scheduled increase in the ACL if the ACL was exceeded in the previous year
- Implementation of gear restrictions
- Reporting and monitoring requirements

Alternative 3: Modify the framework procedure to include changes to accountability measures (AMs) under the standard documentation process for open framework actions. Accountability measures that could be changed would include:

Inseason AMs

- Closure procedures
- Trip limit reductions or increases

Postseason AMs

- Adjustment of season length
- Adjustment of bag, trip, or possession limit

South Atlantic Preferred/Gulf Preferred Alternative 4: Modify the framework procedure to include designation of responsibility to each Council for setting regulations for the migratory groups of each species. **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

This pertains to:

Responsibilities of Each Council:

4. Recommendations with respect to the Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king mackerel, Spanish mackerel, and cobia will be the responsibility of the Gulf Council, with the following exceptions:
    a. The South Atlantic Council will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for (1) the Eastern Zone - East Coast

Subzone for Gulf migratory group king mackerel and (2) the east coast of Florida including the Atlantic side of the Florida Keys for Gulf migratory group cobia.

5. For stocks where a stock assessment indicates a different boundary between the Gulf and Atlantic migratory groups than the management boundary, a portion of the ACL for one migratory group may be apportioned to the appropriate zone, but management measures for that zone will be the responsibility of the Council within whose management area that zone is located.
6. Both councils must concur on recommendations that affect both migratory groups.

South Atlantic Preferred/Gulf Preferred Alternative 5. Make editorial changes to the framework procedure to reflect changes to the names of the Council advisory committees and panels. **(SA Mackerel AP Preferred) (Gulf AP Preferred)**

4.5.1 Direct and Indirect Effects on the Physical Environment

The impacts on the physical environment from CMP fishing are detailed in Section 4.2.1. No direct physical or biological effects would be expected from modifications of the framework procedure. Changes in harvest levels would change effort levels, either increasing or decreasing the impact on the physical and biological environments. If modifications increase the ease with which regulations can be implemented as needed, long-term benefits would increase. **Alternatives 2, 3,** and **4** offer greater management flexibility and, therefore, are expected to offer greater long-term benefits than **Alternative 1**. A combination of **Alternatives 3-5** offers the greatest efficiency and effectiveness of management change and the largest expected long-term benefit to the physical and biological environments.

4.5.2 Direct and Indirect Effects on the Economic Environment

Modifications to the framework procedure proposed herein are administrative actions. These actions could expand the range of management measures that the South Atlantic and Gulf Councils can implement without a full plan amendment but are not expected to directly affect the harvest and other customary uses of the resource. Therefore, management measures considered under this action are not expected to result in direct effects on the economic environment. However, proposed changes to the framework procedure could result in a speedier implementation of management measures beneficial to the stocks thereby yielding biological benefits in the future. Framework changes may also result in a faster implementation of measures beneficial to fishery participants. Indirect positive economic effects are expected to result from these potential benefits to the stocks or to fishery participants. **South Atlantic Preferred/Gulf Preferred Alternative 2**, which would implement broader changes to the framework procedure relative to **Alternative 3**, is expected to result in greater indirect economic benefits. The explicit designation of responsibility to the Gulf and South Atlantic Councils proposed in **South Atlantic Preferred/Gulf Preferred Alternative 4** is also expected to streamline the implementation of required management measures, thereby expected to result in indirect economic benefits. A quantitative evaluation of alternatives considered under this action would require additional information on the specific management measures to be implemented, expected changes to the stock(s) and/or participants in the fishery in question, and, anticipated time savings that would result from the use of the framework procedure. While unknown, the relative speed at which

beneficial regulatory changes can be implemented under **Alternatives 2, 3, and 4** would determine the magnitude of the anticipated indirect economic benefits.

4.5.3 Direct and Indirect Effects on the Social Environment

Modification of the framework procedure to address AMs in the multiple zones of the CMP fisheries would be expected to result in broad, long-term social benefits, and minimal negative social effects. Although a framework is currently in place (**Alternative 1 (No Action)**), the proposed modifications to improve timeliness and incorporate regulatory updates (**Preferred Alternative 2**, **Alternative 3, Preferred Alternative 4,** and **Preferred Alternative 5**) would be expected to contribute to improved management of the CMP stocks and would allow the Councils to respond to management needs. Public participation and the review process would continue as part of the framework procedure under all alternatives.

4.5.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would be the most administratively burdensome of the alternatives being considered, because any modifications to AMs would need to be implemented through a plan amendment, which is a more laborious and time consuming process than a framework action. Further, action by both Councils would be required for any framework action. **Preferred Alternative 2** and **Alternative 3** would give NMFS and the Council flexibility by allowing for an adjustment of AMs through a framework action. Framework actions generally require less time and staff effort than plan amendments and would lessen the administrative burden on the agency. **Alternative 3** would provide the most flexibility, resulting in the least administrative burden on the agency.

Alternatives 4 and **5** could be chosen in addition to **Preferred Alternative 2** or **Alternative 3. Preferred Alternative 4** would decrease the administrative burden because each Council could carry out framework actions applying to their migratory groups without involvement of the other Council. This would save time because each Council meets on different schedules throughout the year. **Preferred Alternative 5** would reduce the administrative burden because the language is generic enough to incorporate future changes in the name of a committee or panel. Thus, development of a plan amendment and the associated time and work associated with it would be avoided.

4.6 Action 6: Modify the Gulf and Atlantic Migratory Group Cobia Annual Catch Limits (ACLs) and Annual Catch Targets (ACTs).

Alternative 1: No Action. The entire Gulf migratory group cobia ACL applies to the Gulf Council jurisdictional area and the entire South Atlantic migratory group cobia ACL applies to the South Atlantic jurisdictional area. The ACLs and ACTs that were established by Amendment 18 are as follows:

Gulf	South Atlantic
ACL = 1,460,000 lbs	ACL = OY = 1,571,399 lb Commercial ACL (8% ACL) = 125,712 lb Recreational ACL (92% ACL) = 1,445,687 lb
Stock ACT = 1,310,000 lbs	Recreational ACT = 1,184,688 lb

Alternative 2: The ACL = ABC as determined by the SSCs for each migratory group. The entire Gulf migratory group cobia ACL applies to the Gulf Council jurisdictional area and the entire South Atlantic migratory group cobia ACL applies to the South Atlantic jurisdictional area. The ACLs and ACTs would be as follows:

Gulf Migratory Group	South Atlantic Migratory Group
(See Table 2.6.1 for values)	
ACL = ABC = x lbs	ACL = ABC = OY = x lb Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb
Stock ACT = 90%ACL = x lbs	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb

Alternative 3: The ACL for each jurisdictional area would be determined as follows:

- The Gulf migratory group cobia ABC (as determined by the SSC) would be divided into a Gulf Zone ACL and a Florida East Coast Zone ACL (FL/GA border to Council jurisdictional boundary) based on the options below.

  Option a: Use 2003-2012 (10 years) landings to establish the percentage split for the Gulf ABC.

  Option b: Use 2008-2012 (5 years) landings to establish the percentage split for the Gulf ABC.

  Option c: Use Boyles law: 50% of landings from 2003-2012 + 50% of landings from 2008-2012 to establish the percentage split for the Gulf ABC.

  Option d: Use 1998-2012 (15 years) landings to establish the percentage split for the Gulf ABC. (SA Mackerel AP Preferred)

  Option e: Based on yellowtail: 50% of average landings from 1993-2008 + 50% of average landings from 2006-2008 to establish the percentage split for the Gulf ABC.

  Option f: Based on mutton: 50% of average landings from 1990-2008 + 50% of average landings from 2006-2008 to establish the percentage split for the Gulf ABC.

- The South Atlantic ACL would equal to the ABC for the Atlantic migratory group cobia (as determined by the SSC).

- Management measures set by the South Atlantic Council for the South Atlantic migratory group would also apply to the Gulf migratory group Florida East Coast Zone.

T

he ACLs and ACTs would be as follows:

Gulf Migratory Group		South Atlantic Migratory Group
(see Table 2.6.3 for values for each option)		
Gulf Zone	FL East Coast Zone	
ACL = x%ABC = x lbs	ACL = x%ABC = x lbs Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb	ACL = ABC = OY = x lb Commercial ACL (8% ACL) = x lb Recreational ACL (92% ACL) = x lb
Stock ACT = 90%ACL = x lbs	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb	Recreational ACT = ACL [(1-PSE) or 0.5, whichever is greater] = x lb

4.6.1 Direct and Indirect Effects on the Physical/Biological Environment

Setting an ACL or ACT could affect the physical environment if effort changes from current levels. If harvest is restricted under an ACL or ACT, fishing effort could be reduced through AMs such as a shortened season. Cobia are typically caught at the ocean surface and hook-and-line gear typically don't come in contact with bottom habitat. Hook-and-line gear still has 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.

Modifying the ACL or ACT from the current values described in CMP Amendment 18 (**Alternative 1**) potentially would have an impact on the biological environment if harvest changes from current levels, and AMs are triggered if the ACL or ACT is met or exceeded. An ACL equal to the ABC (**Alternatives 2** and **3**) would allow a higher level of landings than an ACL lower than the ABC. In fact, Gulf landings have not exceeded the current ACL in eight years. However, progressively lower ACLs would restrict landings more and increase the likelihood of exceeding the ACL in more years.

The magnitude of the effects is expected to be proportional to the severity of the constraint imposed on fishery participants and the nature of corrective measures implemented in response to overages. The more the ACL or ACT is divided between Council jurisdictions, the more accountability each division would have. With an undivided ACL or ACT for each migratory group, one sector could exceed its allocation without triggering AMs, as long as the jurisdictional ACL or ACT is not exceeded. Jurisdictional ACLs and ACTs would allow the fishery to achieve optimum yield while still constraining the stock within the ACL. If the ACL or ACT is separated by other divisors (**Alternative 3** and associated Options), AMs could be triggered as each jurisdiction reaches its respective limit, provided adequate monitoring is in place. This level of control would be expected to result in greater positive impacts on the biological environment because catch could be more closely controlled. Further, with separate ACLs or ACTs, different types of AMs could be triggered that are more suited to the particular jurisdiction, and therefore, be more effective in constraining harvest within the ACL.

Alternatively, because catches of cobia are approximately 90% recreational, monitoring precision is currently poor. Consequently, any potential positive biological impacts of jurisdiction-specific ACLs or ACTs may not be realized.

4.6. Direct and Indirect Effects on the Economic Environment

(Note: Additional analysis will be completed before public hearings.)

South Atlantic

Until the ABC (without discards) is determined by the SSC, the potential economic effects can only be discussed qualitatively in comparison to **Alternative 1**. Currently, the total ACL for cobia in the South Atlantic is 1,571,399 lbs with 8% (125,712 lbs) allocated to the commercial sector and the remaining 92% (1,445,687 lbs) allocated to the recreational sector. **Alternatives 2** and **3** would only adjust the ACL, not change the sector allocations. In other words, should either **Alternative 2** or **Alternative 3** be selected as preferred, whatever the ACL is that is assigned to the Atlantic migratory group will be split so that 8% of the ACL will go to the commercial sector and 92% of the ACL will be given to the recreational sector.

In 2012 the commercial cobia season did not close, however at the end of the season it was 0.4% over the ACL. It can be assumed that in future years, the commercial cobia season will be able to catch its share of the overall ACL. In 2012 the recreational cobia season did not close and it is estimated that the sector caught 70% of its share of the overall ACL. Should the ACL assigned to the Atlantic migratory group be less than what is currently assigned, it might be more likely that the commercial may exceed its portion of the overall ACL. Depending on the size of the decrease, the recreational sector may or may not exceed it sector ACL in future years.

A reduced ACL could result in less income for commercial sector fishermen and perhaps fewer trips taken for recreational anglers. Both sectors are limited to two fish per person per day. It is unlikely that commercial trips would be cancelled if the cobia season were to close earlier than December 31 because the commercial ACL had been caught. However, any cobia caught after the close would have to be released, resulting in lost income. Recreational trips might be canceled if the recreational ACL is exceeded and requires a closure of the recreational season. Cobia are highly sought after as recreational sport fish.

Should the Atlantic migratory group ACL be increased greater than its current level, the possibility of the season for either the commercial or recreational sector being closed prior to December 31 is reduced. Longer seasons could result in direct positive economic benefit for commercial fishermen in terms of increased revenue from fish that would not have to be released and for recreational anglers in terms of consumer surplus achieved through being able to take the trips and being allowed to keep the cobia they might catch.

4.6.3 Direct and Indirect Effects on the Social Environment

The social effects of modifications to the cobia ACL are associated with two main factors: updated catch limits based on the most recent information from the stock assessment and any changes in access to the resource**.** Figures 3.5.2.8 and 3.5.4.3 show the communities that would

likely benefit from an increase in the cobia commercial ACL under **Alternatives 2** and **3**. The primary communities with commercial cobia landings are located in Florida and include Destin, Cocoa Beach, Ft Pierce, Jupiter, and Palm Beach. Table 3.5.2.1 and Table 3.5.4.1 provide information on communities with high levels of engagement and reliance on recreational fishing, which could be impacted by changes in the cobia recreaitonal ACL.

Because the ACL would not be adjusted to reflect new information and outcomes form the recent stock assessment update, **Alternative 1** would not result in any social benefits expected from incorporating more accurate and up-to-date information into setting catch limits. **Alternatives 2** and **3** would be expected to be more beneficial to the fleet, private anglers, and other resource users because the new information better reflects current conditions with cobia.

Changes in the ACL for any stock will not directly affect resource users unless the ACL is met or exceeded, in which case AMs that restrict or close harvest could negatively impact the commercial fleet, for-hire fleet, and private anglers. In general, the higher the ACL, the greater the social and economic benefits that would be expected to accrue, assuming long-term sustainability goals are met. Adhering to sustainable harvest goals is assumed to result in net long-term positive social and economic benefits. Additionally, adjustments in an ACL based on updated information from a stock assessment would be the most beneficial in the long term to fishermen and communities because catch limits would be based on the current conditions.

The options for allocation of part of the Gulf ACL to the Florida East Coast (**Alternative 3**) will likely to impact fishermen working in the Gulf and on the Florida East Coast. In general, the higher the allocation to the Florida East Coast, the more beneficial due to the opportunity to maintain harvest levels or increase harvest in the future. **Option b** would be the most beneficial with the highest percentage allocated to the Florida East Coast, while **Options e** and **f** could limit fishing opportunities for commercial and recreational fishermen on the Florida East Coast.

4.6.4 Direct and Indirect Effects on the Administrative Environment

Specifying ACLs for cobia in Gulf and South Atlantic jurisdictional waters alone would not typically increase the administrative burden over the status-quo (**Alternative 1**). However, with the change in the boundary between Gulf and South Atlantic migratory cobia stocks moved north to the Florida/Georgia line as dictated by SEDAR 28, the manner in which ACLs are specified for each Council's jurisdiction could result in additional administrative burden. The ACLs presented in **Alternative 1** will likely change once landings data are updated, with the South Atlantic ACL likely decreasing to account for the east coast of Florida being included in the Gulf ACL. This decrease could result in overages and the subsequent closure of the South Atlantic cobia fishery. **Alternative 2** may result in a lower ACL for both jurisdictions, especially the South Atlantic, which may result in quota overages and subsequent fisheries closures. Impacts from options selected for **Alternative 3** will vary based on the resulting ACL determined from proportional landings analyses over the time period identified in each respective option. Administrative burdens that may result from all alternatives considered would take the form of development and dissemination of outreach and education materials to inform fishery participants of any changes to how ACLs and ACTs for Gulf and South Atlantic cobia are determined.

4.7 Cumulative Effects Analysis

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. The NEPA defines a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect occurs when the combined effects are greater than the sum of the individual effects. The following are some past, present, and future actions that could impact the environment in the area where the CMP fishery is prosecuted.

On April 20, 2010, an explosion occurred on the Deepwater Horizon MC252 oil rig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for several years. The oil spill affected more than one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the Deepwater Horizon MC252 oil spill on the physical environment are expected to be significant and may be long-term. Oil was dispersed on the surface, and because of the heavy use of dispersants, oil was also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf as well as non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls are more persistent in the environment and can be transported hundreds of miles.

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

Effects on the physical environment, such as low oxygen, could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encountered oil. In addition, oil exposure could create sub-lethal effects on the eggs, larva, and early life stages. The stressors could potentially be additive, and each stressor may increase susceptibility to the harmful effects of the other. If eggs and larvae were affected, impacts on harvestable-size coastal migratory pelagic

fish would begin to be seen when the 2010 year class becomes large enough to enter the fishery and be retained. King mackerel and cobia mature at 2-3 years and Spanish mackerel mature at 1-2 years; therefore a year class failure in 2010 may be felt by the fishery as early as 2011 or 2012.

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

Recent actions particularly in the South Atlantic have restricted access to other species that provide income for mackerel fishermen. In 2012, fishing for 14 species or species groups in the South Atlantic was prohibited before the end of the year due to ACLs being met. In addition, the overall decline in the U.S. economy has created a burden for many fishermen and for-hire operators. Actions to increase trip limits, change the fishing season, and allow transit through closed areas could all ease the financial burden on fishermen. Actions to establish regional quotas, modify the framework procedure, and modify management of cobia could help protect the species.

Unlike many other fisheries, one single universe of fishermen should not be assumed for the CMP fishery. For example, in the Gulf reef fish fishery, all species are landed under one permit and in the same area, and each fisherman might be expected to be affected to some extent by actions imposed on any reef fish species. However, under the CMP FMP, separate commercial permits are issued to king mackerel and Spanish mackerel fishermen, and no permits are required for commercial cobia fishermen. One permit is required for for-hire vessels to harvest all three CMP species, but there are separate for-hire permits between the Gulf and South Atlantic. Some overlap of fishing among these groups most certainly occurs; however, different gear types are primarily used to fish for king mackerel and Spanish mackerel, and many fishermen do not switch between gear types. Further, each species is managed under two different sets of regulations, one for each migratory group. A large portion of commercial king mackerel fishermen fish in both the Gulf and South Atlantic, but it would not be expected that fishermen fish for all three species in both the Gulf and South Atlantic. Recreational fishermen are also unlikely to move between the Gulf and South Atlantic, except perhaps in the Florida Keys. Therefore, one action affecting a specific species, migratory group, or sector may not have an effect that is cumulative with an action affecting a different species, migratory group, or sector.

Reasonably foreseeable future actions by the Councils are expected to benefit managed species and fishermen. Amendment 19 contains actions that would prohibit bag limit sales of king and Spanish mackerel, eliminate or restrict inactive permits, and change the income requirement for renewing a permit. A South Atlantic framework action addresses bycatch in Spanish mackerel nets and seeks to modify regulations.

How global climate changes will affect Gulf fisheries is unknown. Climate change can impact marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise; and through increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic CO_2 emissions may impact a wide range of organisms and ecosystems, particularly organism that absorb calcium from surface waters, such as corals and crustaceans (IPCC 2007, and references therein).

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

Monitoring

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by NOAA Fisheries Service, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. Landings data for the recreational sector in the Gulf of Mexico are collected through Marine Recreational Information Program (MRIP), NOAA's Headboat Survey, and the Texas Marine Recreational Fishing Survey. Commercial data are collected through trip ticket programs, port samplers, and logbook programs. Currently, a SEDAR assessment of king mackerel scheduled to begin in 2013. In response to the Deepwater Horizon MC252 incident, increased frequency of surveys of the recreational sector's catch and effort, along with additional fishery independent information regarding the status of the stock, were conducted. This will allow future determinations regarding the impacts of the Deepwater Horizon MC252 incident on various fishery stocks. At this time such determinations are not possible.

CHAPTER 5. REGULATORY IMPACT REVIEW

5.1 Introduction

5.2 Problems and Objectives

5.3 Methodology and Framework for Analysis

5.4 Description of the Fishery

A description of the xx fishery, with particular reference to xx, is contained in Chapter 3.

5.5 Effects on Management Measures

5.6 Public and Private Costs of Regulations

Council costs of document preparation, meetings, public hearings, and information Dissemination $x0,000

NOAA Fisheries administrative costs of document preparation, meetings and review $x0,000

TOTAL $x0,000

5.7 Determination of Significant Regulatory Action

CHAPTER 6. REGULATORY FLEXIBILITY ACT ANALYSIS

6.1 Introduction

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

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

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

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

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

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

CHAPTER 7. BYCATCH PRACTICABILITY ANALYSIS

CHAPTER 8. LIST OF PREPARERS

PREPARERS

Name	Expertise	Responsibility
Ryan Rindone, GMFMC	Fishery Biologist	Co-Team Lead – amendment development, biological impacts
Kari MacLauchlin, SAFMC	Fishery Social Scientist	Co-Team Lead – amendment development, social environment and impacts
Susan Gerhart, NMFS	Fishery Biologist	Co-Team Lead – amendment development, introduction, biological and cumulative impacts
Assane Diagne, GMFMC	Economist	Economic impacts, regulatory impact review
Brian Cheuvront, SAFMC	Economist	Economic impacts
Ava Lasseter, GMFMC	Anthropologist	Social impacts
Stephen Holiman, NMFS/SF	Economist	Economic environment and impacts, Regulatory Flexibility Act analysis
Jack McGovern, NMFS/SF	Fishery Biologist	Physical and biological environments
Nikhil Mehta, NMFS/SF	Fishery Biologist	Bycatch practicability analysis
Christina Package, NMFS/SF	Anthropologist	Social environment
Mike Larkin, NMFS/SF	Data Analyst	Data analysis
Gregg Waugh, SAFMC	Biologist	Biological impacts

REVIEWERS

Name	Discipline/Expertise	Role in EA Preparation
Monica Smit-Brunello, NOAA GC	Attorney	Legal review
Noah Silverman, NMFS SERO	Natural resource management specialist	NEPA review
David Dale, NMFS/HC	EFH Specialist	Habitat Review
Jennifer Lee, NMFS SERO	Protected Resources Specialist	Protected Resources review
Brent Stoffle, NMFS/SEFSC	Social Scientist	Social 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, GC = General Counsel

CHAPTER 9. LIST OF AGENCIES, ORGANIZATIONS AND PERSONS CONSULTED

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office
- Office for Law Enforcement

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/Coastal Resources Division
South Carolina Department of Natural Resources/Marine Resources Division
North Carolina Division of Marine Fisheries

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APPENDIX A. ALTERNATIVES CONSIDERED BUT REJECTED

Action 1 - Modify the Commercial Hook-and-Line Trip Limits for Gulf Migratory Group King Mackerel.

Alternative: Set the commercial hook-and-line trip limit at 1,500 pounds with no reduction.

Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone

Alternative: Set the commercial hook-and-line trip limit at 2,000 pounds with no reduction.

Option a: For the Western zone
Option b: For the Eastern Zone Northern Subzone
Option c: For the Eastern Zone Southern Subzone

Action 2 - Change the Fishing Season for Gulf Group King Mackerel for the Eastern and Western Zone.

Alternative: Change the fishing season for Gulf group king mackerel season to November 1 – October 31.

Option a: For the Western Zone
Option b: For the Eastern Zone

Actions complete removed:

Consider modifications to the existing commercial fishery boundary line between the Gulf group king mackerel eastern zone and western zone (currently set at the Alabama - Florida border [87°31'06"]).

Alternative 1: No Action - Retain the current boundary between the eastern and western zones at the Alabama/Florida border

Alternative 2: Move the current boundary line between the eastern zone and western zone from the Alabama/Florida border to Cape San Blas, Florida (85°30' w. longitude).

Alternative 3: Move the current boundary line between the eastern zone and western zone from the Alabama/Florida border to 89°30' w. longitude near the mouth of the Mississippi river.

Discussion: The current boundary between the eastern and western zones at the Alabama/Florida border was set in 1985 with the implementation of Amendment 1 to the Coastal Migratory Pelagics Fishery Management Plan (Figure 2.1.1). This line was chosen because existing scientific information at that time recognized a western migratory group of king mackerel that moved northward up the Texas and Louisiana coasts in spring and summer and southward in fall and winter. Another migratory group moved northward from the Florida Keys area to the Panhandle area of Florida in the spring and summer and back southward in fall and winter. Although these groups were known to mix, such mixing was believed to be small, and the Mississippi River outfall appeared to be somewhat of a barrier. In considering the boundary, the

Councils also took into consideration the need to allow all areas of the Gulf some degree of access to the stock. The stock is managed under a commercial allocation of total allowable catch (TAC), and the TAC was very low at that time (only approximately 2.9 mp as compared to 10.2 mp over the past few years). With a set season and TAC, it was believed that without a zone/separate TAC allocation, the entire TAC would be taken before fish migrated into some areas. The Councils also considered that there was very little participation in the commercial fishery from Alabama and Mississippi, thus the dividing line at the Florida/Alabama border and a July 1 season opening were considered the least disruptive measures to participants. These decisions were based on known elements of the fishery from the mid to late 1970s. A review of the current and more recent past data may provide additional information.

Consider retaining or eliminating the northern subzone based on any of the boundaries chosen in Action 1. If eliminated, consider transferring the current allocation percentage to either the eastern or western zone based on any of the boundaries chosen in Action 1.
Alternative 1: No Action – Retain the existing northern and southern subzones and retain the existing allocations for these areas

Alternative 2: Eliminate the northern subzone and add the assigned allocation to the eastern zone based on any of the boundaries chosen in Action 1.

Alternative 3: Eliminate the northern subzone and add the assigned allocation to the western zone based on any of the boundaries chosen in Action 1.

Alternative: Develop alternatives to permit access to the king mackerel fishery by those just north of the Collier/Lee boundary.

Discussion: In 2000, the Council established two subzones off the west coast of Florida with the northern subzone extending from the Collier/Lee County line to the Alabama/Florida border. This action was based on the king mackerel fishery in the panhandle area of Florida having significantly increased its catch in the last few years prior to 1999. In establishing this northern subzone the Gulf and South Atlantic Councils agreed to allocate to this new subzone a small portion of the total allocation for the eastern zone (approximately 3.85% that amounted to approximately 168,500 pounds). Since the implementation of this action, the northern subzone has caught its allocation in seven of the twelve years. However, when the subzone has been closed, it has happened usually in the fall, before the fish have migrated south. The result is that fishermen along the peninsula of Florida do not have an opportunity to participate in the fishery during those years. Combining the northern subzone with the southern subzone or western zone reduces the number of quota areas for Gulf group king mackerel from 3 to 2, thus it simplifies monitoring. It also provides for a larger potential share of TAC for fishermen over a broader area.

Restrictions on fishing for king mackerel in multiple zones.
Alternative 1: No Action – vessels with king mackerel commercial vessel permits may fish in any zone of the Gulf or South Atlantic.

Alternative 2: Require that prior to the beginning of the fishing year, each owner of a permitted commercial king mackerel hook-and-line vessel must identify the zone/subzone in which the vessel will fish during the upcoming fishing year (western zone, Florida east coast subzone, Florida west coast southern subzone, or Florida west coast northern subzone).

Option a: only one zone may be identified
Option b: two zones may be identified

Alternative 3: Require an endorsement to fish in a particular zone or subzone.

Option a: Only one endorsement is allowed at any one time, and it is not transferable during that year.
Option b: No more than two endorsements are allowed at any one time, and they are not transferable during that year.

Discussion: Historically, commercial king mackerel hook-and-line vessels have primarily fished in the zones that they are home-ported. In recent years, however, a fleet of vessels from the east coast of Florida has traveled to the western zone in the summer months to fish on that quota and subsequently moved to the Florida west coast northern subzone; thus following the migrating fish from area to area where they are most abundant. This additional effort in each zone has resulted in earlier than normal closings in some years. Requiring vessels to declare and fish in only 1 or 2 zones/subzones during a given year would help reduce the chance of early closures and could help maintain a higher ex-vessel value. On the other hand, it would probably increase the monitoring and enforcement burden tremendously. Requiring an endorsement would ease the at sea enforcement burden of identifying the legal area in which a vessel is entitled to fish

Set the Gulf and Atlantic migratory group cobia annual catch limits (ACLs).

Alternative 1: No Action –

a. The Gulf migratory group cobia ACL = ABC for Gulf migratory group cobia [1.46 mp based on preferred ABC]. Set a single stock ACL
b. The Atlantic migratory group cobia ACL = OY = ABC (currently 1,571,399 lbs based on the SSC Interim Control Rule; Recreational Sector ACL = 92% = 1,445,687 lbs; Commercial Sector ACL = 8% = 125,712 lbs)
c. The entire Gulf migratory group cobia ACL applies to the Gulf Council jurisdictional area and the South Atlantic migratory group cobia ACL applies to the South Atlantic jurisdictional area.

Alternative 2: The Gulf migratory group cobia ACL = ABC for Gulf migratory group cobia based on the SSC control rule and latest stock assessment. The ABC/ACL for the Gulf migratory group cobia would be divided between the Gulf jurisdictional area and the east coast of Florida based on the options below. A portion of the Gulf group cobia ACL is assigned to the east coast of Florida. The ACL for the Atlantic migratory group cobia = OY = ABC from the SSC based on the most recent stock assessment, plus the ABC/ACL from the Gulf for the east coast of Florida.

Option a: Use 2000-2009 landings to establish the percentage split by subzone.
Option b: Use 2005-2009 landings to establish the percentage split by subzone.
Option c: Use 2007-2009 landings to establish the percentage split by subzone.
Option d: Other years???

Alternative 3: The Gulf migratory group cobia ACL = ABC for Gulf migratory group cobia based on the SSC control rule and latest stock assessment. The ABC/ACL for the Gulf migratory group cobia would be divided between the Gulf jurisdictional area and the east coast of Florida based on the options below. A portion of the Gulf group cobia ACL is assigned to the east coast of Florida. The ACL for the Atlantic migratory group cobia = OY = 90% of the ABC from the SSC based on the most recent stock assessment, plus the ABC/ACL from the Gulf for the east coast of Florida.

Option a: Use 2000-2009 landings to establish the percentage split by subzone.
Option b: Use 2005-2009 landings to establish the percentage split by subzone.
Option c: Use 2007-2009 landings to establish the percentage split by subzone.

Set annual catch target (ACTs) by sub-zones for Atlantic migratory group cobia.
Alternative 1: No Action – There is no commercial sector ACT for Atlantic migratory group cobia. The recreational sector ACT equals sector ACL[(1-PSE) or 0.5,whichever is greater] (currently 1,184,688 lbs). Note: PSE is the average of the most recent 5 years data available.

Alternative 2: The commercial sector ACT for the Atlantic migratory group cobia for each subzone (to be determined by Action 7) equals 90% of the subzone ACL. The recreational sector ACT for the Atlantic migratory group cobia subzones (to be determined by Action 7) equals sector ACL[(1-PSE) or 0.5, whichever is greater]. Note: PSE is the average of the most recent 5 years data available.

Specify Accountability Measures (AMs) by sub-zones for Atlantic migratory group cobia.
Alternative 1: No Action:

a. The commercial AM for Atlantic migratory group cobia is to prohibit harvest, possession, and retention when the commercial quota (total ACL x commercial allocation) is met or projected to be met. All purchase and sale is prohibited when the commercial quota is met or projected to be met.
b. The recreational AM for Atlantic migratory group cobia is if the recreational sector quota (total ACL x recreational allocation) is exceeded, the Regional Administrator shall publish a notice to reduce the length of the following fishing year by the amount necessary to ensure landings do not exceed the recreational sector quota for the following fishing year. Compare the recreational ACL with recreational landings over a range of years. For 2011, use only 2011 landings. For 2012, use the average landings of 2011 and 2012. For 2013 and beyond, use the most recent three-year (fishing years) running average. If in any year the ACL is changed, the sequence of future ACLs will begin again starting with a single year of landings compared to the ACL for that year, followed by two-year average landings compared to the ACL in the next year, followed by a three-year average of landings ACL for the third year and thereafter. Only adjust the recreational season length if the Total ACL is exceeded.
c. Commercial payback of any overage. Payback only if overfished - If the commercial sector ACL is exceeded, the Assistant Administrator for Fisheries shall file a notification with the Office of the Federal Register to reduce the commercial sector ACL in the following year by the amount of the overage.

d. Recreational payback of any overage from one year to the next. Payback only if overfished - If the recreational ACL is exceeded, the Assistant Administrator for Fisheries shall file a notification with the Office of the Federal Register to reduce the recreational ACL in the following year by the amount of the overage. The ACT would also be adjusted according to the ACT formula in CMP Amendment 18, Action 19-6. Only deduct overages if the Total ACL is exceeded

Alternative 2: The current commercial and recreational AMs for Atlantic migratory group cobia apply to each of the Atlantic migratory group cobia subzones (as determined by Action 7).

Alternative 3: The current commercial and recreational AMs for Atlantic migratory group cobia apply to each of the Atlantic migratory group cobia subzones (as determined by Action 7) except that the 3-year moving average is replaced by the most recent year's landings.

Discussion: The three actions above were removed because SEDAR 28 was not expected to be completed in time for inclusion in this amendment. However, SEDAR 28 was completed before public hearings so a new action was added to address the same issue.

Modify Subzones and Allocation of Gulf Migratory Group Eastern Zone King Mackerel.
Alternative 1: No Action – Retain the existing northern and southern subzones and retain the existing allocations for these areas.

Alternative 2: Eliminate the current northern and southern subzones and add the assigned allocation to the combined eastern zone.

Alternative 3: Modify the Florida West Coast subzones and reallocate quota

Option a: Retain subzones but modify the boundary between the northern and southern subzones to the Dixie/Levy County line.

Option b: Create a third Florida West Coast subzone from the Collier/Lee County line to the Dixie/Levy County line with an allocation based on:

Suboption i. Reallocating x lbs from the Southern subzone hook-and-line fishery

Suboption ii. Reallocating x lbs from the East Coast Zone, Gill Net allocation, and Southern Subzone allocation

Suboption iii. Reallocating 2% from the recreational sector allocation based on a temporary reallocation for the next 5 years

Option c: Retain the current subzones but increase the allocation to the Northern subzone based on:

suboption i. Reallocating x lbs from the Southern Subzone hook-and-line fishery

suboption ii. Reallocating x lbs from the East Coast Zone, Gill Net allocation, and Southern Subzone allocation

suboption iii. Reallocating 2% from the recreational sector allocation based on a temporary reallocation for the next 5 years

Discussion: In 2000, the Gulf of Mexico Fishery Management (Gulf Council) established two subzones off the west coast of Florida with the northern subzone extending from the Collier/Lee County line to the Alabama/Florida border and the southern subzone extending over Collier and

Monroe counties. This action was based on the king mackerel fishery in the panhandle area of Florida having significantly increased its catch in the last few years prior to 1999. In establishing this northern subzone the Gulf and South Atlantic Councils agreed to allocate to this new subzone a small portion of the total allocation for the eastern zone (approximately 3.85% that amounted to approximately 168,500 lbs). Since the implementation of this action, the northern subzone has caught its allocation in seven of the twelve years. However, when the subzone has been closed, it has happened usually in the fall, before the fish have migrated south. The result is that fishermen along the peninsula of Florida do not have an opportunity to participate in the fishery during those years. Combining the northern subzone with the southern subzone reduces the number of quota areas for Gulf group king mackerel from three to two, thus it simplifies monitoring. It also provides for a larger potential share of TAC for fishermen over a broader area.

Establish State-by-State or Regional Quotas for Atlantic Migratory Group King Mackerel, Spanish Mackerel, and Cobia.

Alternative 1: No Action - retain one commercial quota each for Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia.

Alternative 2: Establish commercial quotas for each South Atlantic state for Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia. Establish a commercial quota for the Mid-Atlantic Council (Virginia-New York) area for Atlantic migratory group of king mackerel, Spanish mackerel, and cobia.

Option a: king mackerel
Option b: Spanish mackerel
Option c: cobia

Alternative 3: Establish commercial quotas for three regions: North Carolina/South Carolina, Georgia/Florida, and Mid-Atlantic for Atlantic migratory groups of king mackerel, Spanish mackerel, and cobia.

Option a: king mackerel
Option b: Spanish mackerel
Option c: cobia

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 are summarized below.

Administrative Procedures Act
All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, National Marine Fisheries Service 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, National Marine Fisheries Service is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary, National Marine Fisheries Service will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Data Quality Act
The Data Quality Act (DQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the DQA directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: 1) ensure information quality and develop a pre-

dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the DQA, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Endangered Species Act

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

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, National Marine Fisheries Service prepares a Regulatory Impact Review (RIR) for all

fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations would have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act. A regulation is significant if it a) has an annual effect on the economy of $100 million or more or adversely affects 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 and communities; b) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; c) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or d) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order. National Marine Fisheries Service has preliminarily determined that this action will not meet the economic significance threshold of any criteria.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

This Executive Order mandates that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. Federal agency responsibilities under this Executive Order include conducting their programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons from participation in, denying persons the benefit of, or subjecting persons to discrimination under, such, programs policies, and activities, because of their race, color, or national origin. Furthermore, each federal agency responsibility set forth under this Executive Order shall apply equally to Native American programs. Environmental justice considerations are discussed in detail in Section 2.5.

E.O. 12962: Recreational Fisheries

This Executive Order requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in

conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with federal agencies, States and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires National Marine Fisheries Service and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of National Marine Fisheries Service, 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.

Essential Fish Habitat

The amended Magnuson-Stevens Act included a new habitat conservation provision known as Essential Fish Habitat (EFH) that requires each existing and any new FMPs to describe and identify EFH for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements the Council has, under separate action, approved an environmental impact statement (GMFMC 2004) to address the new EFH requirements contained within the Magnuson-Stevens Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect EFH. An EFH consultation will be conducted for this action.

APPENDIX C. SUMMARIES OF PUBLIC COMMENTS RECEIVED

List the locations of the scoping hearings and public hearings, then list the summaries and written comments

APPENDIX D. DECISIONS TOOLS

Analysis of Modifying the Commercial Hook-and-Line Trip Limit for the King Mackerel Gulf Migratory Group.

Amendment 20 to the Fishery Management Plan for Coastal Migratory Pelagics Resources of the Gulf of Mexico and South Atlantic proposes management changes to the king mackerel Gulf Migratory group. Action 2 of the amendment proposes changes to the hook-and-line trip limits of the Western Zone, Eastern Zone - Northern Subzone, and Eastern Zone - Southern Subzone. The alternatives presented for Action 2 in Amendment 20 propose reductions in the current trip limit of the Western Zone from the current trip limit of 3,000 lbs to 1,250, 1,500, 2,000, and 2,500 lbs. The alternatives increase the trip limit of the Eastern Zone - Northern Subzone and the Eastern Zone - Southern Subzone from 1,250 pounds to 1,500, 2,500, and 3,000 lbs. These actions were evaluated to determine their impact on landings and to provide predictions on when ACLs for each zone would be met.

The first step in the analysis was to review the available data. King mackerel hook-and-line landings data from the Coastal Fisheries Logbook Program (logbook) for each zone were examined in two ways: (1) by area fished; and (2) by state and county where the landings were reported. Each data sorting method has advantages and disadvantages. The area fished provides the location on the water where the fish were caught, but the area fished boundaries do not align with the state and county boundaries used to define king mackerel management zones. Summarizing the landings by area fished presents the possibility that landings caught at sea from one king mackerel zone could be incorrectly assigned to a different king mackerel zone. Using the state and county of landings allows alignment with the zone boundaries but there is a possibility that fishermen may enter a zone to fish but then travel to a different zone to land their catch. Thus, exploration of landings from both data sorting methods is warranted to see if they produce significantly different landing estimates.

During the past three king mackerel fishing years (2009/2010, 2010/2011, and 2011/2012) king mackerel commercial fishing zones were closed early because ACLs were met before the full 12 months of the fishing year were completed. Closures varied by zone. Additionally, the Eastern Zone - Northern Subzone and the Eastern Zone - Southern Subzone have their trip limits reduced from 1,250 to 500 pounds when landings reach 75% of the quota in some of the years. The Eastern Zone - Northern Subzone had the trip limit reduced in the 2010/2011 fishing year on October 26, 2012, and the Eastern Zone - Southern Subzone had the trip limit reduced in the 2009/2010 fishing year on February 7, 2010, and 2010/2011 fishing year on March 8, 2011. Figure 1 provides the percent of Gulf of Mexico trips that harvested king mackerel with hook-and-line gear from logbooks for the three fishing years of 2009/2010, 2010/2011, and 2011/2012 and for the three zones and two different data sorting methods. Landings after trip limit reductions and after closures were removed from Figure 1 since they can cause significant changes to the amount of fish landed per trip.

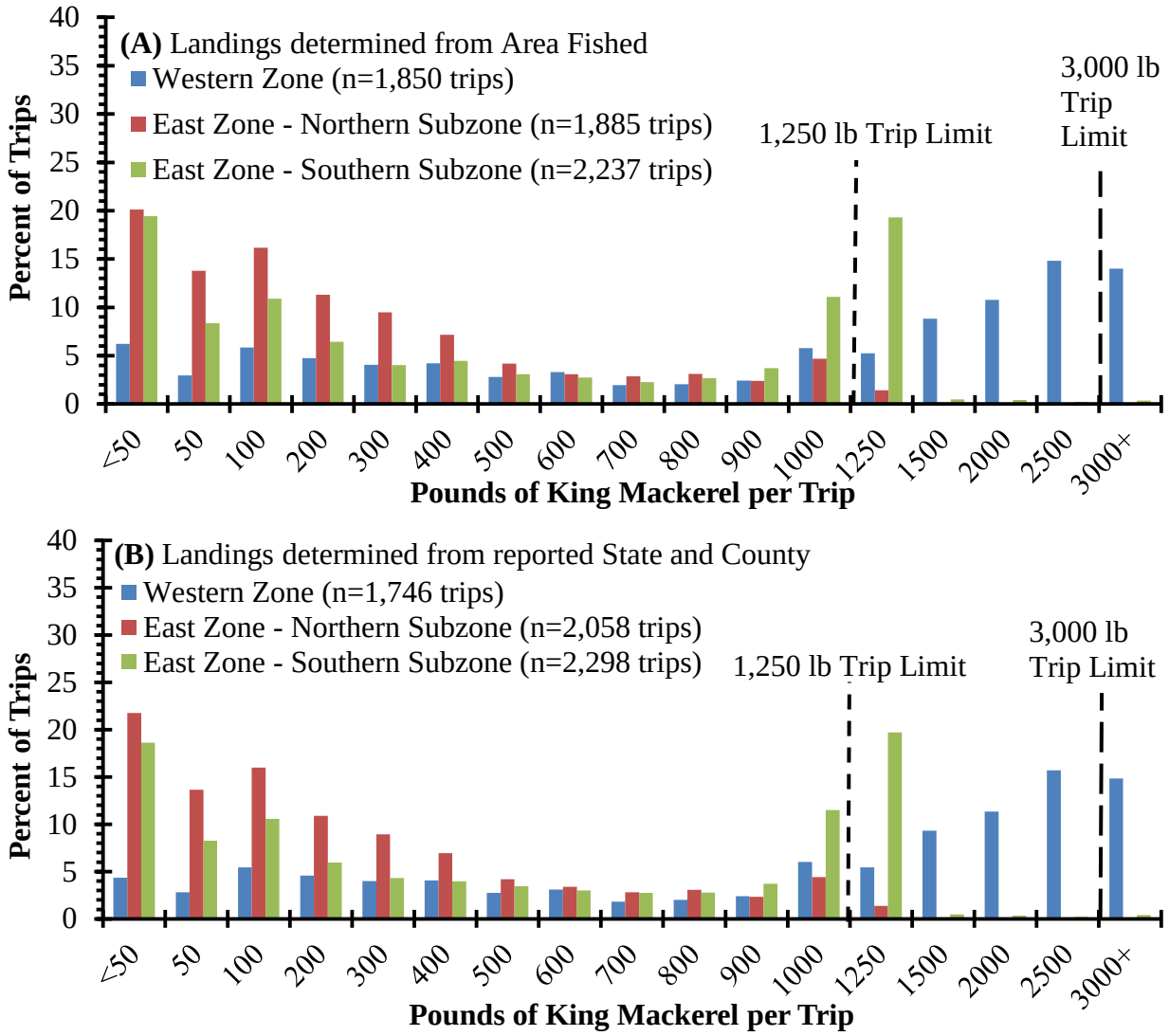

Figure 1. Percent of Gulf of Mexico logbook-reported trips that commercially harvested king mackerel with hook-and-line gear for the three fishing years of 2009/2010, 2010/2011, and 2011/2012. Harvest was defined as pounds whole weight of king mackerel per trip, and the trips were separated by zone (Western Zone, Eastern Zone - Northern Subzone, and Eastern Zone - Southern Subzone). Figure A provides the trips reported by area fished, and Figure B provides the trips reported by State and County of landing. Landings after any reductions of trip limits and after any of the closures were removed.

Percent increase or decrease in annual landings

Action 2 proposes reductions to the trip limit for the Western Zone. The impact from reducing the trip limit was calculated by limiting trips in previous years (2009/2010, 2010/2011, and 2011/2012) to newly proposed trip limits. These reductions were converted to percentages based on the total harvest from previous years.

Action 2 in Amendment 20 proposes increases in the trip limits for the Eastern Zone - Northern Subzone and Eastern Zone - Southern Subzone. Impacts from increasing the trip limits were evaluated assuming that trips that met the trip limit in recent years will also meet the new trip

limit. This provides a maximum estimated harvest rate that may occur if trip limits are increased. Not all trips meeting the current trip limit will likely meet newly proposed trip limits, but information is not available to determine exactly how many additional pounds of king mackerel these trips would harvest once the trip limits are increased. Trips that met the trip limit were defined as trips with landings of 1,200 pounds or more. Therefore, if the proposed trip limit of 2,000 pounds is being explored then any trips that had 1,200 to 2,000 pounds were adjusted to be 2,000 pounds. The range starts at 1,200 pounds instead of 1,250 pounds to account for any trips that were close but slightly under the trip limit. Trips that harvested below 1,200 lbs were not modified. Trips with landings greater than the proposed trip limit were not changed since these trips did not follow the current trip limit in the past, and will probably not follow trip limits in the future. Table 1 provides the percent increases and decreases in annual landings for the various trip limits being proposed.

Table 1. Percent increases and decreases in annual landings for various commercial king mackerel hook-and-line trip limits proposed in Amendment 20 generated from logbook data in the fishing years 2009/2010, 2010/2011, and 2011/2012. Percent decreases in landings are negative and increases in landings are positive. The reductions were calculated with landings per trip reported by area fished, and also for trips reported by State and County of landing. The current trip limit is 3,000 lbs for the Western Zone (Western), and 1,250 lbs for the Eastern Zone – Northern Subzone (E. Northern) and Eastern Zone – Southern Subzone (E. Southern).

Zone	Alternative					
	1	2	3	4	5	6
	3,000/1250 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww	1,250 lbs ww
Trips Reported by Fishing Area						
Western	No Change	-33.9	-19.5	-8.3	No Change	-42.2
E. North	No Change	2.0	6.0	9.9	13.4	No Change
E. South	No Change	7.3	21.1	31.5	39.6	No Change
Trips Reported by State and County of Landing						
Western	No Change	-34.3	-19.7	-8.4	No Change	-42.7
E. North	No Change	2.0	5.9	9.8	13.3	No Change
E. South	No Change	7.2	20.9	31.3	39.3	No Change

Predicting closure dates

Western Zone

Logbook hook-and line landings data were used to predict when the ACL would be met with the proposed trip limits for the Western Zone. Table 1 shows only minor differences in percent reductions between landings by area fished and landings by state and county. Therefore, only the landings by state and county were pursued. Landings by state and county were chosen over area fished because the mackerel zone boundaries were set by state and county borders.

Action 2 of Amendment 20 proposes reductions in the trip limits for the Western Zone. Impacts from reducing the trip limits were evaluated using logbook landings for 2011/2012 from the start of the fishing year (July 1, 2011) to the closure date (September 16, 2011). Logbook landings

data before the 2011/2012 fishing year were not used because the 2009/2010 season closed even earlier (September 4, 2009), and the 2010/2011 fishing year was heavily impacted by closures from the Deepwater Horizon Oil spill. Trip limits were applied to 2011/2012 logbook landings data to predict daily landings. This was done by reducing the landings for trips that exceeded the proposed trip limit to match the proposed trip limit. For example, if a trip limit of 1,500 pounds is being explored then a trip with 2,300 pounds would have the landings reduced to 1,500 pounds. Logbook landings are not a perfect match to quota monitoring landings because the data are collected differently and non-federally permitted fishermen fishing in state waters do not have to submit federal logbooks. Figure 2 displays the difference between logbook and quota monitoring landings. This difference in landings between the two datasets was accounted for by scaling the monthly logbook landings to equal monthly quota monitoring landings.

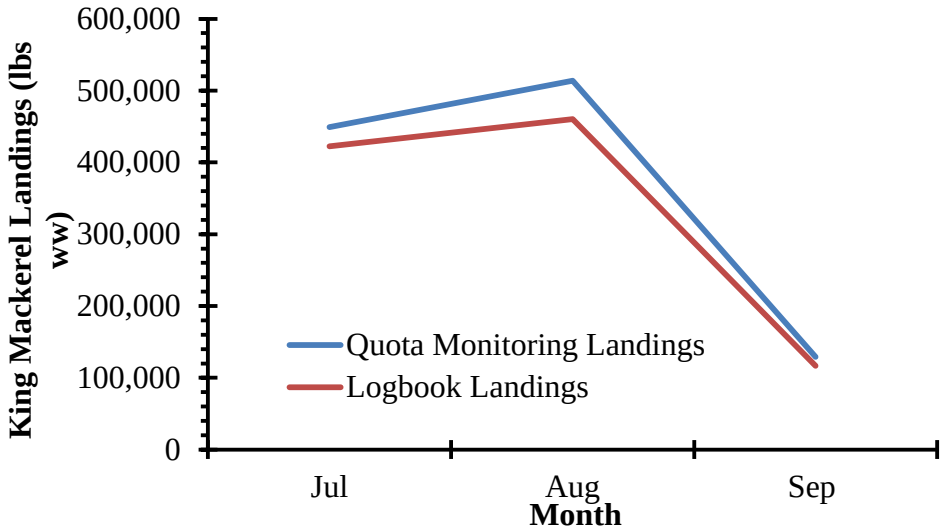

Figure 2. King mackerel Western Zone quota monitoring and logbook landings for July to September of 2011.

Landings for the remaining closed days of September (Sept. 16-30) were predicted by determining the average pounds per day of king mackerel harvested during days when the fishery was open (Sept 1-15, 2011) and then applying the pounds per day to the remaining closed days. This follows the assumption that if September had remained open the harvest rate would have stayed the same for the rest of the month.

An estimate of landings for October was needed to determine closure dates from reducing the trip limit in the Western zone. The Western Zone king mackerel fishery in 2005/2006, 2007/2008, and 2008/2009 did not close until after October, and had relatively similar October landings for all three years (Figure 3). The average October landings from these three fishing years were used as the predicted October landings. Landings for October were slightly less than predicted September landings. It is recognized that historical landings may not be representative of current fishing patterns, but information is lacking to determine what landings would be in late fall and winter.

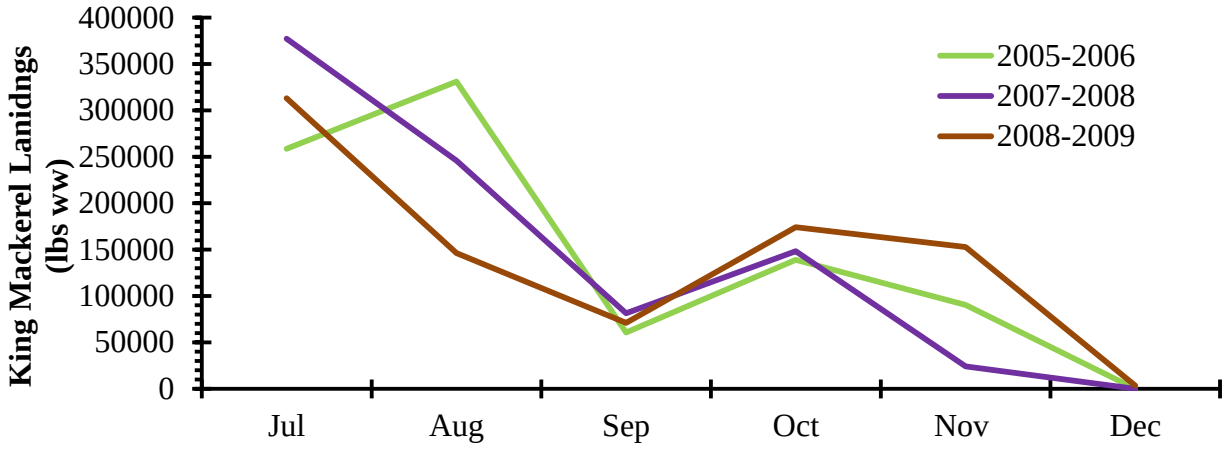

Figure 3. Monthly commercial king mackerel logbook hook-and-line gear landings for the western zone for July-December for the fishing years 2005/2006, 2007/2008, and 2008/2009.

In the last 12 years only two fishing seasons in the Western Zone were open for the entire month of November, and one of these years (2010/2011) had many areas closed due to the Deepwater Horizon Oil Spill. Since there is a relatively small amount of data available for November, and also the next month of December, predicted landings for November and December were assumed to be the same as October. Figure 4 provides the predicted monthly landings for the Western Zone used to determine closure dates based on various trip limits, and the monthly logbook landings for the past seven fishing years.

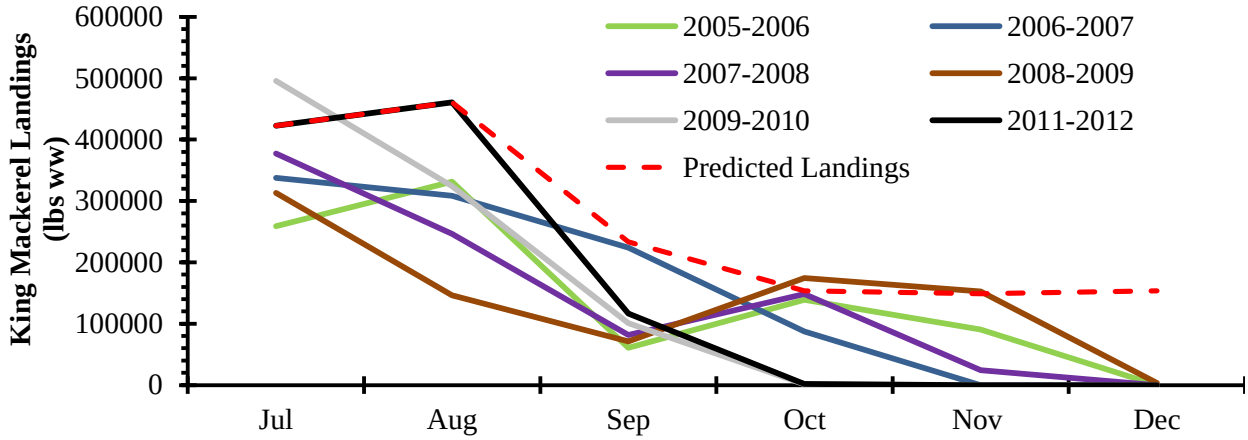

Figure 4. Monthly commercial king mackerel logbook hook-and-line landings for the Western Zone for July-December for the fishing years 2005/2006, 2006/2007, 2007/2008, 2008/2009, 2009/2010, 2011/2012, and the predicted landings used to determine closure dates based on various trip limits. Landings from the 2010/2011 fishing year were not included because they were impacted by the multiple closures from the Deepwater Horizon Oil Spill.

The predicted landings in July and August reflect the high catch rates for the most recent year of data (2011/2012) (Figure 4). The predicted landings for September are similar to the 2006/2007 landings, but much higher than the September landings for the other five fishing years presented in Figure 4. These low landings in September for three of those five recent years are probably

due to the hurricanes that struck the Western Zone in September during those fishing years. Both hurricanes Katrina and Rita hit in the 2005/2006 fishing year, hurricane Huberto hit in the 2007/2008 fishing year, and hurricane Ike hit in 2008/2009 fishing year. The September landings were low in the 2009/2010 fishing year because the fishery was closed on September 4th. The 2010/2011 fishing year landings were not explored because they were heavily impacted with closures from the Deepwater Horizon Oil Spill. Only the 2006/2007 fishing year did not have any hurricanes in the Western Zone in September, was open the entire month of September, and was not impacted by an oil spill. Figure 3 shows 2006/2007 September landings are similar to the predicted September landings. This provides evidence that the predicted September landings are likely a reflection of the true landings if the fishery is not interrupted by hurricanes, oil spills, and closures.

Percent reductions for each proposed trip limit were calculated monthly and for all three months combined using logbook data from the 2011/2012 fishing year (Table 2). The average percent reductions generated for July-September for each proposed trip limit were applied to the daily landings from September 16th to December 31st to predict monthly landings. Landings were then cumulatively summed across months from July 1 until the ACL was projected to be met.

Table 2. Western Zone percent reductions for various commercial king mackerel hook-and-line trip limits proposed in Amendment 20 generated from the 2011/2012 fishing year and predicted landings. Alternatives 1 and 5 propose no change to the current trip limit of 3,000 pounds.

Month	Percent Reduction for Various Trip Limits					
	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6
	3000 lbs	1500 lbs	2000 lbs	2500 lbs	3000 lbs	1250 lbs
July	No Change	33.3	19.1	8.0	No Change	41.4
August	No Change	36.3	21.9	10.0	No Change	44.7
September	No Change	38.5	23.1	10.7	No Change	46.8
Jul-Sep Average	No Change	35.3	20.9	9.2	No Change	43.6

Table 3 provides the predicted closure dates for the proposed Western Zone trip limits. The reductions in the trip limit do extend the number of open days but none of them extend the open days to a full year.

Table 3. Predicted closure dates for the Western Zone king mackerel hook-and-line fishery for the different proposed trip limits in Amendment 20. Alternatives 1 and 5 propose no change to the current trip limit of 3,000 pounds, and the closure date for the 2011/2012 season was September 16, 2011.

Alternative	1	2	3	4	5	6
Trip Limit	3,000 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww	1,250 lbs ww
Closure Date	11-Sep*	26-Dec	28-Oct	26-Sep	11-Sep*	11-Feb

* Projected closure date is earlier than the 2011/2012 closure date because the ACL was exceeded.

Eastern Zone - Northern Subzone

Logbook hook-and-line landings data were used to predict when the ACL would be met for the proposed trip limits for the Eastern Zone - Northern Subzone. Table 1 shows only minor differences in percent reductions between landings by area fished and landings by state and county. Therefore, only the landings by state and county were pursued. Landings by state and county were chosen over area fished because the king mackerel zone boundaries were set by state and county borders.

Action 2 of Amendment 20 proposes increases in the trip limits for the Eastern Zone - Northern Subzone. Impacts from increasing the trip limits were evaluated assuming that trips that met the trip limit (1,200 lbs or more) in recent years will also meet the new trip limits as described above.

Logbook landings for 2011/2012 were used to predict when the ACL would be met. This fishing year reflects recent catch rates and, unlike earlier years, did not experience a trip limit reduction when 75% of the quota was met. Instead the fishery closed on October 7, 2011 with no change to the trip limit during the season. Logbook landings are not a perfect match to quota monitoring landings because the data are collected differently and non-federally permitted fishermen fishing in state waters do not have to submit federal logbooks. Figure 5 displays the difference between logbook and quota monitoring landings. This difference in landings between the two datasets was accounted for by scaling the monthly logbook landings to equal monthly quota monitoring landings.

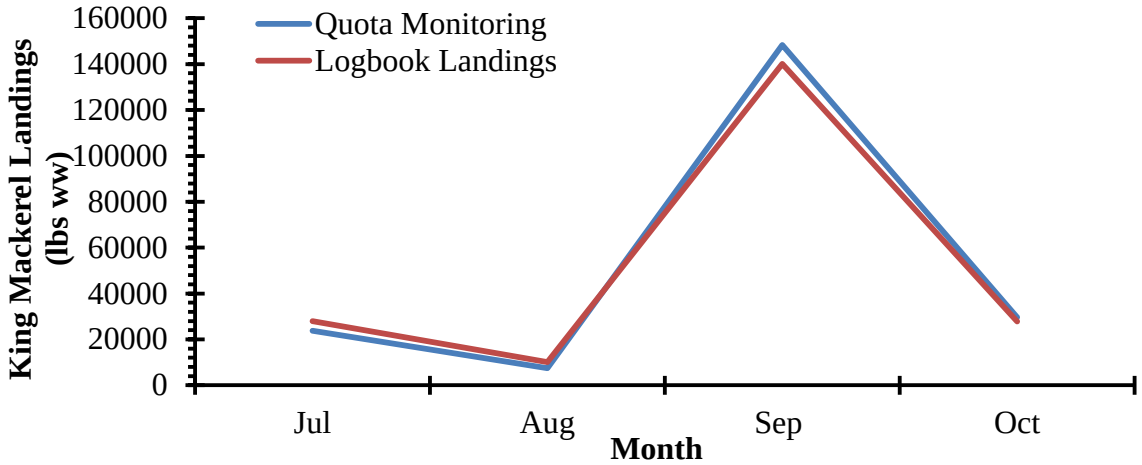

Figure 5. King mackerel Eastern Zone - Northern Subzone quota monitoring and logbook landings for July to October of 2011.

Increases in the trip limit did not result in large changes to the season length (Table 4). The largest increase in the trip limit to 3,000 pounds decreased the season length by less than two weeks from last year's closure date. The small change in season length is a result of recent landings being high in the month of September. Over 70% of the landings in 2011/2012 came from the month of September (Table 5). Also, there were a relatively small number of trips in this subzone that met or exceeded the 1,250 trip limit (Figure 1). In 2011/2012 only 2 percent of the trips exceeded 1,200 pounds per trip, and only 1 percent of the trips met or exceeded the 1,250 trip limit and. Therefore, only a small amount of the landings were adjusted to predict closure dates from the increase in the trip limit.

Table 4. King mackerel Eastern Zone - Northern Subzone predicted closure dates for the proposed hook-and-line trip limits in Amendment 20. Alternative 1 proposes no change to the current trip limit of 1,250 pounds, and the closure date for the 2011/2012 season was October 7, 2011.

Alternative	1	2	3	4	5
Trip Limit	1,250 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww
Closure Date	28-Sep*	27-Sep	27-Sep	27-Sep	26-Sep

* Projected closure date is earlier than the 2011/2012 closure date because the ACL was exceeded.

Table 5. Monthly quota monitoring king mackerel hook-and-line gear landings for the Eastern Zone - Northern Subzone in 2011/2012. The fishery was closed on October 7, 2011.

Month	lbs ww	%
Jul	23,722	11.3
Aug	7,390	3.5
Sep	148,383	71.0
Oct	29,610	14.2
Total	209,105	100

Alternative 1 has a decrease of the trip limit from 1,250 pounds to 500 pounds when 75% of the ACL is met. Under this alternative 75% of the ACL is met on September 23rd. The reduction of the trip limit to 500 pounds after September 23rd extends the season until October 1st.

Eastern Zone - Southern Subzone

Logbook hook-and-line landings data were used to predict when the ACL would be met with the proposed trip limits for the Eastern Zone - Southern Subzone. Table 1 shows only minor differences in percent reduction results between landings by area fished and landings by state and county. Therefore, only the landings by state and county were pursued. Landings by state and county were chosen over area fished because the mackerel zone boundaries were set by state and county borders.

Action 2 of Amendment 20 proposes increases in the trip limits for the Eastern Zone - Southern Subzone. Impacts from increasing the trip limits were evaluated assuming that trips that met the trip limit in recent years will also meet the new trip limits as described above.

Logbook landings for 2011/2012 were used to predict when the ACL would be met. This fishing year reflects recent catch rates and, unlike earlier years, did not experience a trip limit reduction when 75% of the quota was met. Instead the fishery closed on February 26, 2012 with no change to the trip limit during the season. Logbook landings are not a perfect match to quota monitoring landings because the data are collected differently and non-federally permitted fishermen fishing in state waters do not have to submit federal logbooks. Figure 6 displays the difference between logbook and quota monitoring landings. This difference in landings between the two datasets was accounted for by scaling the monthly logbook landings to equal monthly quota monitoring landings.

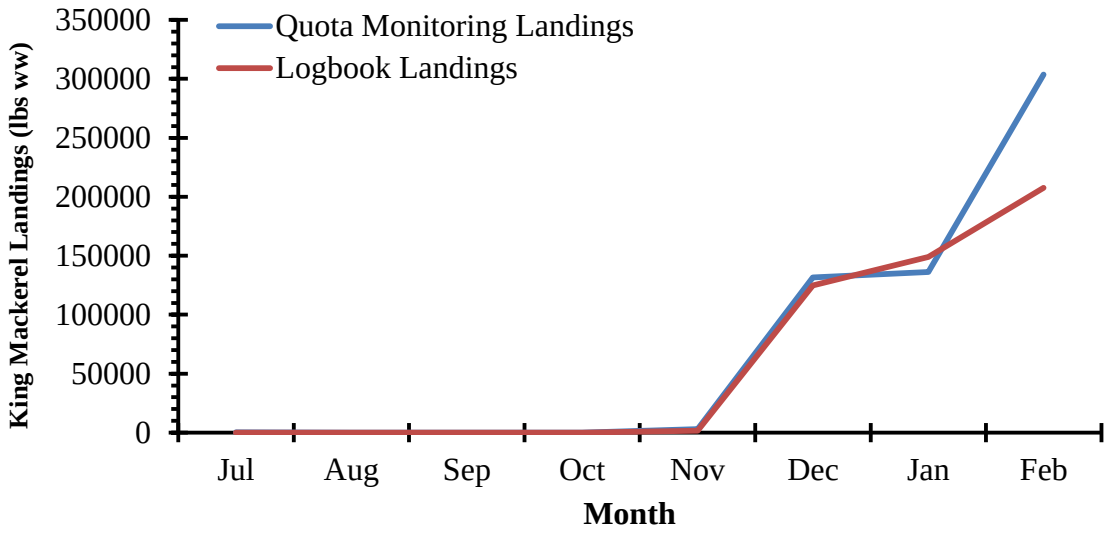

Figure 6. King mackerel Eastern Zone - Southern Subzone quota monitoring and logbook landings for July to February of the 2011/2012 fishing year.

Increases in the trip limit did not result in large changes to the season length (Table 6). Even the largest increase in the trip limit decreased the season length by only 17 days compared to last year's closure date of February 26, 2012. This small change is likely a result of two factors. The first factor is over 50% of the landings in 2011/2012 came from the month of February even though the fishery was not open the entire month (Table 7). The second factor is the pounds per trip increased with each month, and 50% of the trips exceeding 1,200 pounds per trip occurred in February. Additionally, the majority of these trips with landings greater than 1,200 pounds took place at the end of the month between February 16 and the closure date (February 26, 2012) (Table 8).

Table 6. King mackerel Eastern Zone - Southern Subzone predicted closure dates for the proposed trip limits in Amendment 20. Alternative 1 proposes no change to the current trip limit of 1,250 pounds, and the closure date for the 2011/2012 season was February 26, 2012.

Alternative	1	2	3	4	5
Trip Limit	1,250 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww
Closure Date	21-Feb*	17-Feb	15-Feb	14-Feb	9-Feb

* Projected closure date is earlier than the 2011/2012 closure date because the ACL was exceeded.

Table 7. Monthly quota monitoring king mackerel Eastern Zone – Southern Subzone hook-and-line landings for 2011/2012. Landings in July to October were combined to protect confidentiality of the data. The fishery was closed on February 26, 2012.

Month	lbs ww	%
Jul-Oct	252	0.0
Nov	2,997	0.5
Dec	131,637	22.9
Jan	136,235	23.7
Feb	303,714	52.8
Total	574,835	100

Table 8. Number of king mackerel hook-and-line trips for 2011/2012 for the Eastern Zone - Southern Subzone that exceeded 1,200 pounds per trip. No trips during July to October exceeded 1,200 pounds per trip.

Month	n	%
Nov	0	0.0
Dec	40	24.8
Jan	40	24.8
Feb 1-15	30	18.6
Feb 16-26	51	31.7

Alternative 1 has a decrease of the trip limit from 1,250 pounds to 500 pounds when 75% of the ACL is met. Under this alternative 75% of the ACL is met on February 15th. In the 2011/2012 season the fishery closed on February 26th, 2012. Yet, the analysis from reducing the landings from applying the 500 pound trip limit extended the season beyond February 26th. Therefore, data after February 26th was needed to determine a closure date from reaching the ACL. The king mackerel Southern Subzone was open from February 26th to March 23rd in the 2010/2011 season, and the logbook data from this time was used to predict when the season would reach the ACL with the 500 pound trip limit. The 2010/2011 season had the reduction in the trip limit from 1,250 to 500 pounds on March 8th, 2011. This was addressed by applying a 500 pound trip limit from February 26th to March 7th. The analysis predicted a closure date of March 7th. In conclusion, the reduction of the trip limit to 500 pounds after February 15 extends the season until March 7th.

All Three Zones

Table 9 provides the predicted closure dates for all three zones for all the trip limit alternatives being proposed in Amendment 20.

Table 9. Predicted closure dates for the three king mackerel zones in the Gulf of Mexico for the proposed trip limits in Amendment 20. The dates in parentheses provided for Alternative 1 were each zone's actual closure dates for the 2011/2012 season.

Zone	Projected Closure Dates for Various Trip Limits					
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5	Alt. 6
	3,000/1,250 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww	1,250 lbs ww
Western Zone	11-Sep (9/16/2011)	26-Dec	28-Oct	26-Sep	11-Sep	11-Feb
Eastern Zone - Northern Subzone	28-Sep (10/7/2011)	27-Sep	27-Sep	27-Sep	26-Sep	28-Sep
Eastern Zone - Southern Subzone	21-Feb (2/26/2012)	17-Feb	15-Feb	14-Feb	9-Feb	21-Feb

Zone	Projected Closure Dates for Various Trip Limits				
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
	3,000/1,250 lbs ww	1,500 lbs ww	2,000 lbs ww	2,500 lbs ww	3,000 lbs ww
Western Zone	11-Sep (9/16/2011)	26-Dec	28-Oct	26-Sep	11-Sep
Eastern Zone - Northern Subzone	28-Sep (10/7/2011)	27-Sep	27-Sep	27-Sep	26-Sep
Eastern Zone - Southern Subzone	21-Feb (2/26/2012)	17-Feb	15-Feb	14-Feb	9-Feb