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JOINT GMFMC/SAFMC/MAFMC SCOPING DOCUMENT FOR AMENDMENT 18 TO THE COASTAL MIGRATORY PELAGICS FISHERY MANAGEMENT PLAN

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ABBREVIATIONS USED IN THE DOCUMENT

ABC	Acceptable Biological Catch
ACL	Annual Catch Limits
ACT	Annual Catch Targets
AM	Accountability Measures
B_{MSY}	Stock biomass level capable of producing an equilibrium yield of MSY
CEA	Cumulative Effects Analysis
CFLP	Coastal Fisheries Logbook Program
CI	Confidence Interval
CMP	Coastal Migratory Pelagics
COI	Certificate of Inspection
Council	Gulf of Mexico Fishery Management Council
CPUE	Catch per unit effort
DEIS	Draft Environmental Impact Statement
DWG	Deepwater Grouper
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EJ	Environmental Justice
ELMR	Estuarine Living Marine Resources
EM	Electronic Monitoring
EPA	Environmental Protection Agency
ESA	Endangered Species Act
F	Instantaneous rate of fishing mortality
F_{MSY}	Fishing mortality rate corresponding to an equilibrium yield of MSY
F_{OY}	Fishing mortality rate corresponding to an equilibrium yield of OY
FEO	Fisheries Economic Office
FMP	Fishery Management Plan
FWC	Florida Fish and Wildlife Conservation Commission
GMFMC	Gulf of Mexico Fishery Management Council
GPS	Global Positioning System
GSMFC	Gulf States Marine Fisheries Commission
GW	Gutted Weight
HAPC	Habitat Area of Particular Concern
HMS	Highly Migratory Species
IFQ	Individual Fishing Quota
INBS	Index Nesting Beach Survey
IRFA	Initial Regulatory Flexibility Analysis
ITS	Incidental Take Statement
LNG	Liquefied Natural Gas
MFMT	Maximum Fishing Mortality Threshold
MMPA	Marine Mammal Protection Act
mp	Million Pounds
MRFSS	Marine Recreational Fisheries Survey and Statistics
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act

MSST	Minimum Stock Size Threshold
MSY	Maximum Sustainable Yield
mt	Metric Tons
NMFS	NOAA's National Marine Fisheries Service
NOR	Net Operating Revenues
NOS	NOAA's National Ocean Service
OFL	Over Fishing Limit
OY	Optimum Yield
ppt	Parts per Thousand
RA	Regional Administrator
RFA	Regulatory Flexibility Act of 1980
RFFA	reasonably foreseeable future actions
RFFMP	Reef Fish Fishery Management Plan
RFOP	Reef Fish Observer Program
RIR	Regulatory Impact Review
RPA	Reasonable and Prudent Alternatives
RPM	Reasonable and Prudent Measures
SAV	Submerged Aquatic Vegetation
SBLOP	Shark Bottom Longline Observer Program
SDDP	Supplementary Discard Data Program
Secretary	Secretary of Commerce
SEDAR	Southeast Data, Assessment and Review
SEFSC	Southeast Fisheries Science Center
SEIS	Supplemental Environmental Impact Statement
SEP	Socioeconomic Panel
SERO	Southeast Regional Office
SFA	Sustainable Fisheries Act
SMZ	Special Management Zone
SSBR	Spawning Stock Biomass Per Recruit
SPR	Spawning Potential Ratio
SWG	Shallow-water Grouper
TAC	Total Allowable Catch
TED	Turtle Excluder Device
TEWG	Turtle Expert Working Group
TL	Total Length
USCG	United States Coast Guard
VEC	Valued Environmental Component
VMS	Vessel Monitoring System

1.0 INTRODUCTION

The Gulf of Mexico Fishery Management Council (GMFMC), the South Atlantic Fishery Management Council (SAFMC), and the Mid-Atlantic Fishery Management Council (MAFMC) are preparing to amend the Coastal Migratory Pelagics Fishery Management Plan (FMP) by consideration of actions as stated and discussed below. The primary action under consideration would establish Annual catch limits (ACL) and accountability measures (AM) for the following managed species:

(1) Cobia, *Rachycentron canadum*
(2) King mackerel, *Scomberomorus cavalla*
(3) Spanish mackerel, *Scomberomorus maculates*

The final rule to amend the National Standard 1 Guidelines for setting ACLs and AMs indicates that for species not undergoing overfishing, the mechanisms and values for ACLs and AMs must be specified in FMPs, FMP amendments, implementing regulations, or annual specifications beginning in fishing year 2011 (see Section(2)(A) in the center column on page 3211). This will require the Councils to complete the amendment by the end of 2010. Other species that are included in the FMP for data collection purposes include:

(4) Bluefish, *Pomatomus saltatrix* (Gulf of Mexico only)
(5) Cero, *Scomberomorus regalis*
(6) Little tunny, *Euthynnus alleteratus*
(7) Dolphin *, *Coryphaena hippurus* (Gulf of Mexico only)

These species are not subject to the requirement of setting ACLs and AMs in fishing year 2011.

*Note: Dolphin in the South Atlantic, Mid-Atlantic, and New England Fishery Management Council's jurisdictions are managed under the Dolphin and Wahoo Fishery Management Plan with the southern boundary at the border between the Gulf and South Atlantic Councils.

In addition to setting ACLs and AMs, the Councils are considering additional actions to bring the CMP FMP into full compliance with the Magnuson-Steven Fishery Conservation and Management Act (M-SFCMA) and be consistent with best available science and current management practices. These potential actions are summarized below.

2.0 PURPOSE AND NEED

Revisions to the M-SFCMA in 2006 require establishment of a mechanism for specifying ACLs at a level that prevents overfishing and does not exceed the recommendations of the respective Council's Scientific and Statistical Committee (SSC) or other established peer review processes for all managed species. It also requires setting measures to ensure accountability. The AMs are management controls that ensure that the ACLs are not exceeded; or if the ACL is exceeded corrective measures are taken to prevent overfishing. Since none of the managed species under the CMP FMP are considered to be undergoing overfishing or are designated as overfished, the Councils have until sometime within the 2011 fishing year to implement ACLs and AMs.

The Councils are also considering adding cero, little tunny, blackfin tuna, greater barracuda, and Atlantic bonito into the fishery management unit in the Atlantic. Furthermore, various changes

to the Framework Procedure within the CMP FMP are being considered and include: 1) incorporate the Southeast Data Assessment and Review (SEDAR) process for assessing stocks; 2) add modifications to and/or elimination of the existing zones, subzones, migratory group boundaries, and allocations to the list of actions that can be taken under the framework; 3) remove language indicating cobia as a unit stock; and 4) include setting or changing the overfishing level (OFL), acceptable biological catch (ABC), annual catch limits (ACL), annual catch targets (ACT), and AM for managed stocks by framework action. By being able to modify these parameters through framework actions, the Councils can more expeditiously respond to changing scientific advice as may be dictated by future stock assessments.

3.0 POTENTIAL ACTIONS FOR SCOPING

Note: The Gulf Council will set ACLs for Gulf group king mackerel and the South Atlantic Council will set ACLs for Atlantic group king mackerel. However, the South Atlantic Council will continue to set management measures for king mackerel in the East Coast Subzone to help ensure that the overall Gulf group ACL is not exceeded.

3.1 Potential Joint Council Actions

3.1.1 Modify the Framework Procedure to Incorporate the Southeast Data Assessment and Review (SEDAR) Process

Option 1. Modify the framework procedure as shown in Appendix A.
Option 2. No Action – Do not modify the framework procedure.

Discussion: In 2002 the Councils adopted the Southeast Data Assessment and Review (SEDAR) as its preferred method of assessing the status of stocks and determining allowable catch levels. Benchmark assessments under SEDAR are completed using a series of three workshops: Data, Assessment, and Review. In the Data Workshop scientists from the states, NMFS, and academia along with constituents and environmental nongovernment organization (ENGO) representatives meet to select the appropriate data and assessment techniques that will be used to assess a particular stock or group of stocks. In the Assessment Workshop mostly scientists (and some lay representation) with familiarity with stock assessments meet to develop the stock assessment in conjunction with scientists from the Southeast Fisheries Science Center. Finally, the Review Workshop is a peer review process where mostly outside experts review and critique the assessment and develop a consensus report with their findings.

Update assessments are also conducted under SEDAR. Assessment updates typically use the same data sets and assessment techniques used in an earlier benchmark assessment with succeeding year's data being added.

Prior to 2002 the SEFSC developed stock assessments that were in turn reviewed by the Councils' stock assessment panels for the various species or species groups being assessed. The current language in the Framework Procedure describes this outdated process. Consequently, the Councils are considering modified language to incorporate the SEDAR process (Appendix A).

3.1.2 Modify the Framework Procedure to Fully Incorporate Changes to the Councils' Definitions of MSY, OY, MFMT and MSST in the Stock Assessment Process and Include Changes to Zones, Subzones, Migratory Group Boundaries, and Allocations.

Option 1. Modify the framework procedure as shown in Appendix A.
Option 2. No Action – Do not modify the framework procedure.

Discussion: The Councils' Generic Sustainable Fisheries Amendment established definitions of maximum sustainable yield (MSY), Optimum Yield (OY), Maximum Fishing Mortality Threshold (MFMT), and Minimum Stock Size Threshold (MSST) and allowed these definitions to be modified through framework actions as dictated by best available science. These definitions were partially approved in 1999. The Gulf Council subsequently modified its definitions for Gulf group king mackerel, Gulf group Spanish mackerel, and Gulf group cobia in a regulatory amendment in 2004. These definitions for Gulf group cobia were held in abeyance until the Framework Procedure for the CMP FMP could be changed. This document considers this language change for cobia based on the 2000 stock assessment, as well as adding modifications to and/or elimination of the existing zones, subzones, migratory group boundaries, and allocations based on future scientific advice.

3.1.3 Sale of Coastal Migratory Pelagics

Option 1. Prohibit the sale of recreationally caught fish caught under a bag limit that are managed under the Coastal Migratory Pelagics FMP.
Option 2. For a person aboard a vessel to be eligible for exemption from the bag limits, to fish under a commercial quota, and to sell king mackerel and Spanish mackerel in or from the EEZ of the Atlantic or Gulf of Mexico, a commercial vessel permit/endorsement for each species taken must have been issued to the vessel and must be on board.
Option 3. For a person aboard a vessel to be eligible to sell cobia in or from the EEZ of the Atlantic or Gulf of Mexico, a commercial vessel permit/endorsement must have been issued to the vessel and must be on board.
Option 4. Prohibit the sale of recreationally caught coastal migratory pelagics in or from the South Atlantic Council's jurisdiction except for allowing for-hire vessels that possess the necessary state and federal commercial permits to sell coastal migratory pelagics harvested under the bag limit in or from the South Atlantic Council's jurisdiction.
Option 5. Status quo - commercial king and Spanish mackerel permits are required to fish under the commercial quota during open commercial seasons and areas.
Option 6. A commercial permit is required to exceed the bag limit and expand the requirements to also require this permit in order to sell you catch.
Option 7. Prohibit the sale of fish by tournaments.
Option 8. Require fish be sold only to a federally permitted dealer. Permitted dealers can only buy fish from federally permitted fishermen.
Option 9. Apply existing Gulf Reef fish permit requirements to Coastal Migratory Pelagics.

Discussion: Sale of recreationally caught king and Spanish mackerel is causing some fish to be counted against both the commercial hook-and-line and recreational allocations of TAC, particularly with regard to catches from for-hire vessels of king mackerel. This double counting

may also be inflating the actual catch, contributing to TAC overruns, and decreasing the amount of fish available to commercial fishermen under their quota. This double counting problem is probably not affecting other coastal migratory pelagic stocks to any extent because Spanish mackerel TACs are not being harvested and other stocks such as cobia and dolphin are not managed by TACs. The amount of king and Spanish mackerel being sold by recreational and for-hire fishermen while the commercial fishery is open is unknown; however, catch data indicate that landings and sales continue following the closure of the commercial fishery, particularly in the Florida Keys. Landings data for the 1995-96 fishing year showed hook-and-line sales of recreational, bag-limit catches of Gulf group king mackerel after the close of the commercial season of 112,474 pounds for the west coast of Florida (FDEP, unpublished data) representing approximately 26 percent of the total commercial hook-and-line allocation for 1995-96. For 1996-97, this catch was 117,953 pounds representing 27 percent of the commercial hook-and-line allocation. Additionally, sales during the season by the same vessels with sales after the season amounted to an additional approximately 100,000 pounds; however, it is unknown to what extent these catches/trips were recreational/charter or commercial because some charter/head boats also hold commercial king and Spanish mackerel permits (J. O'Hop, personal communication).

The majority of commercial sales by charter vessels occurs in the Florida Keys where approximately 81 charter vessels in Monroe County alone hold both charter and commercial king mackerel permits. The following table shows the number of vessels with either a charter permit or a commercial permit and those with both charter and commercial permits.

Commercial Only	Charter and Commercial	Charter Only	Total
987	190	333	1510

Possible Biological Impacts: The only biological impacts from prohibiting sale would occur if the recreational sector chooses to reduce its effort due to the inability to legally sell its catch. This could result in a reduction in overall harvest. Since the recreational sector is currently underharvesting its quota by approximately 2.0 million pounds, any such benefits would probably be minimal. Also, if some portion of the catch that is currently being double counted is only counted once, it should lead to a lower estimate of fishing mortality (F) and an improved status of the stock estimate, particularly for Gulf group king mackerel.

Possible Economic Impacts: The current federal rule allows the sale of recreationally caught king and Spanish mackerel only if allowed by the states where the fish are landed. In the particular case of Florida, where most of the sale of recreationally caught mackerel especially by charterboats occurs, a saltwater products license with a restricted species endorsement is required for the sale of mackerel. Charter and head boats possessing such licenses and endorsements may sell their recreationally caught mackerel regardless of whether the fish are caught in state or federal waters. When the federal commercial season for mackerel is closed, mackerel caught in the EEZ by recreational anglers, including charterboats, may not be sold; however, the sale of mackerel recreationally caught in state waters continues to be governed by that particular state's rules.

3.1.4 Bycatch Issues

3.1.4.1 Action 1. Establish a Standardized Bycatch Reporting Methodology.

Option 1. Specify the ACCSP bycatch module as the methodology in the Atlantic.
Option 2. Specify the Recfin/Comfin and charter/headboat components of MRFSS.
Option 3. MRFSS.
Option 4. Add Gulf Reef fish bycatch methodology.
Option 5. Adopt the ACCSP bycatch module as the preferred methodology in the Atlantic. Until this module is fully funded, require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects. After ACCSP is implemented, continue the use of technologies to augment and verify observer data.
Option 6. Require the use of a variety of sources to assess and monitor bycatch including: observer coverage on vessels; logbooks; electronic logbook; video monitoring; MRFSS; state cooperation; and grant funded projects.
Option 7. No action.

3.1.4.2 Action 2. Specify an Allowed Bycatch of Coastal Migratory Pelagics in Other Fisheries.

Option 1. Specify an allowable bycatch of coastal migratory pelagics in other fisheries.
Option 2. No action.

This action was requested by the MAFMC.

3.1.5 Risk Levels for Overfishing and Overfished

Option 1. The Gulf Council has specified 50% probability as the level to determine overfishing and overfished for Gulf migratory group king and Spanish mackerel and for cobia. This was approved by NOAA. Note: Attachment 4 includes the federal register notice (see 6/04 briefing materials).
Option 2. Apply this same risk level (___%) to other species in the management unit.
Option 3. For species under authority of the South Atlantic Council, set 50% probability as the level to determine overfishing and overfished.
Option 4. For species under authority of the South Atlantic Council, set 30% probability as the level to determine overfishing and 30% probability as the level to determine overfished. **NOTE:** changed to 50%.
Option 5. No action.
Option 6. Others??

Discussion: A risk level is needed to determine whether or not a species is overfished or overfishing is taking place. The Gulf Council based their risk level on the flounder lawsuit that established 50% as the minimum chance that a species will be rebuilt within the rebuilding time period with the proposed management measures. The Mackerel Review Panel expressed some concern about this level not being risk averse. The South Atlantic Council may want to specify a lower risk level for overfishing so action is taken sooner to prevent overfishing from taking place. A slightly higher level could be specified for the overfished determination with the expectation that action would already have been taken under the overfishing trigger. The Council's confidence in the stock assessment should also factor into this issue. If you are very

confident about the stock assessment, then set the levels lower. If you are not very confident about the stock assessment, then set the levels higher.

3.1.6 Atlantic and Gulf Migratory Groups of Cobia

Option 1. No action.
Option 2. Separate the two migratory groups at the Miami-Dade/Monroe County line.
Option 3. Separate the two migratory groups at the SAFMC/GMFMC boundary.
Option 4. Others??

Discussion: Currently there is one stock of cobia that includes the Gulf and Atlantic. Assessments have been done for the Gulf component with a split at the Miami-Dade/Monroe County line. The best available science supports such a split.

3.2 Potential GMFMC Actions

3.2.1 Set OFL, ABC, ACL, and Possibly ACT for Gulf Migratory Group King Mackerel, Gulf Migratory Group Spanish Mackerel & Cobia (in the Gulf of Mexico) and Include Changes to These Parameters by Framework Action.

Discussion: The Gulf Council's SSC has recommended setting the interim OFL for Gulf group king mackerel based on the yield at $F_{30\%SPR}$ and setting the interim ABC based on 85% of the $F_{30\%SPR}$ yield based on the assumption of a 50/50 mix of Atlantic and Gulf group king mackerel in the existing mixing zone (see Table 1, Figure 1). These data were provided as part of the SEDAR 16 assessment process using data through 2006. As shown in Table 1, the current annual total allowable catch (TAC) for Gulf group king mackerel (10.2 million pounds) is well below the ABC recommendation of the SSC (13.2 million pounds). Additionally, the current spawning stock biomass (SSB) is approximately 1.5 times the minimum stock size threshold (MSST), and the current fishing mortality rate is only approximately 80% of the maximum fishing mortality threshold (MFMT) (Table 2). Consequently, the Gulf migratory group of king mackerel is not overfished nor undergoing overfishing.

Gulf group Spanish mackerel have not been assessed since 2002. At that time catch was approximately 3.8 million pounds and TAC was set at 9.1 million pounds. Additionally, there was only a 3% chance that SSB2003<MSST and only a 9% chance that F2003>MFMT. Consequently, the stock was neither overfishing nor overfished.

Gulf group cobia have not been assessed since 2000; however this stock is managed by a 2-fish per person per day bag limit for the commercial and recreational fisheries. Consequently, approximately 90% of the landings are recreational. Additionally, there was only a 30% chance that the stock was overfished and only a 40% chance of overfishing occurring in 2000.

By being able to modify these parameters through framework actions, the Councils can more expeditiously respond to changing scientific advice as may be dictated by future stock assessments.

3.2.2 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), with Corresponding Changes to the Commercial allocation.

Option 1:

a. 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)
b. Eliminate the Northern Subzone of the Eastern Zone and reestablish the Eastern Zone as extending from Cape San Blas, Florida (85°30' W. Longitude) and throughout its existing range.
c. Combine the commercial TAC allocation for the existing Northern Subzone of the Eastern Zone with the Western Zone.
d. Establish a trip limit for the newly defined Western Zone at 1,250 pounds until 75% of the allocation is taken, then reduce the trip limit to 500 pounds until the allocation is taken.

Option 2:

a. Move the current boundary line between the Eastern Zone and Western Zone from the Alabama/Florida border to 90° or 89°30' W. Longitude near the mouth of the Mississippi River.
b. Eliminate the Northern Subzone of the Eastern Zone and reestablish the Eastern Zone as extending from 90° or 89°30' W. Longitude and throughout its existing range.
c. Combine the commercial TAC allocation for the existing Northern Subzone of the Eastern Zone with the new Western Zone.
d. Establish a trip limit for the newly defined Western Zone at 1,250 pounds until 75% of the allocation is taken, then reduce the trip limit to 500 pounds until the allocation is taken.

Option 3:

a. Move the current boundary line between the Eastern Zone and Western Zone from the Alabama/Florida border to 90° or 89°30' W. Longitude near the mouth of the Mississippi River.
b. Eliminate the Northern Subzone of the Eastern Zone and reestablish the Eastern Zone as extending from 90° or 89°30' W. Longitude and throughout its existing range.
c. Subtract average annual landings for the past 5 years from the Alabama/Florida Border to 90° or 89°30' W. Longitude and add them to the allocation for the newly defined Eastern Zone.
d. Establish a trip limit for the newly defined Western Zone at 1,250 pounds until 75% of the allocation is taken, then reduce the trip limit to 500 pounds until the allocation is taken.

Option 4. No action.

Discussion: In 2003, numerous complaints were received from fishermen that vessels from the east and west coast of Florida had moved to southern Louisiana in late summer to fish on the Western Zone allocation of the commercial TAC. This additional effort resulted in the quota allocation being filled over a month sooner than in 2002 (9/23/03). At the Council's request, the NMFS implemented a 3,000-pound trip limit for the Western Zone in 1999 to lengthen this season. This action appeared to be partly successful in that the season lasted until 11/19/01 and 10/25/02; however, it closed in August of 2000. The Council has also received complaints from fishermen in the Northern Subzone of the Eastern Zone regarding the small allocation of TAC (168,750 pounds).

Combining the Northern Subzone with the 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 share of TAC for fishermen over a broader area. Changing the trip limit from 3,000 pounds to

1,250 pounds with a potential reduction to 500 pounds as discussed above would likely extend the season for the area and would simplify enforcement because the trip limit would be the same throughout the Gulf, as opposed to the current situation where vessels in Alabama, Mississippi, Louisiana, and Texas can have 3,000 pounds whereas Florida vessels can only have 1,250 pounds.

The current boundary between the Eastern and Western Zone at the Alabama/Florida border was set in 1985 with the implementation of Amendment 1 to the Coastal Migratory Pelagics FMP. 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 which was managed under a commercial allocation of TAC to a unit stock. With a set season and TAC, it was believed that without a boundary/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 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.

3.2.3 Change the Opening Date of the Gulf Group King Mackerel Season for the Western Zone

Option 1. Change the opening date of the Gulf group king mackerel season for the Western Zone from July 1 to September 1.

Option 2. Change the opening date of the Gulf group king mackerel season for the Western Zone from July 1 to October 1.

Option 3. Change the opening date of the Gulf group king mackerel season for the Western Zone from July 1 to November 1.

Option 4. No action.

Discussion:

3.3 Potential SAFMC Actions

3.3.1 Set OFL, ABC, ACL, and Possibly ACT for Atlantic Migratory Group King Mackerel, Atlantic Migratory Group Spanish Mackerel & Cobia (in the Atlantic) and Include Changes to These Parameters by Framework Action

Discussion: The SAFMC SSC has not provided recommendations of OFL or ABC for Atlantic migratory group king mackerel based on SEDAR 16; however, they plan to begin at their June 2009 meeting. Table 4 shows potential yields at various benchmarks for the years 2007 through 2016 that could be chosen for these parameters. The current annual TAC for Atlantic group king mackerel (10.0 million pounds) is above the estimated yield at $F_{30\%SPR}$ for 2010 (9.2 million pounds); however, catches in recent years have only been approximately 6.0 million pounds.

Additionally, the current SSB is approximately 1.3 times MSST, and the current fishing mortality rate is only approximately equal to the MFMT (Table 2). Consequently, the Atlantic migratory group of king mackerel is not overfished, and it is unlikely that overfishing is occurring.

The SAFMC SSC has not provided recommendations of OFL or ABC for Atlantic migratory group Spanish mackerel based on SEDAR 17; however, they plan to begin at their June 2009 meeting. The SEDAR 17 Review Panel determined:

- The stock assessment as presented by the Assessment Workshop was partially accepted.
- It was concluded that overfishing is not occurring ($F_{2007}/F_{MSY} = 0.872$).
- No annual estimates of fishing mortality were accepted due to model uncertainty.
- Stock projections were not accepted due to model uncertainty.
- Overfished status could not be determined from the assessment due to model uncertainty/sensitivity.

Determinations of ACL will be based on recommendations of the SSC once they become available. MSY is 11.461 million pounds and the yield at 75% F_{MSY} is 11.051 million pounds. Based on the current allocations (55% commercial/45% recreational) and if the SSC recommends using the yield at 75% F_{MSY}, the commercial ACT would be 6.078 million pounds and the recreational ACT would be 4.973 million pounds. Commercial landings were 2.390 million pounds during the 3/1/08 – 2/28/09 fishing year, well below the estimated ACT. Recreational landings for the 3/1/08 – 2/28/09 fishing year are not available; the most recent data are for the 2007/08 fishing year when 1.911 million pounds were landed, well below the estimated ACT.

Atlantic group cobia, based on separation at the Miami-Dade/Monroe County line on the Florida east coast, have not been assessed since 1996. A separate age based analysis was not completed for Atlantic group cobia. The 1996 Mackerel Stock Assessment Panel presented the following conclusion about Atlantic cobia: "While there is likely bycatch, the directed catches remain low relative to Gulf catches and as indicated in the 1993 assessment, Atlantic caches probably result in very small F with high SPR". The SAFMC is considering implementing precautionary measures to prevent targeting of cobia during the spawning season.

By being able to modify these parameters through framework actions, the Councils can more expeditiously respond to changing scientific advice as may be dictated by future stock assessments.

3.3.2 Consider Adding Cero, Little Tunny, Blackfin Tuna, Greater Barracuda, and Atlantic Bonito to the Fishery Management Unit in the Atlantic and set OFL, ABC, ACL, and Possibly ACT for These Stocks if Added, as well as AMs and Relevant Management Actions.

Option 1. No Action – do not add cero, little tunny, and Atlantic bonito to the fishery management unit in the Atlantic.

Option 2. Add cero, little tunny, blackfin tuna, greater barracuda, and Atlantic bonito to the fishery management unit in the Atlantic and set OFL, ABC, ACL, and possibly ACT, as well as AMs and relevant management options.

Option 3. Others??

Discussion: The South Atlantic and Mid-Atlantic Councils are interested in establishing precautionary management programs for each of these species. In this way sustainable harvest levels can be set before any overfishing/overfished occurs.

3.3.3 Trip Limits for Atlantic Group King Mackerel

Option 1. No Action – do not modify the trip/size limits for Atlantic group king mackerel. The possession limits are as follows:

April 1 – March 31 NY/CT to Volusia/Flagler	3,500 pounds
April 1 – October 31 Volusia/Flagler to Brevard/Volusia	3,500 pounds
April 1 – October 31 Brevard/Volusia to Dade/Monroe	75 fish
April 1 – October 31 Monroe County	1,250 pounds

Option 2. Modify the trip limits.

Discussion: The Councils are requesting public input on whether the trip limits should be modified.

3.3.4 Modify the Bycatch Allowances for the Shark Drift Net Fishery

Option 1. 25 fish per vessel per trip from April 1 through November 15

Option 2. 20 fish per vessel per trip

Option 3. 4 fish per person per trip

Option 4. The 25 fish per vessel per trip from April 1 through November 15 would apply only to vessels that have a history of observer activity and in the area from St. Lucie Inlet, Florida to the Florida/Georgia border

Option 5. Status quo - the possession limit remains at 2 fish per person per trip

Discussion: The Councils are requesting public input on whether the bycatch allowances for the shark drift net fishery should be modified.

3.3.5 Modify the Atlantic Migratory Group Spanish Mackerel Limits

3.3.5.1 Bag Limits

Option 1. Set a maximum bag limit of 60 Spanish mackerel per boat for charter boats.

Option 2. Set the individual bag limit at 15 per person with a maximum of 60 per boat.

Option 3. Status quo - Individual bag limit for Atlantic group Spanish mackerel remains at 15 NY-FL. (Note: This bag limit was approved at the June 1999 Council meeting, published as a final rule on July 3, 2000, and effective August 2, 2000.)

Discussion: The Councils are requesting public input on whether the bag limits should be modified.

3.3.5.2 Trip Limits

Option 1. Status quo - The possession limits are as follows:

a. April 1 - November 30 -- 3,500 pounds per vessel per day.

b. December 1 until 75% of the adjusted allocation is taken:
Monday - Friday Unlimited
Other days - 1,500 pounds

(Vessel fishing days begin at 6:00 a.m. and extend until 6:00 a.m. the following day, and vessels must be unloaded by 6:00 p.m. of that following day.)

c. After 75% of the adjusted allocation is taken 1,500 pounds per vessel per day for all days.

d. When 100% of the adjusted allocation is reached: 500 pounds per vessel per day to the end of the fishing year (March 31). Adjusted allocation compensates for estimated catches of 500 pounds per vessel per day to the end of the season.

Option 2. Change the unlimited opening from December 1 to November 1st or 15th**.**

Option 3. Status quo – no change to trip limits

Discussion: The Councils are requesting public input on whether the trip limits should be modified.

3.3.6 Specify Management Measure Changes for Atlantic Migratory Group Cobia

Option 1. No action. This would retain the following regulations that apply to both recreational and commercial fishermen: (a) 33" fork length minimum size limit, (b) 2 per person bag limit (Note: Florida state regulations only allow 1 per person), (c) one day possession limit, (d) must be landed with heads and fins intact, and (d) charter/headboats require a permit for Coastal Migratory Pelagics.

Option 2. Reduce the bag limit to 1 per person.

Option 3. Establish a spawning season closure: April-September or April-June or some other time period (Council to specify).

Note: The issue of selling cobia is addressed below.

Discussion: The Councils are requesting public input on whether the size and/or bag limits should be modified and whether a spawning season should be established to protect cobia.

3.3.7 Modifications to the Fishery Management Unit

Option 1. Remove dolphin in the Atlantic from the Coastal Migratory Pelagics FMP.

Option 2. Status quo - retain only Gulf and Atlantic group king and Spanish mackerel and cobia in the management unit for management purposes and clarify that the other species are included in the management unit of the CMP FMP for data collection purposes only.

Option 3. Add blackfin tuna, greater barracuda, and Atlantic bonito to the South Atlantic Coastal Migratory Pelagics FMP management unit and develop precautionary management measures.

Discussion: The Councils are requesting public input on whether the species included in the fishery management unit should be modified.

3.3.8 Potential Size Limit Changes

Option 1. Examine the impacts of release mortality resulting from increasing the minimum size limit from 20 inches fork length to 24 inches fork length. Evaluate whether the minimum size limit should be reduced to 20 inches fork length.

Option 2. Status Quo - the bag limit for Atlantic group king mackerel would remain at 3 NY-GA, 2 FL (Note: Under this bag limit, the recreational catch was 4.27 million

pounds in 2002/2003, 4.04 million pounds in 2001/2002, and 5.34 million pounds in 2000/2001.)

Option 3. Include within the existing bag limit, one fish >45 inches FL.

Option 4. Include within the existing bag limit, one fish >50 inches FL.

Discussion: The Councils are requesting public input on whether the king mackerel size limits should be modified.

3.3.9 Bag Limits for Commercial and Recreational Fishermen for Blackfin Tuna, Little Tunny, Atlantic Bonito and Greater Barracuda

Option 1. Establish a bag limit for commercial and recreational fishermen for blackfin tuna, little tunny, Atlantic bonito and greater barracuda.

Option 2. Status Quo – Do not establish a bag limit for commercial and recreational fishermen on blackfin tuna, little tunny, Atlantic bonito, and greater barracuda.

Discussion: Currently managed species under the Coastal Migratory Pelagics FMP include Gulf group king and Spanish mackerel and cobia. Other stocks for which at least an exploratory stock assessment has been done include dolphin and little tunny. Based on these assessments there is minimal but sufficient information to establish status criteria and benchmarks if these stocks were added to the management unit for management purposes with some possible modifications. Note: Dolphin in the Atlantic have been placed in a FMP for Dolphin and Wahoo that is awaiting publication of the final rule; consequently, the above statements would only apply to dolphin in the Gulf and little tunny in both the Gulf and Atlantic.

For dolphin the 2000 stock assessment showed that F_{1997} was only approximately 51% of F_{MSY} and B_{1998} was approximately 156% of B_{MSY}. Consequently, the stock was extremely healthy at that time. Furthermore, landings have been relatively consistent in recent years and there does not appear to be any trend. Since the SAFMC has developed a dolphin and wahoo FMP for the Atlantic, a revised stock assessment that includes only the Gulf portion of the stock is needed. The Gulf portion of the stock was hypothesized to be a potentially different stock (or at least migratory group) with differences in life rates by Bentivoglio (1988). MSAP (2000) also discussed these differences and noted the need for additional studies of life rates. Consequently, a separate stock assessment for the Gulf is justified based on available data and would be needed to establish status criteria and benchmarks if dolphin (Gulf) were to be added to the CMP FMP for management purposes. Furthermore, dolphin in the Atlantic must be removed from the Coastal Migratory Pelagics FMP as they are managed by the SAFMC under the Dolphin/Wahoo FMP.

For little tunny, the stock assessment shows that there was a probability of overfishing in the early 1990s; however, during the last 5 years, landings have only been about one third of the estimated MSY. Furthermore B_{2001} was estimated at approximately 96% of B_{MSY} with likely further rebuilding to B_{MSY} in the near future (MSAP 2002). There are currently no regulations on either dolphin or little tunny stocks in federal waters of the Gulf, and based on available stock assessment information, there would not appear to be a need to impose regulations at this time.

For bluefish and cero, stock assessments were attempted; however, MSAP (2002) concluded that there was insufficient information to estimate status criteria or benchmarks that would be required if these stocks were to be placed in the management unit for purposes of management.

These stocks are currently included in the Coastal Migratory Pelagics FMP for data collection purposes. Stock assessments have not been attempted for wahoo, blue runner, or blackfin tuna. For blue runner, the recreational landings appear to have increased in recent years with catches over 1.3 million fish in 2000 and over 2.1 million fish in 2001 as compared to catches in most years at approximately 0.5 million fish. However, headboat landings have shown a significant decline since the mid 1990s. Headboat landings are, however, only a small portion of total catch. Also, commercial catches of blue runner declined dramatically from an average of 1.3 MP for 1990 through 1995 to an average of approximately 250,000 pounds for 1996 through 2002.

Recreational landings of blackfin tuna have been highly variable since the early 1990s at between approximately 28,000 and 138,000 individuals but with no visible trend. On the other hand, headboat landings have shown a considerable increase in landings from approximately 1,000 individuals to over 7,000 individuals from 1989 to 1999; however, this component of the fishery is relatively insignificant. The commercial catch of blackfin tuna has declined significantly since the early 1990s from approximately 200,000 pounds to less than 50,000 pounds in 2001 and 2002.

Estimates of MSY for wahoo were attempted by NMFS for the Gulf, Atlantic, and Caribbean for the Draft Joint Dolphin/Wahoo FMP (memo Thompson - 6/27/2000); however, MSY was based on only an average of the last 5 years landings at that time. No additional attempts were made to address OY, overfishing, or overfished definitions. The trend in wahoo landings has been increasing from 1990 through 1999 (Goodyear 1999).

Some additional analyses or other evaluation of benchmarks and status criteria would have to be developed for cero, bluefish, blue runner, wahoo, and blackfin tuna if these stocks are to be included in the management unit for management purposes. Blue runner and blackfin tuna could, however, be added to the management unit for data collection purposes only. A wording change from “in the fishery but not in the management unit” to “in the management unit for data collection purposes only” could also be made for appropriate species.

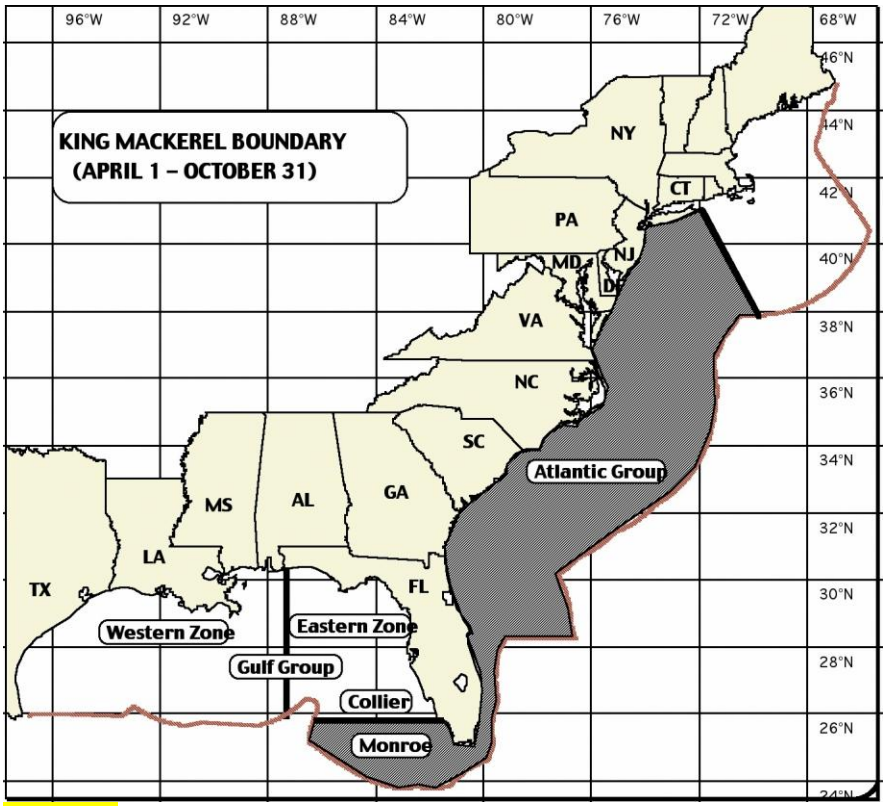

Figure 1

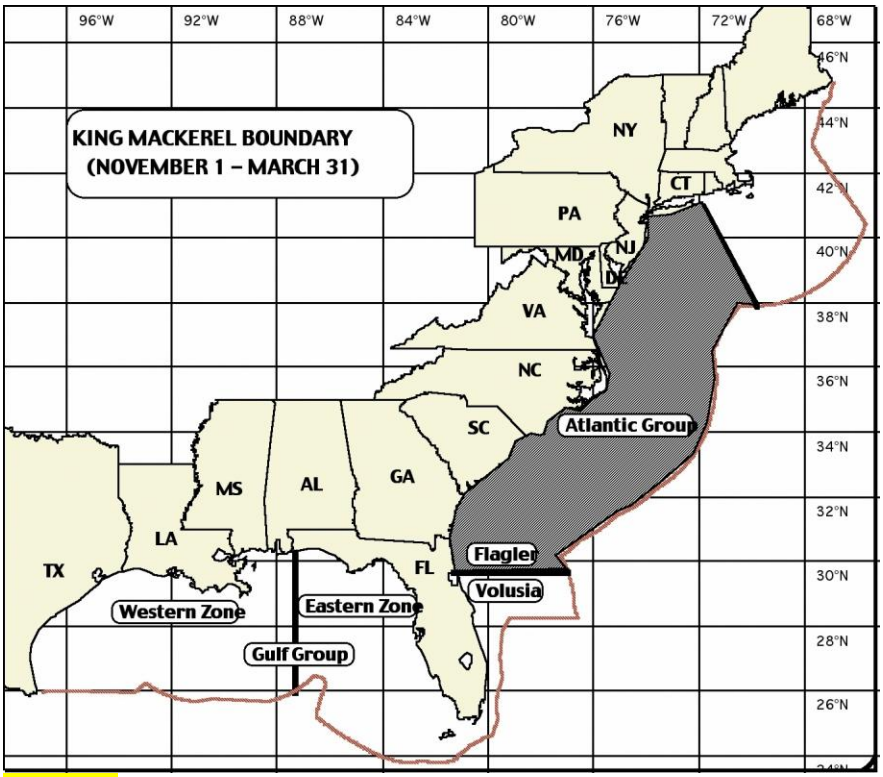

Figure 2

APPENDIX A – MODIFICATIONS TO FRAMEWORK

Section 12.6.1 Mechanism for Determination of Framework Adjustments, as modified by this and previous amendments is as follows:

Section 12.6.1.1:

A. ~~An assessment panel (Panel) appointed by the Councils will normally reassess the condition of each stock or migratory group of king and Spanish mackerel and cobia in alternate (even numbered) years and other stocks when data allows for the purpose of providing for any needed preseason adjustment of TAC and other framework measures. However, in the event of changes in the stocks or fisheries~~, **T**he Councils may request ~~additional~~ assessments as may be needed. The Councils, however, may make annual seasonal adjustments based on the most recent assessment. ~~The Panel shall be composed of NMFS scientists, Council staff, Scientific and Statistical Committee members, and other state, university, and private scientists as deemed appropriate by the Councils.~~

Each stock assessment ~~The Panel~~ **should** ~~will~~ address the following **and perhaps other** items for each stock:

1. Stock identity and distribution. This should include situations where there are groups of fish within a stock which are sufficiently different that they should be managed as separate units. If several possible stock divisions exist, ~~the Panel~~ **they** should describe the likely alternatives.

2. MSY and/or B_{MSY} (or appropriate proxies) for each identified stock. If more than one possible stock division exists, MSY and/or B_{MSY} for each possible combination should be estimated.

3. Condition of the stock(s) or groups of fish within each stock which could be managed separately. For each stock, this should include but not be limited to:

    a. Fishing mortality rate**s** relative to F_{MSY} and $F_{0.1}$ as well as $F_{30\ percentSPR,}$ and $F_{40\ percentSPR,}$ **OFL, or other limits as deemed appropriate.**

    b. Spawning potential ratio**s** (SPR).

    c. Abundance relative to **biomass at MSY and MSST** ~~an adequate spawning biomass.~~

    d. Trends in recruitment.

    e. Acceptable Biological Catch (ABC) **estimates** which will result in long-term yield as near MSY as possible **based on the level of scientific uncertainty.**

    f. Calculation of catch ratios based on catch statistics using procedures defined in the FMP as modified.

g. Estimate of current mix of Atlantic and Gulf migratory group king mackerel in the mixing zone for use in tracking quotas.

4. **Overfished and** Overfishing:

a. **Gulf group king mackerel stocks in the Gulf of Mexico will be considered overfished if the probability that $B_{current}$ is less than MSST is greater than 50%. The minimum stock size threshold (MSST) is defined as (1-M)*B_{MSY} or 80% of B_{MSY}. Gulf group Spanish mackerel stocks and cobia stocks in the Gulf of Mexico will be considered overfished if the probability that $B_{current}$ is less than MSST is greater than 50%. The minimum stock size threshold (MSST) is defined as (1-M)*B_{MSY} or 70% of B_{MSY}.** ~~A mackerel stock or migratory group is considered to be overfished when the biomass is reduced below the MSST.~~

b. The South Atlantic Council's target level or OY is 40 percent static SPR. The Gulf Council's target level or optimum yield (OY) is **the yield corresponding to a fishing mortality rate (F_{OY}) defined as: $F_{OY}=0.85*F_{MSY}$ when the stock is at equilibrium for Gulf group king mackerel and the yield corresponding to a fishing mortality rate (F_{OY}) defined as: $F_{OY}=0.75*F_{MSY}$ when the stock is at equilibrium for Gulf group Spanish mackerel and cobia** ~~30 percent static SPR.~~ ABC is calculated based on **both MSY (defined for Gulf group king and Spanish mackerel as the yield associated with $F_{30\% SPR}$ when the stock is at equilibrium and the yield associated with F_{MSY} when the stock is at equilibrium for cobia) and OY as well as the consideration of scientific uncertainty.** ~~the target level or optimum yield (SAFMC = 40 percent static SPR and GMFMC = 30 percent static SPR).~~

c. When a stock or migratory group is overfished (biomass is below MSST), a rebuilding program that makes consistent progress towards restoring stock condition must be implemented and continued until the stock is restored to **B_{MSY}** ~~MSY~~. The rebuilding program must be designed to achieve recovery within an acceptable time frame consistent with the National Standard Guidelines, and as specified by the Councils. The Councils will continue to rebuild the stock above MSY until the stock is restored to the management target (OY) if different from MSY.

d. ~~When a stock or migratory group is not overfished,~~ **T**he act of overfishing is defined as **MFMT = F_{MSY} and OFL is the yield associated with this level of fishing mortality. The Gulf group king mackerel, Gulf group Spanish mackerel and Gulf group cobia stocks would be considered undergoing overfishing if the probability that $F_{current}$ is larger than F_{MSY} is greater than 50%.** ~~a static SPR that exceeds the threshold of 30 percent (i.e., $F_{30 percent}$ or MFMT).~~ If fishing mortality rates that exceed the level associated with **these thresholds** ~~the static SPR threshold~~ are maintained, the stock**s** may become overfished.

Therefore, if overfishing is occurring, a program to reduce fishing mortality rates toward management target levels (OY) will be implemented, even if the stock or migratory group is not in an overfished condition.

e. **The stock assessment process should** ~~The Councils have requested the Mackerel Stock Assessment Panel (MSAP)~~ provide a range of possibilities and options for specifying B_{MSY} and the MSST.

f. For species when there is insufficient information to determine whether the stock or migratory group is overfished, overfishing is defined as a fishing mortality rate in excess of the fishing mortality rate corresponding to a default threshold static SPR of 30 percent, which is the MFMT. If overfishing is occurring, a program to reduce fishing mortality rates to at least the level corresponding to management target levels will be implemented.

5. Management options. If recreational or commercial fishermen have achieved or are expected to achieve their allocations, the **stock assessment** ~~Panel~~ may **include** ~~delineate~~ possible options for non-quota restrictions on harvest, including effective levels for such actions as:

a. Bag limits.
b. Size limits.
c. Gear restrictions.
d. Vessel trip limits.
e. Closed season or areas, and
f. Other options as requested by the Councils.

6. **The stock assessment process may also evaluate and provide recommendations for** ~~The Panels may also recommend~~ more appropriate levels or statements for the MSY (or proxy), OY, MFMT, ~~and~~ MSST**, OFL and ABC** for any stock, including ~~their~~ rationale for the proposed change**s**.

7. Other biological questions, as appropriate, **may also be addressed through the stock assessment process**.

B. **The stock assessment process** ~~The Panel~~ will **develop** ~~prepare~~ a written report with ~~its~~ recommendations for submission to the councils **and their SSCs** ~~each year (even years - full assessment, odd years - mini assessments)~~ by such date as may be specified by the councils **in coordination with NMFS**. The report will contain the scientific basis for ~~their~~ recommendations and indicate the degree of reliability **and uncertainty** which the Council should place on the recommended stock divisions, levels of catch, ~~and~~ options for non-quota controls of the catch**, and any other recommendations**.

C. The Councils may take action based on the ~~panel~~ report or may take action based on issues/information that surface separate from the **report** ~~assessment group~~. The steps are as follows:

1. **The stock assessment process** ~~Assessment panel~~ report: The councils **and their SSCs** will consider the report and recommendations ~~of the Panel~~ and such public comments as are relevant to the ~~Panel's~~ report. Public hearings will be held at the time and place where the councils consider the ~~Panel's~~ report. The councils will consult their Advisory Panels and Scientific and Statistical Committees to review the report and provide advice prior to taking final action. After receiving public input, the councils will make findings on the need for changes.

2. Information separate from **the stock assessment process** ~~assessment panel~~ report: The Councils will consider information that surfaces separate from **the stock assessment process** ~~the assessment group~~. **The** Councils' staff will compile the information and analyze the impacts of likely alternatives to address the particular situation. The councils' staff report will be presented to the councils. A public hearing will be held at the time and place where councils consider the Councils' staff report. The council**s will** consult their Advisory Panels and Scientific and Statistical Committees to review the report and provide advice prior to taking final action. After receiving public input, the councils will make findings on the need for changes.

D. If changes are needed in the following, the councils will advise the Regional Administrator (RA) of the Southeast Region of the National Marine Fisheries Service in writing of their recommendations, accompanied by the **stock assessment process report, staff reports,** ~~assessment panel's report~~, relevant background material, and public comments, **as appropriate**:

a. MSY or B_{MSY} (or proxies),
b. overfishing levels (MFMT) and overfished levels (MSST),
c. TACs and OY statements,
d. OFL, ABC, ACL, and possibly ACT
e~~d~~. quotas (including zero quotas),
fe. trip limits,
g~~f~~. bag limits (including zero bag limits),
h~~g~~. minimum sizes,
~~**i**h~~. reallocation of Atlantic group Spanish mackerel,
~~**j**i~~. gear restriction (ranging from modifying current regulations to a complete prohibition),
~~**k**j~~. permit requirements, or
~~**l**k~~. season/area closure and reopening (including spawning closure).
m. zones, subzones, and migratory group boundaries
n. allocations

Recommendations with respect to the Atlantic migratory groups of king and Spanish mackerel **and cobia** will be the responsibility of the South Atlantic Council, and those for the Gulf migratory groups of king and Spanish mackerel **and cobia** will be the responsibility of the Gulf Council. Except that the SAFMC will have responsibility to set vessel trip limits, closed seasons or areas, or gear restrictions for the northern area of the Eastern Zone (Dade through Volusia Counties, Florida) for the commercial fishery for

Gulf group king mackerel. ~~This report shall be submitted by such data as may be specified by the Councils.~~

For stocks~~, such as cobia,~~ where scientific information indicates it is a common stock that migrates through the Gulf and South Atlantic jurisdictions, both councils must concur on the recommendations. For other stocks~~, such as bluefish, cero, and little tunny, there is no scientific information that shows they are common stocks, and~~ each council will separately make management recommendations for these stocks in their jurisdictions.

E. The RA will review the councils' recommendations, supporting rationale, public comments and other relevant information, and if the RA concurs with the recommendations, the RA will draft regulations in accordance with the recommendations. The RA may also reject **any** ~~the~~ recommendation, providing written reasons for rejection. In the event the RA rejects **a** ~~the~~ recommendation, existing regulations shall remain in effect until resolved. However, if the RA finds that a proposed recreational bag limit for Gulf migratory group or groups of king mackerels is likely to exceed the allocation and rejects the Council**'s'** ~~'~~ recommendation, the bag limit reverts to one fish per person per day.

F. If the RA concurs that the councils' recommendations are consistent with the goals and objectives of the plan, the National Standards, and other applicable law, the RA shall implement the regulations by proposed and final rules in the Federal Register prior to the appropriate fishing year or such dates as may be agreed upon with the councils. A reasonable period for public comment shall be afforded, consistent with the urgency, if any, of the need to implement the management measure.

Appropriate regulatory changes that may be implemented by the RA by proposed and final rules in the Federal Register are:

1. Adjustment of the overfishing level (MFMT) for king and Spanish mackerels and **cobia** ~~other stocks~~. Specification of B_{MSY} and the MSST for the stocks. Respecification of levels or statements of OY and MSY (proxy).

2. Setting **ACLs** ~~total allowable catches (TACs)~~ for each stock or migratory group of fish which should be managed separately, as identified in the FMP provided:

    a. No **ACL** ~~TAC~~ may exceed the best point estimate of MSY by more than 10 percent for more than one year.

    b. No **ACL** ~~TAC~~ may exceed the upper range of ABC if it results in overfishing **(as previously defined)**.

    c. Downward adjustments of **ACL** ~~TAC~~ of any amount **(i.e. to ACT)** are allowed in order to protect the stock and prevent overfishing.

    d. Reductions or increases in allocations as a result of changes in the **ACL** ~~TAC~~ are to be as equitable as may be practical utilizing similar percentage changes to allocations for participants in a fishery.

3. Adjusting user group allocations in response to changes in **ACLs** ~~TACs~~ according to the formula specified in the FMP.

4. The reallocation of Atlantic Spanish mackerel between recreational and commercial fishermen may be made through the framework after consideration of changes in the social and/or economic characteristics of the fishery. Such allocation adjustments shall not be greater than a ten percent change in one year to either sector's allocation. Changes may be implemented over several years to reach a desired goal, but must be assessed each year relative to changes in TAC and social and/or economic impacts to either sector of the fishery.

5. Modifying (or implementing for a particular species):

   a. quotas (including zero quotas)
   b. trip limits
   c. bag limits (including zero bag limits)
   d. minimum sizes
   e. re-allocation of Atlantic group Spanish mackerel by no more than 10 percent per year to either the commercial or recreational sector.
   f. gear restriction (ranging from modifying current regulations to a complete prohibition)
   g. permit requirements, or
   h. season/area closures and re-openings (including spawning closure)
   i. zones, subzones, migratory group boundaries and allocations

   Authority is also granted to the RA to close any fishery, i.e., revert any bag limit to zero, and close and reopen any commercial fishery, once a quota has been established through the procedure described above; and such quota has been filled. When such action is necessary, the RA will recommend that the Secretary publish a notice in the Federal Register as soon as possible.

APPENDIX B – TABLES - Table 1. Trends of Fishing Mortality & Spawning Stock Biomass – GOM Stock

SSB VPA estimated value Million hydrated eggs

Year	Deterministic	low CI	Median	upp CI
1981	2123	2103	2111	2124
1982	2036	2015	2023	2036
1983	1555	1532	1541	1556
1984	1590	1565	1574.5	1591
1985	1502	1473	1484	1503
1986	1532	1495	1509	1534
1987	1590	1543	1561	1592
1988	1731	1676	1697	1733
1989	1748	1680	1706	1751
1990	1885	1796	1830	1888
1991	2040	1929	1972	2045
1992	2215	2072	2126.5	2220
1993	2245	2070	2137.5	2252
1994	2265	2052	2134	2273
1995	2210	1932	2038.5	2220
1996	2340	1987	2123	2353
1997	2443	2006	2174	2459
1998	2509	1979	2185.5	2531
1999	2658	2036	2286.5	2700
2000	2788	2106	2396.5	2850
2001	2876	2162	2487	2968
2002	2873	2180	2526	3032
2003	2872	2226	2578	3091
2004	2955	2343	2728	3218
2005	3285	2645	3116	3644
2006	3921	3224	3846	4512

SSB/MSST

Year	Deterministic	low CI	Median	upp CI
1981	0.811	0.804	0.807	0.812
1982	0.778	0.770	0.773	0.779
1983	0.594	0.586	0.589	0.595
1984	0.607	0.598	0.602	0.608
1985	0.574	0.563	0.567	0.575
1986	0.585	0.572	0.577	0.586
1987	0.607	0.590	0.597	0.608
1988	0.661	0.641	0.649	0.662
1989	0.668	0.643	0.652	0.669
1990	0.720	0.687	0.700	0.722
1991	0.779	0.738	0.754	0.782
1992	0.846	0.792	0.813	0.849
1993	0.857	0.792	0.817	0.861
1994	0.865	0.785	0.816	0.869
1995	0.844	0.739	0.779	0.849
1996	0.894	0.760	0.811	0.900
1997	0.933	0.767	0.831	0.940
1998	0.958	0.757	0.835	0.967
1999	1.015	0.779	0.874	1.032
2000	1.065	0.806	0.916	1.089
2001	1.098	0.828	0.951	1.134
2002	1.097	0.834	0.966	1.159
2003	1.097	0.851	0.987	1.180
2004	1.129	0.896	1.043	1.227
2005	1.255	1.012	1.191	1.394
2006	1.498	1.237	1.471	1.725

F apical VPA Estimate Fishing Mortality Rate

Year	Deterministic	low CI	Median	upp CI
1981	0.340	0.340	0.342	0.343
1982	1.008	1.008	1.012	1.014
1983	0.413	0.413	0.414	0.415
1984	0.427	0.427	0.429	0.430
1985	0.558	0.558	0.561	0.563
1986	0.556	0.556	0.561	0.565
1987	0.493	0.492	0.499	0.504
1988	0.368	0.367	0.383	0.393
1989	0.548	0.548	0.557	0.563
1990	0.422	0.421	0.439	0.449
1991	0.568	0.568	0.586	0.597
1992	0.713	0.711	0.732	0.745
1993	0.508	0.505	0.552	0.584
1994	0.681	0.679	0.707	0.724
1995	0.537	0.535	0.582	0.614
1996	0.378	0.375	0.420	0.451
1997	0.294	0.292	0.336	0.369
1998	0.313	0.311	0.362	0.401
1999	0.346	0.306	0.339	0.365
2000	0.313	0.259	0.286	0.313
2001	0.212	0.191	0.214	0.239
2002	0.177	0.158	0.185	0.220
2003	0.225	0.202	0.263	0.332
2004	0.223	0.176	0.210	0.257
2005	0.239	0.195	0.233	0.279
2006	0.288	0.212	0.254	0.313

Fcurr/ MFMT

Year	Deterministic	low CI	Median	upp CI
1983	1.446	1.385	1.530	1.647
1984	1.434	1.376	1.520	1.637
1985	1.398	1.347	1.489	1.607
1986	1.343	1.294	1.431	1.544
1987	1.440	1.387	1.532	1.654
1988	1.613	1.558	1.726	1.863
1989	1.846	1.790	1.983	2.141
1990	1.754	1.713	1.899	2.053
1991	2.027	1.974	2.187	2.367
1992	1.866	1.829	2.032	2.199
1993	1.984	1.957	2.186	2.382
1994	1.942	1.924	2.169	2.373
1995	2.095	2.077	2.365	2.603
1996	1.898	1.889	2.159	2.379
1997	1.536	1.516	1.754	1.935
1998	1.267	1.233	1.424	1.570
1999	1.231	1.165	1.323	1.453
2000	1.273	1.153	1.290	1.412
2001	1.132	0.974	1.119	1.236
2002	0.854	0.738	0.843	0.942
2003	0.765	0.709	0.826	0.958
2004	0.778	0.692	0.810	0.952
2005	0.826	0.728	0.899	1.106
2006	0.827	0.714	0.828	0.969

Appendix B - Table 2. Trends of Fishing Mortality and Spawning Stock Biomass - Atlantic Stock

SSB VPA Estimated Value Million Hydrated Eggs

Year	Deterministic	low CI	Median	upp CI
1981	4508	4496	4509	4551
1982	4568	4555	4569	4615
1983	4587	4573	4589	4640
1984	4498	4483	4500	4555
1985	4418	4400	4420	4483
1986	4275	4253	4277	4353
1987	4086	4059	4089	4182
1988	3873	3842	3877	3985
1989	3555	3520	3559	3682
1990	3545	3500	3550	3705
1991	3580	3520	3587	3797
1992	3369	3294	3377	3640
1993	3098	3010	3108	3416
1994	2962	2861	2973	3328
1995	2873	2753	2887	3307
1996	2847	2698	2864	3383
1997	2824	2643	2844	3474
1998	2701	2494	2722.5	3439
1999	2641	2410	2664.5	3433
2000	2640	2382	2658.5	3442
2001	2476	2194	2485.5	3258
2002	2377	2069	2374	3119
2003	2341	2000	2320	3008
2004	2365	1958	2336	3038
2005	2433	1973	2426.5	3102
2006	2443	1951	2476.5	3203

SSB/MSST

Year	Deterministic	low CI	Median	upp CI
1981	2.468	2.463	2.470	2.492
1982	2.501	2.495	2.503	2.528
1983	2.512	2.505	2.514	2.541
1984	2.463	2.455	2.465	2.495
1985	2.419	2.410	2.421	2.455
1986	2.341	2.330	2.343	2.383
1987	2.237	2.224	2.240	2.290
1988	2.121	2.105	2.124	2.182
1989	1.947	1.928	1.950	2.015
1990	1.941	1.917	1.945	2.028
1991	1.960	1.928	1.965	2.078
1992	1.845	1.804	1.851	2
1993	1.696	1.648	1.703	1.869
1994	1.622	1.567	1.629	1.820
1995	1.573	1.508	1.582	1.808
1996	1.559	1.478	1.570	1.849
1997	1.546	1.448	1.559	1.898
1998	1.479	1.367	1.493	1.877
1999	1.446	1.320	1.459	1.872
2000	1.446	1.305	1.456	1.883
2001	1.356	1.202	1.361	1.782
2002	1.302	1.134	1.300	1.706
2003	1.282	1.095	1.271	1.647
2004	1.295	1.074	1.280	1.657
2005	1.332	1.081	1.329	1.697
2006	1.338	1.071	1.357	1.749

F Apical VPA Estimate Fishing Mortality Rate

Year	Deterministic	low CI	Median	upp CI
1981	0.442	0.440	0.442	0.443
1982	0.386	0.383	0.386	0.387
1983	0.382	0.378	0.381	0.382
1984	0.287	0.284	0.287	0.288
1985	0.441	0.437	0.441	0.442
1986	0.288	0.284	0.288	0.289
1987	0.208	0.205	0.208	0.209
1988	0.287	0.282	0.287	0.289
1989	0.219	0.213	0.219	0.220
1990	0.331	0.320	0.331	0.334
1991	0.311	0.297	0.311	0.316
1992	0.345	0.325	0.344	0.351
1993	0.318	0.293	0.317	0.326
1994	0.252	0.226	0.251	0.260
1995	0.361	0.318	0.360	0.376
1996	0.366	0.314	0.364	0.383
1997	0.390	0.320	0.388	0.416
1998	0.315	0.240	0.312	0.346
1999	0.233	0.165	0.230	0.264
2000	0.263	0.203	0.259	0.298
2001	0.285	0.248	0.287	0.305
2002	0.269	0.245	0.274	0.294
2003	0.358	0.284	0.362	0.406
2004	0.377	0.324	0.393	0.455
2005	0.344	0.296	0.373	0.458
2006	0.359	0.310	0.409	0.534

Fcurr/ MFMT

Year	Deterministic	low CI	Median	upp CI
1983	0.914	0.784	0.854	0.919
1984	0.745	0.637	0.695	0.749
1985	0.754	0.645	0.704	0.758
1986	1.010	0.863	0.943	1.016
1987	0.804	0.684	0.751	0.808
1988	0.613	0.521	0.572	0.616
1989	0.623	0.528	0.581	0.625
1990	0.669	0.566	0.625	0.672
1991	0.683	0.575	0.638	0.684
1992	0.815	0.680	0.762	0.817
1993	0.974	0.802	0.912	0.977
1994	0.937	0.758	0.878	0.940
1995	0.831	0.658	0.780	0.835
1996	0.906	0.703	0.852	0.913
1997	1.154	0.873	1.086	1.165
1998	1.025	0.746	0.965	1.043
1999	0.783	0.530	0.737	0.814
2000	0.705	0.477	0.666	0.739
2001	0.725	0.517	0.687	0.747
2002	0.718	0.551	0.684	0.740
2003	0.771	0.628	0.741	0.814
2004	0.893	0.725	0.877	0.983
2005	0.984	0.811	0.985	1.150
2006	1.006	0.869	1.076	1.306

Appendix B - Table 3. Proportions of Catch by Stock Unit at Different Boundaries in the FL East Coast

Deterministic Run Yield Landings Million Pounds – Gulf of Mexico

Projections Final Model

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	11.810	11.810	11.810	11.810	11.810	11.810
2008	17.130	12.610	14.778	13.162	11.513	14.394
2009	17.491	13.543	15.496	14.050	12.513	15.157
2010	16.286	13.223	14.791	13.640	12.357	14.526
2011	14.240	12.046	13.215	12.366	11.369	13.023
2012	12.432	10.834	11.715	11.080	10.300	11.576
2013	11.277	10.018	10.732	10.221	9.568	10.622
2014	10.503	9.438	10.053	9.614	9.041	9.958
2015	10.148	9.200	9.755	9.361	8.834	9.672
2016	9.886	9.015	9.533	9.165	8.669	9.456

Projections adjusted for Dade-Monroe management unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	10.823	10.823	10.823	10.823	10.823	10.823
2008	15.258	11.200	13.164	11.726	10.258	12.992
2009	15.535	12.006	13.768	12.486	11.124	13.602
2010	14.524	11.772	13.194	12.170	11.028	13.067
2011	12.823	10.826	11.900	11.137	10.242	11.816
2012	11.293	9.814	10.638	10.060	9.351	10.585
2013	10.326	9.145	9.822	9.351	8.753	9.785
2014	9.685	8.677	9.265	8.858	8.330	9.234
2015	9.384	8.480	9.014	8.647	8.159	8.990
2016	9.162	8.328	8.828	8.485	8.024	8.807

Projections adjusted for Council boundary management unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	10.005	10.005	10.005	10.005	10.005	10.005
2008	14.271	10.488	12.312	10.967	9.594	12.085
2009	14.548	11.252	12.891	11.690	10.413	12.683
2010	13.578	11.013	12.333	11.375	10.307	12.172
2011	11.940	10.088	11.080	10.369	9.535	10.968
2012	10.477	9.115	9.871	9.335	8.678	9.794
2013	9.549	8.467	9.084	8.650	8.097	9.026
2014	8.930	8.010	8.545	8.171	7.683	8.495
2015	8.643	7.820	8.305	7.967	7.518	8.262
2016	8.431	7.673	8.126	7.811	7.387	8.088

Projections status quo catch Mixing-winter all GOM unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	14.266	14.266	14.266	14.266	14.266	14.266
2008	25.155	18.371	21.663	19.286	16.868	17.167
2009	24.956	19.180	22.068	20.000	17.805	18.082
2010	22.862	18.481	20.754	19.143	17.346	17.577
2011	19.698	16.685	18.323	17.176	15.820	15.999
2012	16.837	14.775	15.946	15.135	14.118	14.257
2013	14.601	13.102	13.986	13.380	12.586	12.696
2014	12.897	11.693	12.416	11.925	11.263	11.354
2015	12.086	11.039	11.676	11.244	10.653	10.734
2016	11.548	10.591	11.177	10.781	10.232	10.307

Appendix B - Table 4. Proportions of Catch by Stock Unit at Different Boundaries in the FL East Coast

Deterministic Run Yield Landings Million Pounds - Atlantic

Projections Final Model

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	9.277	9.277	9.277	9.277	9.277	9.277
2008	9.453	6.669	8.170	7.291	6.391	9.504
2009	9.248	6.956	8.236	7.498	6.706	9.288
2010	9.154	7.240	8.344	7.718	7.017	9.184
2011	9.132	7.522	8.477	7.943	7.319	9.156
2012	8.860	7.476	8.314	7.851	7.295	8.880
2013	8.788	7.549	8.309	7.893	7.379	8.805
2014	8.794	7.665	8.369	7.985	7.507	8.810
2015	8.737	7.672	8.338	7.979	7.520	8.750
2016	8.704	7.685	8.327	7.981	7.538	8.717

Projections adjusted for Dade-Monroe management unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	10.264	10.264	10.264	10.264	10.264	10.264
2008	11.326	8.079	9.784	8.726	7.645	10.906
2009	11.205	8.493	9.965	9.062	8.096	10.843
2010	10.915	8.692	9.941	9.188	8.346	10.644
2011	10.548	8.743	9.791	9.172	8.447	10.363
2012	9.999	8.495	9.391	8.871	8.244	9.871
2013	9.738	8.421	9.220	8.762	8.194	9.642
2014	9.612	8.427	9.157	8.741	8.218	9.534
2015	9.501	8.392	9.079	8.692	8.195	9.432
2016	9.427	8.372	9.031	8.661	8.182	9.366

Projections adjusted for Council boundary management unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	11.082	11.082	11.082	11.082	11.082	11.082
2008	12.312	8.791	10.636	9.486	8.310	11.813
2009	12.192	9.247	10.842	9.858	8.807	11.762
2010	11.861	9.450	10.802	9.983	9.068	11.539
2011	11.432	9.480	10.611	9.940	9.154	11.211
2012	10.815	9.194	10.158	9.596	8.917	10.663
2013	10.516	9.099	9.957	9.463	8.850	10.401
2014	10.367	9.093	9.877	9.429	8.865	10.273
2015	10.242	9.052	9.789	9.372	8.836	10.159
2016	10.159	9.027	9.734	9.335	8.819	10.085

Projections status quo catch Mixing-winter all GOM unit

Year	F30%SPR	F40%SPR	F 85%SPR30	F 75%SPR30	F 65%SPR30	Fcurrent
2007	7.756	7.756	7.756	7.756	7.756	7.756
2008	8.710	6.149	7.535	6.729	5.902	8.071
2009	8.221	6.202	7.335	6.687	5.990	7.747
2010	7.981	6.340	7.291	6.757	6.153	7.619
2011	7.897	6.543	7.355	6.905	6.376	7.617
2012	7.502	6.347	7.050	6.665	6.199	7.271
2013	7.423	6.389	7.026	6.682	6.252	7.222
2014	7.405	6.466	7.055	6.737	6.338	7.229
2015	7.330	6.442	7.002	6.702	6.318	7.167
2016	7.293	6.444	6.982	6.695	6.325	7.139