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**FRAMEWORK SEASONAL ADJUSTMENT
OF HARVEST LEVELS AND PROCEDURES
UNDER THE
FISHERY MANAGEMENT PLAN
FOR COASTAL MIGRATORY PELAGIC RESOURCES (MACKERELS)
IN THE
GULF OF MEXICO AND SOUTH ATLANTIC REGION
INCLUDING ENVIRONMENTAL ASSESSMENT
REGULATORY IMPACT REVIEW
AND
INITIAL REGULATORY FLEXIBILITY ANALYSIS**



MAY 1997

**GULF OF MEXICO FISHERY MANAGEMENT COUNCIL
3018 U.S. HIGHWAY 301 NORTH, SUITE 1000
TAMPA, FLORIDA 33619-2266
813-228-2815**

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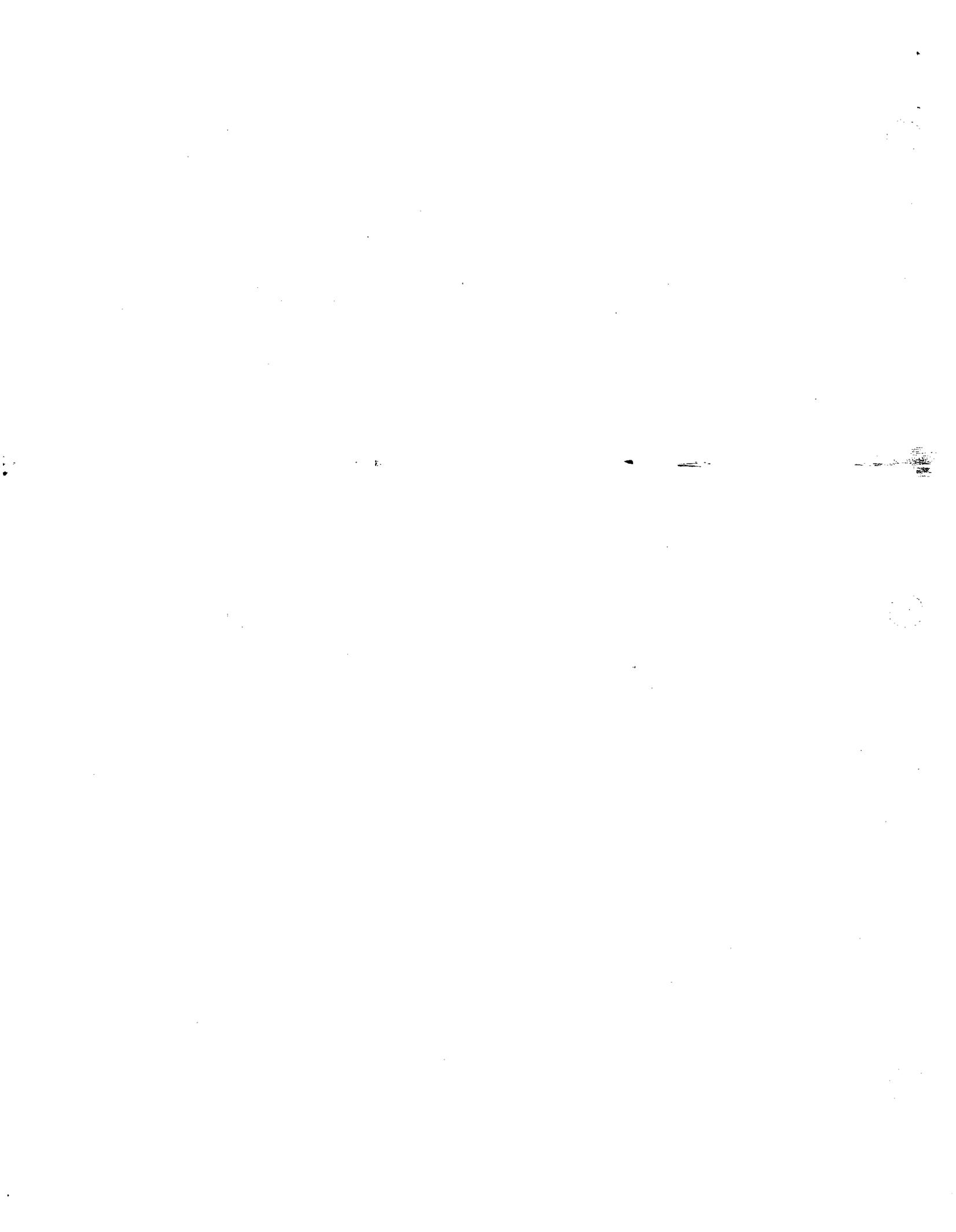
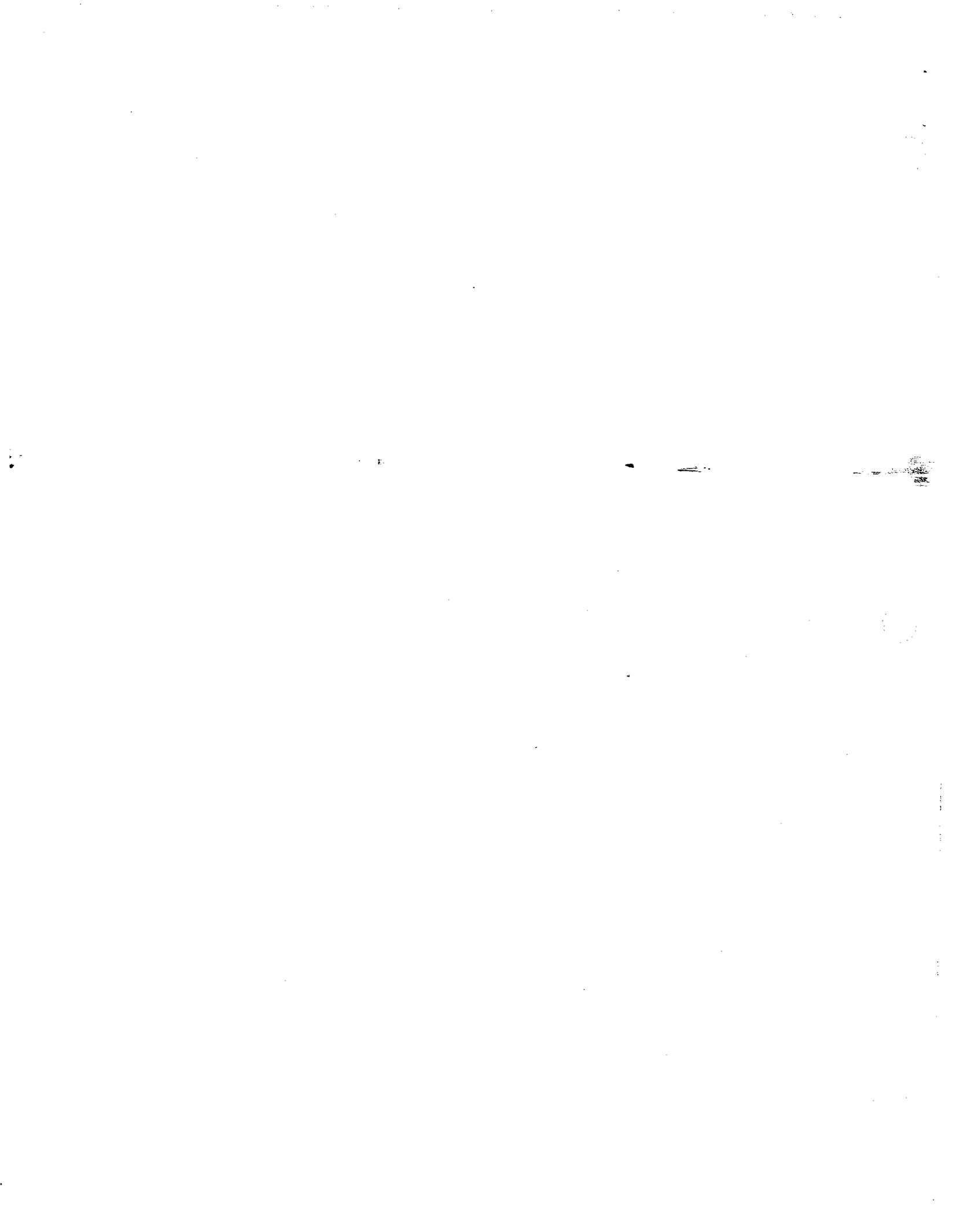


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I. HISTORY OF MANAGEMENT

The "Mackerel" fishery management plan (FMP), approved in 1982 and implemented by regulations effective in February of 1983, treated king and Spanish mackerel each as one U.S. stock. Allocations were established for recreational and commercial fisheries, and the commercial allocation was divided between net and hook-and-line fishermen.

Amendment 1, implemented in September of 1985, provided a framework procedure for pre-season adjustment of total allowable catch (TAC), revised king mackerel maximum sustainable yield (MSY) downward, recognized separate Atlantic and Gulf migratory groups of king mackerel, and established fishing permits and bag limits for king mackerel. Commercial allocations among gear users were eliminated. The Gulf commercial allocation for king mackerel was divided into eastern and western zones for the purpose of regional allocation.

Amendment 2, implemented in July of 1987, revised Spanish mackerel MSY downward, recognized two migratory groups, and set commercial quotas and bag limits. Charter boat permits were required, and it was clarified that TAC must be set below the upper range of acceptable biological catch (ABC). The use of purse seines on overfished stocks was prohibited.

Amendment 3 was partially approved in 1989, revised, resubmitted, and approved in 1990. It prohibited drift gill nets for coastal pelagics and purse seines for the overfished groups of mackerels.

Amendment 4, implemented in 1989, reallocated Spanish mackerel equally between recreational and commercial fishermen on the Atlantic group.

Amendment 5, implemented in August 1990, made a number of changes in the management regime which:

- o Extended the management area for Atlantic groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- o Revised problems in the fishery and plan objectives;
- o Revised the fishing year for Gulf Spanish mackerel from July-June to April-March;
- o Revised the definition of "overfishing;"
- o Added cobia to the annual stock assessment procedure;
- o Provided that the South Atlantic Fishery Management Council (SAFMC) 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;
- o Continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western groups can be determined;
- o Redefined recreational bag limits as daily limits;
- o Deleted a provision specifying that bag limit catch of mackerel may be sold;
- o Provided guidelines for corporate commercial vessel permits;

- o Specified that Gulf king mackerel may be taken only by hook-and-line and run-around gill nets;
- o Imposed a bag limit of two cobia per person per day;
- o Established a minimum size of 12-inch (30.5 cm.) fork length or 14-inch (35.6 cm.) total length for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

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

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

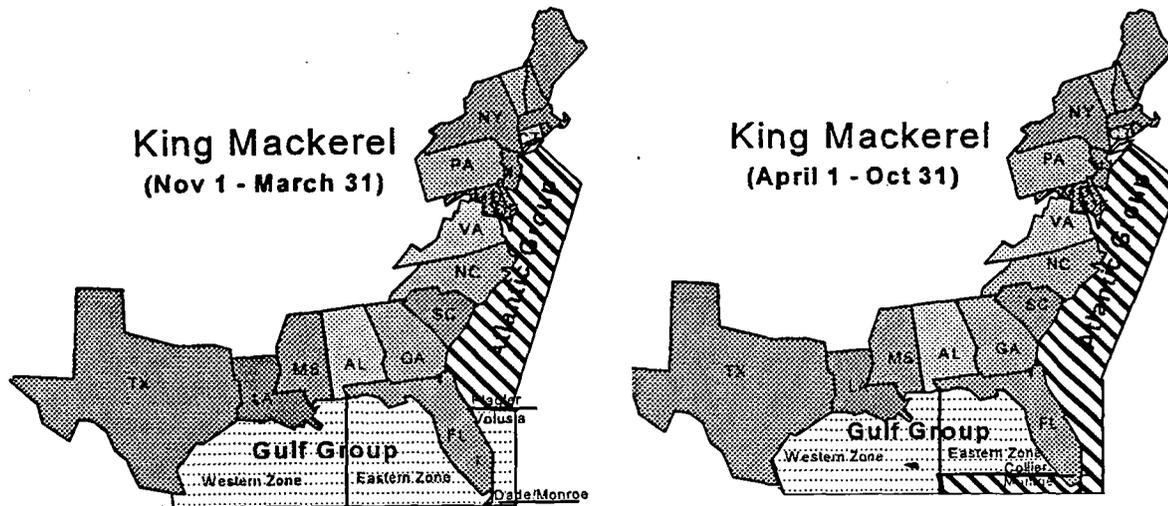
Amendment 7 equally divided the Gulf commercial allocation in the Eastern Zone at the Dade-Monroe County line in Florida. The suballocation for the area from Monroe County through Western Florida is equally divided between commercial hook-and-line and net gear users.

The present management regime for king mackerel recognizes two migratory groups, the Gulf migratory group and the Atlantic migratory group. These groups are hypothesized to mix on the east coast of Florida. For management and assessment purposes, a boundary between groups was specified as 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). For allocation purposes, the Gulf migratory group is divided at the Florida-Alabama border (Figure 1).

For the purpose of allocating a limited resource among users, the FMP has set ratios based on historic unregulated catches. The Gulf migratory group is allocated with 68 percent for recreational fishermen and 32 percent for commercial fishermen. The commercial allocation is further subdivided 69 percent for the Eastern Zone and 31 percent for the Western Zone.

The seasonal framework adjustment process is described in Appendix 1.

Figure 1. Seasonal boundaries and divisions of the Gulf and Atlantic migratory groups of king mackerel.



Management Objectives

The current FMP as amended lists eight plan objectives:

1. The primary objectives of the FMP are to stabilize yield at MSY, allow recovery of overfished populations, and maintain population levels sufficient to ensure adequate recruitment.
2. To provide a flexible management system for the resource which minimizes regulatory delay while retaining substantial Council and public input in management decisions and which can rapidly adapt to changes in resource abundance, new scientific information, and changes in fishing patterns among user groups or by areas.
3. To provide necessary information for effective management and establish a mandatory reporting system for monitoring catch.
4. To minimize gear and user group conflicts.
5. To distribute the TAC of Atlantic migratory group Spanish mackerel between recreational and commercial user groups based on the catches that occurred during the early to mid 1970's, which is prior to the development of the deep water run-around gill-net fishery and when the resource was not overfished.
6. To minimize waste and bycatch in the fishery.
7. To provide appropriate management to address specific migratory groups of king mackerel.
8. To optimize the social and economic benefits of the coastal migratory pelagic fisheries.

II. PURPOSE AND NEED FOR ACTION

The proposed action would adjust the ABC ranges for Gulf migratory group king and Spanish mackerel in accordance with the 1997 Mackerel Stock Assessment Panel (MSAP) Report. Based on these ABC ranges, it also specifies TAC for Gulf group king and Spanish mackerel. In specifying TAC, this amendment addresses TAC overruns in the Gulf group king mackerel fishery and TAC underages in the Gulf group Spanish mackerel fishery. To ameliorate the effects of derby fishing and to extend the season, the proposed action provides for trip limits on the commercial hook-and-line fishery for Gulf group king mackerel in the Eastern Zone.

In the Eastern Zone of the Gulf migratory group king mackerel fishery (Florida), fishermen in the North Area on the East Coast (Dade through Volusia Counties) did not take their full suballocation during seasons (1993/1994, 1994/1995, and 1995/1996). In 1996, the Council approved a trip limit of 750 pounds in an effort to increase catches and assist the industry in catching its suballocation in this area; however, this action was not implemented for the 1996-97 commercial fishing season, and a 50-fish trip limit was in effect.

Amendment 8 to the Coastal Migratory Pelagics FMP, which is pending approval by the National Marine Fisheries Service (NMFS), will allow the SAFMC to establish trip limits for Gulf group king mackerel in North Area of the Eastern Zone from November 1 to March 31. Additionally, for the 1997-98 fishing season, the SAFMC has recommended a 50-fish trip limit for Atlantic migratory group king mackerel in this area from April 1 to October 31 through its framework procedure and has requested that the Gulf Council recommended the same trip limit for Gulf group king mackerel in this area. Accordingly, the proposed Action 1 would establish a 50-fish trip limit in this area.

Catches of Gulf group king mackerel by both recreational and commercial fishermen have consistently exceeded TAC since the 1986/1987 fishing year (Table 1). Although both user groups have been exceeding their TAC, the percent overrun of the recreational allocation has been slightly larger than the commercial overage (Table 2). Available data indicate that the for-hire sector, primarily in Monroe County Florida, has experienced the greatest increase in landings and effort and could be the major contributor to TAC overruns (SEP Reports 1996, 1997). These increases could be exaggerated as a result of double-counting of charter catches against both the recreational and commercial TACs. In 1996, the Council reviewed various options to reduce landings by the recreational king mackerel fishery including: reducing bag limits, increasing minimum size limits, imposing maximum size limits, slot limits, incorporating a combination of bag and size limit adjustments, and eliminating captain and crew catches on for-hire vessels. The Council concluded that imposing a zero bag limit for captains and crew of for-hire vessels was the least disruptive measure to the industry that would bring catches in line with the recreational suballocation of TAC. Although this regulation is scheduled for implementation in June 1997, the recent update of the stock assessment for Gulf group king mackerel indicates that the stock has improved, and TAC could be increased. The proposed Action 2 would reverse the previous action and allow the captain and crew of for-hire vessels to retaining the 2-fish per person per day bag limit.

Since 1981-82, catches of Gulf group king mackerel have ranged from a low of 3.02 MP in 1987-88 to a high of 12.33 MP in 1982-83 (MSAP 1997). Since 1986-87, landings have consistently exceeded TAC. In the most recent 4 years, total landings have been between about 9 and 10 MP (Table 1).

The 1996 stock assessment determined that the ABC range was between 4.7 and 8.8 MP; however, the updated assessment in 1997 provided an estimate of between 6.0 and 13.7 MP. Although the updated assessment used primarily the same data as in 1996, an additional year showing good recruitment was the primary factor that caused the estimate of ABC to increase. Additionally, the estimates of transitional spawning potential ratio (SPR) have remained about the same (about 22-23 percent) for the fishing years 1994/1995 through 1997-98. The proposed Action 3 would increase the TAC for Gulf group king mackerel from 7.8 MP in the 1996/1997 fishing year to 10.6 MP in the 1997-98 fishing year.

III. AFFECTED ENVIRONMENT

Description of the Fishery

King mackerel and Spanish mackerel are major target species of commercial, recreational, and for-hire fishermen throughout the Gulf and South Atlantic regions, particularly in South Florida. King mackerel are particularly important to the charterboat and offshore private boat fleets. In addition, smaller amounts of king mackerel are caught as a commercial supplement by the North Carolina charterboat fleet.

Most of the commercial fishery for king mackerel occurs in Florida, and most fish are taken in south Florida from November through March. A winter troll fishery takes place along the east and south coast, and a run-around gill net fishery occurs in the Florida Keys (Monroe County) during January. A net fishery on the east coast of Florida primarily in March was eliminated in 1985 due to the filling of the commercial quota before fish became seasonally available there. Florida has attempted to allocate king mackerel catches among fishermen in different geographic areas by subquotas and landing (trip) limits. The Florida trip limit regulations were vacated in December 1992, by a federal court ruling, and the commercial quota was quickly taken in the Keys with 900,000 pounds being landed there during a 10-day period in January, 1993.

A commercial hook-and-line fishery for king mackerel developed off Louisiana in the winter of 1982-1983. This trolled-handline fishery is similar to the Florida hook-and-line fishery and is centered in the Grand Isle, Louisiana area.

King mackerel have been a popular target for recreational fishermen, particularly in Florida, for many years. Additionally, the coastal population has increased substantially over the past 10-20 years, and it is highly likely that there has been an increase in recreational fishing. If so, it is also likely that there has been an increase in recreational fishing effort for king mackerel. Recreational fishing has also

stimulated the economy in many areas and generated employment in both direct and support industries.

The habitat of king mackerel was described and updated in Amendments 1 and 3. Additional information that would substantially modify these descriptions is not available.

Status of Stocks

The FMP provides that a migratory group of king or Spanish mackerel is defined as overfished when its SPR is below 30 percent. Gulf migratory king and Spanish mackerel have SPRs between 20 and 30 percent. In 1994, the Gulf Council convened a SPR Management Strategy Committee to review the various definitions of overfishing for fishes in the different fishery management plans. The committee recommended a decrease in the overfishing definition to 20 percent SPR for king and Spanish mackerel. This recommendation was subsequently endorsed by the MSAP and the Scientific and Statistical Committee (SSC). It has also been approved by the Gulf and South Atlantic Councils as part of Amendment 8 to the Coastal Migratory Pelagics FMP which is pending approval by NMFS.

IV. PROPOSED ACTIONS INCLUDING ALTERNATIVES

Action 1: TAC levels for Gulf group king mackerel.

Proposed Alternative 1.A: Set the TAC for Gulf group king mackerel at 10.6 million pounds (MP).

Rationale: Since 1981-82, catches of Gulf group king mackerel have ranged from a low of 3.02 MP in 1987-88 to a high of 12.33 MP in 1982-83 (MSAP 1997). However, since 1986-87 landings of Gulf group king mackerel have consistently exceeded TAC. In the most recent 4 years (1992-93 through 1995-96), landings have averaged 9.6 MP per year; whereas, TAC has been constant at 7.8 MP each year. Despite these continuing overruns, the range of ABC has continued to increase. The 1997 stock assessment update calculated an ABC range of 6.0 to 13.7 MP; whereas, the 1996 assessment included a range of only 4.7 to 8.8 MP. The midpoint probability estimates from the bootstraps were 6.8 MP in 1996 and 8.9 MP in 1997. The data used in both analyses were basically the same with the exception of adding an additional year of recruitment. This additional year of good recruitment was the major factor that elevated the estimates of ABC, and it is also indicative of increased spawning stock biomass.

The 1997 stock assessment update also shows that the Gulf group king mackerel fishery is not in an overfished state (transitional SPR is at 22 percent), and the mid-point of the ABC range is the same as the estimated catches in 1995-96 (8.9 MP) when captains and crew were allowed a 2-fish bag limit. Although not overfished, the MSAP (1997) noted that the current mortality rate is expected to drive the stock to an overfished state (20% SPR). The Socioeconomic Panel (SEP) estimated that based on the projected catches of the recreational sector (7.246 MP in 1996-97, a TAC for the 1997-98 fishing year that would prevent overruns and continue the recreational/commercial ratio of TAC at

68% and 32%, respectively would have to be at least 10.6 MP if captains and crew of for-hire vessels are to be allowed a 2-fish bag limit (SEP 1997). Although the 10.6 MP TAC is above the 50th percentile risk level (8.9 MP) from the ABC, it is a lower level of risk than has been approved in recent years, e.g., the 7.8 MP TAC in 1996 when ABC was 4.7 to 8.8 MP and the 50th percentile was 6.8 MP. Additionally, although TAC has been consistently exceeded, and the fishing mortality rate is high, the stock continues to show good recruitment. The only significant effect on landings from setting TAC at 10.6 MP, is an anticipated increase in the commercial harvest of about 1.0 MP.

Rejected Alternative 1.B: Status Quo - Gulf group king mackerel TAC remains at 7.8 million pounds.

Rationale: Continuing TAC at 7.8 MP would probably result in overruns, particularly of the recreational allocation, similar to those that have occurred over the past years from 1986-87 through 1995-96 unless additional regulations are imposed. This level of TAC would also reduce the risk of the stock becoming overfished, and it is more consistent with the recommendations of the SSC. The most likely alternatives that would confine catches to a 7.8 MP TAC are discussed under Action 2.

Action 2. Trip Limits for North Area, Eastern Zone King Mackerel

Proposed Alternative 2.A: In the North Area (Dade through Volusia Counties) of the Eastern Zone (Gulf migratory group) from November 1 through March 31, the king mackerel daily commercial trip and possession limit shall be 50 fish per vessel that is permitted to harvest commercial quantities of king mackerel until the suballocation is reached and the fishery is closed.

Rationale: The purpose of trip limits is to extend the suballocation through the fishing season while retaining the catch within the suballocation. Fishermen in this area did not fill their suballocation from 1993-94 through 1995-96. (Landings were approximately 587,000 pounds, 669,000, and 757,000 pounds for the 3 years, respectively; and the suballocation was 865,000 pounds.) For the 1996-97 fishing year, the Councils approved a measure to increase the trip and possession limit to 750 pounds per vessel. This measure was not implemented during the season, and the trip limit remained at 50 fish per permitted vessel. Estimates indicate that the commercial catches for the North Area of the Eastern Zone slightly exceeded the suballocation in 1996-97. Consequently, the increase in the trip limit will probably not be needed in 1997-98 in order for the suballocation to be taken. Since regulations implementing the 750-pound trip and possession limit are scheduled for approval in June 1997, an amendment to establish the 50-fish trip and possession limit is needed. The 50-fish trip limit is consistent with the requirements that have been in effect in recent years and with the trip limit for this area from April 1 through October 31 when Atlantic group king mackerel are present. This trip limit is also conservative because the suballocation has only been reached in one of the past four years. Additionally, this measure was recommended by the SAFMC; and under Amendment 8 to the FMP for Coastal Migratory Pelagics (which will probably be approved by NMFS prior to the close of the commercial fishery in this area), the SAFMC would have the authority to recommend trip limits for Gulf group king mackerel in the North Area (Atlantic Coast of Florida) and not the Gulf Council.

Rejected Alternative 2.B: Status Quo as of June 1997 - In the North Area (Dade through Volusia Counties) of the Eastern Zone (Gulf migratory group) from November 1 through March 31, the king mackerel daily commercial trip and possession limit shall be 750 pounds per vessel unless 75 percent of the suballocation is met by February 15 of that year, then the trip limit reverts to 500 pounds until the season ends on March 31 or the suballocation is taken and the fishery is closed. If 75 percent of the suballocation is not taken by February 15, the 750-pound trip limit remains in effect until the subquota is filled or the season ends, whichever comes first.

Rationale: This alternative was proposed as a measure that would help this area reach its subquota; however, data for the North Area in 1996-97 indicate that landings exceeded the area's subquota by about 1,600 pounds. (Note: This regulation was not in effect during the 1996-97 commercial fishing season.) Continuing this management strategy could result in quota overruns or a premature closing of the fishery in this area that has traditionally remained open throughout the year. Additionally, the SAFMC has expressed its preference for the use of numbers rather than pounds for specifying trip limits, and the SAFMC will have the authority to set such trip limits if Amendment 8 is approved. Finally, the SAFMC has through its framework procedure requested that a 50-fish trip limit be imposed on the Atlantic migratory group in this area from April 1 through October 31; consequently, the proposed alternative maintains a consistent trip limit year-round.

Rejected Alternative 2.C: Status Quo prior to June 1997 - In the North Area (Dade through Volusia Counties) of the Eastern Zone, the Gulf group king mackerel daily commercial trip and possession limits of up to 50 fish per vessel are allowed until 75 percent of the suballocation for that area is filled, then 25 fish per daily trip until the suballocation is filled. If 75 percent of the quota is not taken by March 1, the 50 fish limit remains until the subquota is filled or the season ends on March 31.

Rationale: This alternative is similar to the proposed alternative except that it would reduce the trip limit by 50 percent when 75 percent of the quota is reached. Based on previous year's landings, this reduction would not be necessary because the quota has only been reached in one of the past four years. The proposed alternative is also consistent with the actions taken by the SAFMC. Additionally, some fishermen have expressed concern with regard to being able to make a profitable trip with a 25-fish trip limit.

Action 3. Bag limits for recreational fishermen and for captains and crew of for-hire vessels.

Proposed Alternative 3.A: Establish a 2-fish per person per day bag limit on Gulf group king mackerel for the captain and crew of for-hire vessels.

Rationale: Both the recreational and commercial suballocations of TAC have consistently been exceeded in recent years (Table 1). Commercial overruns have occurred as a result of projection inaccuracies and from sales by for-hire vessels after the quota has been reached. These sales may at times be counted against the commercial and recreational subquotas; consequently, overruns may be slightly exaggerated due to this double counting.

With regard to the recreational fishery, landings from the private/rental boat mode of the Marine Recreational Fisheries Statistical Survey (MRFSS) have remained relatively stable since 1986. Catches from the shore mode have declined slightly since about 1990 to about the same level of 1986; however, the charter and head boat catches have shown a steady and substantial increase in landings since about 1990 (Figure 2) (SEP 1997). The number of target trips by the recreational fishery has increased steadily since about 1990; however, the increase in target trips by the charter industry has more than tripled over the same period. Based on these data, it appears that for-hire landings may be the major contributor to the recreational TAC overages that have occurred in recent years (SEP 1997).

In 1996, the Council considered various options for reducing recreational catches including: reducing bag limits, increasing minimum size limits, imposing maximum size limits, implementing slot limits, incorporating a combination of bag and size limits, and eliminating bag-limit catches of the captain and crew of for-hire vessels. These actions were considered based on an ABC range of 4.7 to 8.8 MP and a TAC of 7.8 MP. Additionally, the Council noted that actual catches had been about 9 to 10 MP for the past 4 years, 1992-93 through 1995-96. Of the options available, the elimination of the captain and crew bag limit appeared to be the least restrictive and most acceptable alternative to bring catches in line with an acceptable TAC within ABC.

The updated stock assessment for Gulf group king mackerel (MSAP 1997), shows that the most likely range of ABC is now 6.0 to 13.7 MP with the 50th percentile mark of 8.9 MP. Based on the Council's Proposed Alternative for TAC under Action 1A, captains and crew of for-hire vessels could be allowed to retain the 2-fish bag limit without a significant risk of overrunning the recreational allocation, if TAC is set around the 50th percentile mark or slightly higher.

Rejected Alternative 3.B: Status Quo as of June 1997 - Continue the 0-fish per person per day bag limit on Gulf group king mackerel for the captain and crew of for-hire vessels.

The no change option would likely result in an increased probability that recreational catches would be constrained to their suballocation if TAC were set at the 1996 level of 7.8 MP or higher; however, in recent years, catches have not been constrained to TAC. Additionally, the estimates of ABC have continued to increase despite these overruns. The Gulf Council adopted the 0-bag limit provision for captains and crew of for-hire vessels based on the 1996 stock assessment that indicated an ABC range of 4.7 to 8.8 MP. The Council also noted that actual catch for the 1994-95 fishing year was

approximately 10.8 MP; while TAC was set at 7.8 MP. Furthermore, the recreational catch was about 7.86 MP as compared to a 5.3 MP suballocation of TAC (MSAP 1996). The Council's action to eliminate the bag limit for captains and crew was based on the relatively low estimates of ABC and the need to curtail harvest, particularly from the for-hire catches. This option was chosen as the least disruptive one to the historical operations of the fishery when compared to options that would increase size limits, reduce bag limits, or invoke seasonal closures. Based on a 10.6 MP TAC in the Proposed Alternative under Action 1A, overruns of the recreational allocation of TAC are unlikely with a 2-fish bag limit for all recreational fishermen, and there is less of a biological need to continue this restriction on this segment of the recreational fishery.

V. REGULATORY IMPACT REVIEW

Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: 1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action, 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem, and 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 and whether the proposed regulations will have a "significant economic impact on a substantial number of small entities" in compliance with the Regulatory Flexibility Act of 1980 (RFA). The primary purpose of the RFA is to relieve small businesses, small organizations, and small governmental jurisdictions (collectively: "small entities") of burdensome regulatory and recordkeeping requirements. The RFA requires that if regulatory and recordkeeping requirements are not burdensome, then the head of a federal agency must certify that the requirement, if promulgated, will not have a significant effect on a substantial number of small entities.

This RIR analyzes the probable impacts that the proposed alternatives for the Coastal Migratory Pelagics Fishery Management Plan (FMP) would have on the commercial and recreational mackerel fisheries. The proposals analyzed pertain to an increase in TAC for Gulf king mackerel, commercial trip limits for the Gulf king mackerel fishery in the North Area of the Eastern Zone, and re-institution of the 2-fish bag limit for the captain and crew of for-hire vessels.

Problems and Objectives

The general problems and objectives are enumerated in the FMP, as amended. The purpose and need for the present regulatory amendment are found in Section II of this document. Specifically, the current regulatory amendment addresses the following issues:

1. Increase the TAC for Gulf group king mackerel from 7.8 MP to 10.6 MP.
2. Change the commercial hook-and-line trip limit for the Gulf group king mackerel in the North Area, Eastern Zone to 50 fish per vessel until the quota for this area is reached and the fishery is closed.
3. For the Gulf group king mackerel fishery, re-institute the 2-fish bag limit for captains and crew of for-hire vessels.

Methodology and Framework for Analysis

Ideally, the expected present values of net yield streams over time associated with the different alternatives would be compared in evaluating impacts. Net yield streams in the present context mean producer and consumer surpluses in the commercial sector and angler-consumer surplus and for-hire vessel profits in the recreational sector of the Gulf group king mackerel fishery. Unfortunately, estimates of the yield streams and their associated probabilities are not available, so the approach taken instead is to describe and/or quantify the changes in short-term net benefits. This task is complemented by a qualitative discussion of long-term impacts.

Impacts of Proposed Actions and Alternatives

Action 1: TAC levels for Gulf group king mackerel.

Proposed Alternative 1.A: Set the TAC for Gulf group king mackerel at 10.6 million pounds.

Rejected Alternative 1.B: Status Quo - Gulf group king mackerel TAC remains at 7.8 million pounds.

The fishing season for Gulf group king mackerel covers the period July 1 through June 30 for the commercial sector and January 1 through December 31 for the recreational sector. Within a fishing season, the eastward geographical boundary (located in Florida) for Gulf king mackerel shifts. The boundary is the Collier/Monroe County line from April 1 through October 31 and the Flagler/ Volusia County line from November 1 through March 31. The Gulf king mackerel fishery is also divided into a Western Zone and a Eastern Zone, with the Alabama/Florida state line as the boundary. The Eastern Zone is further divided into South/West and North Areas, with the Dade/Monroe County line as the boundary. Note that the fishing season for the North Area (and portion of the South/West

Area) of the Eastern Zone covers only the period November 1 through March 31 for both the commercial and recreational sectors. Considering that closures occur for the commercial sector, the actual length of commercial season in all geographical/temporal areas could be (and has been) shorter. Since the 1992/1993 season, the recreational fishery has been mainly controlled by bag limit regulations with no closure.

Although it is described in other sections of this document, it is instructive to state here that the TAC for Gulf king mackerel is divided various ways. First and foremost, it is allocated between recreational and commercial sectors according to a 68/32 ratio. The commercial sector's allocation is further divided into Eastern Zone and Western Zone quotas according to a 69/31 ratio. The Eastern Zone quota is equally divided between the North Area and South/West Area. Half of the South/West Area quota is allocated to the net fishery and the other half to the hook-and-line fishery. The proposed TAC of 10.6 MP would approximately be allocated as follows:

Recreational:	7.21 MP
Commercial:	3.39 MP
Western Zone:	1.05 MP
Eastern Zone:	2.34 MP
North Area:	1.17 MP
South/West Area:	1.17 MP
Hook-and-Line:	0.585 MP
Gillnet:	0.585 MP

The 7.8 MP TAC has been in effect since the 1992/1993 fishing season. This choice of TAC has consistently been at the higher end of ABC (accepted by the Council); thus it reflects a relatively higher risk that the stock would not recover to the target SPR level. In addition, actual landings have consistently exceeded the TAC. Despite this condition, the stock has gradually recovered from an overfished status to a non-overfished one. There is, of course, the possibility that were TAC not consistently exceeded, the resulting potential increase in TAC would be higher with a relatively lower risk of overfishing. Worthy of special note is the statement made by the Mackerel Stock Assessment Panel (MSAP) that the high rate of fishing mortality has resulted in "overfishing" the stock, as indicated by the estimated static SPR of less than 20 percent. Against this background is set the following analysis of the short-run and long-run impacts of the proposed TAC.

Short-term Impacts on the Commercial Sector

The proposed TAC of 10.6 MP is about 36 percent above that of the current TAC, but the actual percentage increase in landings may be expected to be much less than this when overruns in both the commercial and recreational sectors are considered. For the period 1992/1993-1995/1996, allocation overruns averaged 27.3 percent and 18 percent, respectively, for the recreational and commercial

sectors (see Table 2).¹ Preliminary data for the 1996/1997 fishing year show that the commercial sector landed about 2.7 MP, or an 8 percent overrun (Godcharles, 1997), while recreational catch for 1996/1997 is projected at 7.2 MP, or a 36 percent overrun (MSAP, 1997). Based on these numbers, the proposed increase in TAC would likely benefit the commercial sector more than the recreational sector; although we may hasten to add that the recreational sector is still more likely to exceed its allocation than the commercial sector considering the absence of closure in the recreational fishery.

The proposed commercial quota increase (as a result of TAC increase) would result in an increase in industry revenues; since, among others, early closure of the fishery implies an unfilled market for king mackerel. Demand for king mackerel has been estimated to be highly elastic, or conversely, highly inflexible (Easley et al., 1993). Holding other factors constant, a 10 percent increase in quantity of king mackerel supplied reduces price by a mere 1.14 percent (Easley et al. Equation 7, 1993). As alluded to above, the commercial quota can result in an increase in landings of 0.2 MP (8 percent), 0.45 MP (18 percent), or 0.89 MP (36 percent, the full quota increase). The respective price decrease would then be 0.91 percent, 2.1 percent, and 4.1 percent. Using king mackerel price per pound of \$1.25, the resulting revenue increase would be \$248,000, \$549,000, \$1.07 million depending on assumption used on future overruns.

With an increase in harvest activity, fishing costs are also likely to increase. While this increase is not known, there is a good chance that it would not be substantial as to wipe out a good portion of the increase in revenues. With a higher quota, the season may be slightly longer, and fishing can be undertaken with better planning to take advantage of good weather and favorable market conditions. It might also allow for devotion of more time for maintenance work and rest. Undoubtedly, the effects of such cost reducing factors may not be substantial due to the migratory nature of the fish and the harvest capacity of the industry relative to the quota. At any rate, there is good reason to expect that cost would not increase as fast as revenues; so industry profits may be expected to increase with an increase in quota.

In principle, the increase in quota would be proportionately shared by the various geographical areas and gear users. More likely, however, the increase in benefits (at least from the revenue angle) may not be proportional to the changes in sub-quotas, as discussed below.

Over the years the Western Zone has experienced a dwindling season, from 254 days in 1985/86 to 56 days in 1996/97 despite quota increases, especially in 1989/90, 1991/92, and 1992/93. The fishery in this area used to start around July, peak around August to October, and last until March. Last year, the fishery closed the last week of August. In 1995/96, the industry requested, and the Council

¹Part of the commercial overruns was due to additional quota approved by the Council: 0.259 MP for fishing year 1992/1993 and 0.300 MP for fishing year 1994/1995.

approved, a 0.200 MP additional quota for the area, but the Secretary of Commerce rejected this request. The more recent situation is partly due to the condition in the red snapper fishery. With the exception of 1995/96 fishing year, red snapper endorsement holders caught more than 50 percent of the quota in this area. All reef fish permittees catching red snapper have accounted for two-thirds or more of the area's mackerel quota. The July opening of the mackerel fishery is in the middle of the closed season for red snapper, prompting red snapper vessels to direct effort to the king mackerel fishery. In addition, there is anecdotal information that some fishermen targeted king mackerel to establish history in the fishery in the event that a controlled access management system is adopted for the king mackerel fishery. This could be an offshoot of fishermen's experience in the red snapper fishery and the pending approval of Amendment 8 with a moratorium on issuance of new king mackerel commercial permits. If the recently proposed mini-seasons for red snapper result in a longer red snapper season, part of the fishing effort expended on mackerel would probably be directed back to red snapper. Given this scenario, the increase in Western Zone quota by 0.28 MP would more likely help in extending the mackerel season in that area, with concomitant increases in revenues. The benefits from a full increase in quota may be realized by fishermen in this area because its landings have typically been within its quota. The cost side is again uncertain, although it may be expected that cost increases would not be large enough to cancel out a good part of the revenue increase.

In the South/West Area of the Eastern Zone, the increase in quota would likely benefit the gillnet fishermen more than the hook-and-line fishermen, mainly because landings from the gillnet fishery have generally been within its quota, while the hook-and-line fishery has greatly exceeded its quota. While the gillnet fishery may fully realize the increase in quota, the season for this fishery may only be slightly lengthened due to existing large harvest capacity of participating vessels.

In the last two years, overruns in the hook-and-line fishery averaged 58 percent. If the 1996/97 harvest condition of the hook-and-line fishery continues into the 1997/1998 season, the increase in quota of 0.152 MP will be slightly less than enough to accommodate overruns in this fishery. At best, status quo conditions may be expected in this portion of the fishery, although this condition can also be viewed as better than a situation in which this fishery would be subjected to additional restrictive measures in order to prevent overruns.

There is some uncertainty as to the direction of effects of a quota increase for the North Area of the Eastern Zone. In the 1995/96 fishing season, landings in this area totaled only about 88 percent of the quota. In the following year and without effective change in regulations, the quota for this area was exceeded by about 7 percent, even with a reduced fishing trip limit in March. Good weather has been purported as the major reason for the difference in fishing performance. With the same trip limits for the 1997/1998 season (to be discussed later), the effects of the quota increase would depend on the type of fishing performance that occurs. If the 1995/96 harvest rate occurs, there will be no change in benefits with an increase in quota. If the 1996/97 condition holds, there is some likelihood that not all the 0.305 MP quota increase would be harvested. Under the 25-fish trip limit, about

0.168 MP was harvested in March, 1997. If the trip limit for March, 1998 is doubled to 50 fish, a doubling of catch for this month would increase landings only by 0.168 MP so that the remaining 0.137 MP would be forgone. For the entire quota increase to be taken, vessels would have to harvest close to three times their March, 1997 harvest. This appears to be unlikely.

Short-term Impacts on the Recreational Sector

Noting the overruns in the recreational fishery for king mackerel amounting to an average of 38 percent for the period 1992/93-1995/96 or 36 percent based on 1996/97 projected landings, no increase in benefits may be expected of the recreational fishery from an increase in TAC. In a sense, the increase in TAC rectifies the de facto change in the commercial/recreational allocation from recreational overruns.

While no increase in recreational benefits may be expected from the proposed increase in TAC, its adoption does minimize the need to change "current" regulations affecting the recreational sector. In consideration of the need to control recreational harvest within its allocation, the Council approved last year the elimination of the 2-fish bag limit for captain and crew of for-hire vessels. A proposal (discussed below) to re-institute this bag limit is partly rationalized on the basis of the proposed increase in TAC.

If the current TAC of 7.8 MP is maintained, measures in addition to the elimination of bag limit for captain and crew of for-hire vessels may need to be established. Otherwise, overruns in the recreational fishery would continue unabated. As detailed in the SEP (1997), most of the increases in landings in the recreational sector have been accounted for by the charterboat industry. Under this condition, additional measures may be directed at curtailing harvests by this segment of the recreational fishery. These measures are justified to the extent that long-term benefits exceed short-term negative impacts. Over the short run, these additional measures would be unnecessary under the proposed increase in TAC. In this sense, the proposed increase in TAC and recreational allocation may be viewed to have a positive indirect effect on the recreational sector, particularly the for-hire segment of the fishery.

Long-run Impacts

The long-run impacts of the proposed measure to increase TAC depend on, among others, the extent such choice promotes recovery of the stock to a level deemed appropriate for the stock and the type of management measure adopted.

The target level for stock recovery is generally the optimum yield, which is above the overfishing level. The Council's definition of optimum yield (pending Secretarial approval) allows only the explicit inclusion of the biological component. Inclusion of economic and social factors into the

definition of optimum yield is hampered by the lack of information. Optimum yield for Gulf king mackerel is defined as 30 percent SPR while overfishing rate is set at 20 percent SPR.

The MSAP has estimated an ABC range of 6.0 - 13.7 MP with 8.9 MP representing a 50 percent probability of achieving a 30 percent SPR. The proposed TAC of 10.6 MP is within the ABC range but provides for less than 50 percent probability of achieving the target SPR. Relative to past Council choices of TAC, this current proposal allows for a higher degree of probability of achieving the target SPR. Another issue of note is that past Council actions were geared towards a recovery target above the overfishing threshold while this time the target is optimum yield. To a great extent then, the proposed TAC is reasonable in promoting recovery of the stock to the target level. This expectation, nevertheless, has to be tempered by the MSAP's finding that part of the increase in the ABC range is due to some relatively strong year classes. To the extent that recruitment has remained level and that biomass has consistently followed recruitment, continued increases in biomass are not expected (MSAP 1997). This condition could result in fluctuating ABC ranges if fishing mortality remains high. The implication here is that to remain reasonably within the recovery path for the stock, TACs may be adjusted upward and downward from year to year. If landings consistently exceed TACs, recovery may be jeopardized, and achievement of the target level would be delayed. Thus, while the proposed TAC may not jeopardize the recovery of the stock, constraining landings to TAC would be necessary.

Recovery of the stock is only one side of the issue when assessing long-term impacts. An equally important feature is the type of management adopted that affects allocation of fishery resources and other resources used in the fishery and related industries. The type of management measure has to be such that net benefits to the fishery are maximized. Appropriately, net benefit calculation incorporates economic and social factors.

The specifics of future management regimes are not known at this time, but in formulating such regimes, it is necessary to consider controlled access types of management. These types of management provide higher likelihood of translating biological gains to benefits to resource users in particular and the nation in general. Over the long-run, both commercial and recreational demand for king mackerel will continue to increase, and this will put more pressure on the recovering stock. Relying on traditional means to control effort would merely invite more stringent and disruptive regulations on the fishery, regulations that would appear ironic in the face of a recovering stock.

Over the years, management of the Gulf king mackerel stock has shown signs of success in improving the stock. The stock has gone from the status of being overfished to a level above the overfishing threshold. Public testimonies before the Council have portrayed the perception of a recovering stock. In addition, TAC for king mackerel has been increased over time, although the current proposal of 10.6 MP is the first increase in 5 years. Concomitant with the recovery of the stock is the increase in fishing effort. It is then not surprising that overruns have characterized catches in the fishery.

Although overruns have not totally impeded the recovery of the stock, they have probably delayed the achievement of the target level. Under traditional types of management to control effort such as trip limits, bag limits, and size limits, these overruns are likely to continue. A more effective control of fishing effort is then vital as part of a long-term management regime. Without this type of management, the short-term increase in profits to the commercial sector and forestalling of reduction in recreational benefits as a result of raising the TAC to 10.6 MP would tend to be dissipated. Toward this end, the SEP has reiterated its recommendation to explore limited access management for all sectors of the coastal migratory pelagics fishery (SEP 1997).

Action 2. Trip Limits for North Area, Eastern Zone King Mackerel

Proposed Alternative 2.A: In the North Area (Dade through Volusia Counties) of the Eastern Zone (Gulf migratory group) from November 1 through March 31, the king mackerel daily commercial trip and possession limit shall be 50 fish per vessel that is permitted to harvest commercial quantities of king mackerel until the suballocation is reached and the fishery is closed.

Rejected Alternative 2.B: Status Quo as of June 1997 - In the North Area (Dade through Volusia Counties) of the Eastern Zone (Gulf migratory group) from November 1 through March 31, the king mackerel daily commercial trip and possession limit shall be 750 pounds per vessel unless 75 percent of the suballocation is met by February 15 of that year, then the trip limit reverts to 500 pounds until the season ends on March 31 or the suballocation is taken and the fishery is closed. If 75 percent of the suballocation is not taken by February 15, the 750-pound trip limit remains in effect until the subquota is filled or the season ends, whichever comes first.

Rejected Alternative 2.C: Status Quo prior to June 1997 - In the North Area (Dade through Volusia Counties) of the Eastern Zone, the Gulf group king mackerel daily commercial trip and possession limits of up to 50 fish per vessel are allowed until 75 percent of the suballocation for that area is filled, then 25 fish per daily trip until the suballocation is filled. If 75 percent of the quota is not taken by March 1, the 50 fish limit remains until the subquota is filled or the season ends on March 31.

Since the onset of restrictive regulations on the Gulf king mackerel fishery until the 1992/1993 season, the commercial fishing season for Gulf king mackerel in the Eastern Zone had never remained open beyond January. With fishery closures occurring around January, net vessels (12 vessels by current account) that used to fish Gulf king mackerel in the North Area had been practically excluded from the fishery, since the effective fishing season for these vessels started around late February. The hook-and-line fishery in the North Area was basically profitable until the 1992/1993 fishing season when the fishery met its quota and closed early. Upon request by commercial fishermen in the area, the 1992/1993 season was extended by re-opening the fishery from February 18 through March 26,

1993 via emergency action. Because of the low trip limit, only hook-and-line vessels could participate in the fishery during this extended season.

Since the 1993/1994 fishing season, the Eastern Zone sub-quota has been further divided equally between the North and South/West Areas. This split could have re-opened the net fishery in the North Area, but the trip limits adopted have been too restrictive for net vessels to operate profitably. Only the hook-and-line fishery, with an estimated 150 full-time fishing crafts, has continued to operate in the area.

Trip limits and closures are the major rules governing the North Area quota management. For the period 1993/1994-1994/1995, the vessel trip limit rule was 50 fish per daily trip until 50 percent of the North Area quota was filled, then 25 fish per daily trip until the quota was filled. Under this rule, catches were 0.6 MP and 0.7 MP for 1993/1994 and 1994/1995, respectively, which were below the 0.865 MP quota. This rule was subsequently revised to allow the fishery to catch its allocation. The revised rule, i.e., Rejected Alternative 2.C, first took effect for the 1995/1996 season, but for that year landings amounted to 0.757 MP, which still fell short of the quota. Again the rule was revised by increasing the trip limit and specifying the limit in pounds instead of number of fish (Rejected Alternative 2.B). This rule will take effect starting June 2, 1997 so that effectively Rejected Alternative 2.C was the rule for the 1996/1997 season in the North Area. Despite the absence of a rule change, landings for the 1996/1997 season were 0.897 MP, which exceeded the quota by about 7 percent. Anecdotal information indicates that this overrun was in large part due to favorable weather conditions.

Among the 3 alternative trip limits, Rejected Alternative 2.C is the most restrictive and Rejected Alternative 2.B is the least restrictive. Proposed Alternative 2.A is similar to Rejected Alternative 2.C, with a major exception that the vessel trip limit remains at 50 fish per daily trip until the quota is filled. This trip limit is consistent with that for Atlantic king mackerel in effect during the period April 1 through October 31.

As earlier noted, the 1996/1997 landings exceeded the North Area quota under the trip limits specified in Rejected Alternative 2.C. This was the case despite the reduced trip limit of 25 fish in March, 1997. Assuming the same fishing conditions as that of 1996/1997 in future years, maintaining the trip limit of 50 fish throughout the North Area fishing season (as in Proposed Alternative 2.A) would likely result in landings greater than those of the 1996/1997 season. Thus, the proposed alternative would accommodate the proposed increase in quota. Rejected Alternative 2.B provides an even better chance of reaching the quota, since it provides for a higher trip limit, but it also poses the danger of overrunning the quota and/or an early closure of the fishery. If, on the other hand, the 1995/1996 fishing conditions hold for the future, Proposed Alternative 2.A will allow most of the quota increase to be forgone by the fishermen. Under such type of fishing conditions, Rejected

Alternative 2.B would be better in terms of allowing fishermen to harvest the increased quota. Any danger of overrunning the higher quota is relatively small.

Under the proposed TAC of 10.6 MP, commercial allocation for the North Area will be 1.17 MP, which is about 0.305 MP higher than current allocation. As indicated earlier, some portion of this increase in quota would likely be forgone under Proposed Alternative 2.A, even under more favorable fishing conditions in 1996/1997. To illustrate this point, recall that the only difference between the proposed alternative and Rejected Alternative 2.C (the prevailing rule in 1996/1997) is that the trip limit under the former remains at 50 fish while under the latter it reduces to 25 fish when 75 percent of quota is reached. In the 1996/1997 season, the trip limit dropped to 25 fish for the month of March, in which about 0.168 MP were landed. Under the proposed alternative the trip limit for March would be doubled to 50 fish. Even if catches were also doubled as a result of the higher trip limit, the potential increase in catch would only be 0.168 MP, which is 0.137 MP short of the quota increase. At a price per pound of \$1.25, total forgone revenues would amount to slightly less than \$171,000 (because demand is inflexible).

A similar illustration can be made for Rejected Alternative 2.B. Total landings from November through January amounted to 0.530 MP. If the trip limit were 75 fish (750 pounds) instead of 50 fish, or a 50 percent increase, landings (if assumed to increase also by 50 percent) would be about 0.795 MP. This amount is close to 0.878 MP, which is 75 percent of the 1.17 MP quota, and trip limits would be reduced to 50 fish (500 pounds) by February 15. If the entire February landings remained at about 0.2 MP and March landings were doubled (due to doubling of trip limit), total landings for February and March would be 0.536 MP. Total landings then would be 1.33 MP, which is 0.16 MP or 14 percent above the quota.

One crucial point in the illustration above is the reaction of landings to an increase in trip limits. Most likely the percent increase in landings would not be substantially more than the percent increase in trip limits, unless fishing effort intensifies due to an increase in effort by current participants and/or an increase in the number of participants. While it is known that there are about 100 vessels participating in this fishery, there is no available information as to the actual number of vessels that landed king mackerel or the level of participation by those that landed king mackerel. In this event, the probability of exceeding the quota under Rejected Alternative 2.B cannot be ascertained, although it is reasonable to expect a quota underrun under the proposed alternative. In terms of constraining the fishery to its allocation and forestalling early closure in the fishery, the proposed alternative offers better prospects than Rejected Alternative 2.B.

One major advantage of allowing the fishery to remain open until the end of March is that a steady supply of king mackerel over the entire season can take advantage of a relatively higher seasonal demand shifter in February and March (see Easley et al., 1993 for the relative magnitude of monthly

demand shifters).² More revenues, however, do not necessarily mean higher net vessel profits. In the particular case of the North Area king mackerel fishery, a higher net profit may be expected, since vessels are rendered more efficient with higher trip limits throughout most of the season.

With potentially higher landings under the proposed alternative, consumer surplus will also increase as more fish become available in the market over a longer period at a relatively lower price. Dealer profits may also be positively affected by the increase in harvest.

Action 3. Bag limits for recreational fishermen and for captains and crew of for-hire vessels.

Proposed Alternative 3.A: Establish a 2-fish per person per day bag limit on Gulf group king mackerel for the captain and crew of for-hire vessels.

Rejected Alternative 3.B: Status Quo as of June 1997 - Continue the 0-fish per person per day bag limit on Gulf group king mackerel for the captain and crew of for-hire vessels.

Rejected Alternative 3.B will only be implemented starting June 1997, and any reductions in benefits from its implementation will be restored by the proposed alternative. Because in effect the proposed alternative is the current rule, it is instructive to deduce its effects from an examination of the effects of the rejected alternative. An analysis of the rejected alternative was conducted as part of a previous regulatory amendment and is recounted here with updates on some recently available information.

In recent years, the for-hire sector has substantially increased its share of recreational landings. MRFSS data show that over the period 1990-1995 the private/rental mode has accounted for about 46 percent of total recreational landings, followed closely by the charter mode at 40 percent, and by the shore mode at 14 percent (Holiman, 1997). Since 1993, charterboat landings have exceeded private mode landings. This trend becomes more apparent by looking at the rate of change in landings. Annually, over the 1990-1995 period, landings from the charter mode increased by an average of 41 percent; whereas those from private mode increased by only 3 percent. Shore-mode landings decreased by 28 percent. Such landings performance is partly explained by the trend in the number of trips targeting or catching king mackerel. Target trips (i.e., trips for which king mackerel is the target species) rose by an annual average of 60 percent for the charter mode, 14 percent for the shore mode, and 2 percent for the private mode. Catch trips (i.e., trips in which king mackerel is caught) rose by an annual average of 26 percent for charter mode and 7 percent for private mode, with shore mode experiencing a reduction of 14 percent. MRFSS data indicate the fast growing importance of the for-hire segment of the recreational fishery.

² It may be pointed out that this particular study was not intended to rigorously examine monthly demand for king mackerel, but it does provide monthly demand shifters that may be roughly considered as indicative of the relative strength of demand on a month-to-month basis.

The rejected alternative places a curb on the fastest growing (and currently the biggest) segment of the recreational fishery. Holiman (1996) has estimated that this measure can reduce total recreational landings by about 0.584 MP, which is 12.2 percent of total recreational landings. Since the measure applies only to the for-hire boat captain and crew, the impacts of the measure will be borne by the for-hire sector. This landings reduction is roughly equivalent to 17 percent of charterboat landings in 1995.

While the reduction appears to be significant especially for the for-hire sector, there are several issues worth noting regarding the likely magnitude of effects. First, the 12.2 percent reduction is still below the 27 percent average recreational allocation overrun, assuming a TAC of 7.8 MP. However, under a TAC of 10.6, potential overages in the recreational fishery could be prevented. Second, Holiman (1996) qualified his estimate by indicating that it is an upper bound, and actual savings are likely to be substantially less. This qualification is significant considering that charterboat landings have increased by an annual average of 41 percent from 1990 to 1995. Third, effort in the charter industry has increased over the years by an average of 60 percent in terms of trips targeting king mackerel and 26 percent in terms of trips catching king mackerel. Such rates of change in effort are bound to negate the projected reduction in landings. We may particularly note that the rejected alternative affects only the captain and crew and not the individual anglers who fish through the charter mode. These anglers' demand for fishing trips are virtually unaffected by a zero bag limit on captain and crew, unless charter operations raise the price for the trips. Because the charter fishing market is relatively competitive, price increases in charter trips seem unlikely. All these conditions appear to severely limit the rejected alternative's effect on total recreational landings.

The impacts of the rejected alternative on charter operations are shaped by the nature of charter operations. In some areas in the Gulf, specifically in Southwest Florida, for-hire boats holding Saltwater Product Licenses with a restricted species endorsement can sell recreational bag limits of king mackerel even after the commercial season is closed in the EEZ. They can sell the captain and crew's bag limits as well as those left by customers. In a letter to the Gulf Council, Captain Bill Wickers (1996) indicated that in Key West 75 percent of kingfish caught on charterboats are left with the crew. Fish sales comprise 15 to 25 percent of the gross income of charterboats in the Key West area. In most charter operations, mates get half of the fish sales which make up 20 to 30 percent of their gross income. This practice of selling fish by charterboats remains unaffected by the rejected alternative; however, charterboats would be limited to selling fewer fish. As such, a reduction in charterboat revenues and crew wages is expected.

Since 15 to 25 percent of charterboat gross revenues comes from sale of fish (at least in the Key West area), a 17 percent reduction in charterboat landings would roughly result in a 2.6 to 4.3 percent reduction in their gross revenues. Also since fish sales contribute 20 to 30 percent of the mates' income, these individuals would stand to lose 3.4 to 5.1 percent of their gross income.

In the event that, as contended above, the actual landings reduction would be less than the estimated 23 percent for charterboats and 12.2 percent for the entire recreational fishery, the corresponding reductions in revenues to the charterboats and crew would be substantially less than estimated above.

The proposed alternative would prevent the occurrence of the aforementioned impacts.

Government Costs of Regulation

Federal government costs of this action were associated with meetings, travel, calculation of ABCs, preparation of various documents, and reviewing all documents. Other sources of additional costs include extraordinary research, specifically done for the purpose of this particular action; additional statistics costs; additional monitoring costs; and additional enforcement costs resulting from the action. In the latter cases, except enforcement, no additional costs are anticipated.

Council costs of document preparation, meetings, and information dissemination	\$20,000
NMFS administrative costs of document preparation, meetings and review	9,500
Law enforcement costs	none
Permit costs	none
TOTAL	<u>\$ 29,500</u>

Summary and Expected Net Impact of Proposed Action

The proposed increase in TAC may be expected to increase short-run profits of commercial vessels. Such increases, however, are unequal among the various commercial fishing participants. Western Zone and gillnet fishermen in the Eastern Zone would likely experience a larger benefit increase than other king mackerel fishermen. Fishermen in the North Area of the Eastern Zone may experience some benefit increase if fishing conditions in the 1996/1997 season continue into the future. Benefits to hook-and-line fishermen in the South/West Area of the Eastern Zone may be considered indirect to the extent that the quota increase would preclude imposition of additional restrictive measures to control their landings within the allocation. For the same reason, the recreational sector in general may be deemed to benefit indirectly from the TAC increase.

The proposed alternative for the commercial trip limits in the Northern Area is expected to result in higher short-run net economic benefits, in terms of producer and consumer surplus to the fishery.

A higher trip limit, at least during March, coupled with an increase in quota would result in higher overall landings by fishermen in this area. This conclusion, however, presupposes that the 1996/1997 fishing conditions would characterize the fishery rather than those of 1995/1996.

Re-instituting the 2-fish bag limit for captain and crew of for-hire vessels would forestall a reduction in recreational landings of 12.2 percent, which is equivalent to a 17 percent reduction in charter boat landings. While this would directly benefit captain and crew of for-hire vessels, the overall impact is uncertain considering the growing dominance of the for-hire sector in the recreational mackerel fishery.

Government costs for preparing and implementing this action are estimated at \$29,500.

Determination of a Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: (a) an annual effect on the economy of \$100 million or more; (b) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or (c) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

The entire commercial Gulf king and Spanish mackerel fishery is valued at significantly less than \$100 million. The proposed increase in TAC, trip limits for the North Area of the Eastern Zone, and the re-institution of the 2-fish king mackerel bag limit for captain and crew of for-hire vessels would increase gross revenues of commercial and charterboats as well as gross income of the crew members, but such an increase is significantly less than the \$100 million mark. It is, therefore, concluded that impacts on the fishery resulting from this regulatory action would be significantly less than \$100 million annually.

The TAC increase has been determined to result in an increase in revenues to the harvest sector and, therefore, in an increase in expenditures to the consumers. However, price per pound to consumers are not expected to increase, and in fact would decrease with an increase in landings. The trip limit in the North Area and the 2-fish bag limit for captain and crew of for-hire vessels have no effect on mackerel prices other than through the overall increase in TAC. With an increase in commercial quota, fishing costs may be expected to increase to harvest the additional fish. This increased cost, nevertheless, is part and parcel of ordinary operation and is also expected to be relatively minor. A similar reasoning applies to cost increases from the proposed trip limit for the North Area. The 2-fish bag limit for captain and crew has no adverse cost effects on charterboat operations. The \$29,500 identified as federal cost has been incurred in the preparation of the regulatory action. No additional cost is expected to be incurred to enforce the proposed changes in regulations.

The proposed increase in TAC, change in the trip limits on the fishery in the North Area, and the 2-fish bag limit for captain and crew of for-hire have been determined to result in positive impacts, and thus rule out any adverse effects on employment, investment, productivity, innovation, or on the competitive status of the domestic fishery relative to domestic and foreign markets.

It is, therefore, concluded that this regulation if enacted would not constitute a "significant regulatory action" under any of the mentioned criteria.

Initial Regulatory Flexibility Analysis

Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to relieve small businesses, small organizations, and small governmental entities from burdensome regulations and record keeping requirements. The category of small entities likely to be affected by the proposed plan amendment is that of commercial and for-hire businesses currently engaged in the Gulf king mackerel fishery. The general impacts of the proposed action on these entities have been discussed above. The following discussion of impacts focuses specifically on the consequences of the proposed action on the mentioned business entities. An Initial Regulatory Flexibility Analysis (IRFA) is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." Although an IRFA focuses more on adverse effects, determination of beneficial significant effects is also an integral component of the analysis. In addition to analyses conducted for the RIR, the IRFA provides an estimate of the number of small businesses affected, a description of the small businesses affected, and a discussion of the nature and size of the impacts.

The Regulatory Flexibility Act requires a determination as to whether a proposed rule has a significant impact on a substantial number of small entities. If the rule does have this impact then an Initial Regulatory Flexibility Analysis (IRFA) has to be completed for public comment. The IRFA becomes final after the public comments have been addressed. If the proposed rule does not meet the criteria for "substantial number" and "significant impact," then a certification to this effect must be prepared.

Substantial Number of Small Entities Criterion

In the Gulf area, a total of 3,069 mackerel permits were issued broken down into 1,623 commercial, 938 charterboat, and 549 both commercial and charterboat permits. In the Northern Area of the Eastern Zone of the Gulf king mackerel fishery, there are about 150 hook-and-line vessels, and in the South/West Area of this Eastern Zone there are about 100 troll vessels and 12 to 20 net vessels. The Small Business Administration (SBA) defines a small business in the commercial fishing activity as

a firm with receipts of up to \$3.0 million annually and in the charter or party vessel activity as a firm with receipts of up to \$5.0 million annually. Since taken all together the proposed action will affect practically all participants of the commercial and for-hire Gulf king mackerel fishery, the "substantial number" criterion will be met in general.

The regulations are likely to result in a change in annual gross revenues by more than 5 percent. The proposed TAC of 10.6 MP is approximately 36 percent above the current TAC. While the effects of such increase is not proportionally shared by all participants relative to their current harvest situation, the overall increase in commercial vessel revenues is still expected to exceed the 5 percent threshold. The revenue increase is estimated to range from \$248,000 to \$1.07 million.

Annual compliance costs (annualized capital, operating, reporting, etc.) increase total costs of production for small entities by more than 5 percent. The public burden to comply with the provisions of this amendment has been estimated to be practically nil as no additional permits or gear modifications are required.

Compliance costs as a percent of sales for small entities are at least 10 percent higher than compliance costs as a percent of sales for large entities. All the firms expected to be impacted by the rule are small entities and hence there is no differential impact.

Capital costs of compliance represent a significant portion of capital available to small entities, considering internal cash flow and external financing capabilities. To the extent that the major change in the commercial sector is mainly a lengthening of the season (as intended), no additional capital costs may be expected. The increase in quota mitigates the impacts of closure in the commercial fishery. It also accommodates overruns in the recreational fishery so as not to trigger changes in regulations that would have adverse impacts on this segment of the mackerel fishery.

The requirements of the regulation are likely to result in a number of the small entities affected being forced to cease business operations. This number is not precisely defined by SBA but a "rule of thumb" to trigger this criterion would be two percent of the small entities affected. Considering the positive impacts of the proposed regulations, no business entity is expected to cease operation as a result of the proposed rule.

Mainly because of the revenue impacts which exceed the 5 percent threshold, the conclusion is that small businesses in the Gulf king mackerel fishery will be significantly affected by the proposed rule. Hence, the determination is made that the proposed rule will have a significant economic impact on a substantial number of small business entities and an Initial Regulatory Flexibility Analysis (IRFA) is required.

The full details of the economic analysis conducted for the proposed rule are contained in the RIR, and some of the relevant results are summarized for the purposes of the IRFA.

Description of the reasons why action by the agency is being considered: The need and purpose of this action are set forth in the section on Purpose and Need for Action.

Statement of the objectives of, and legal basis for, the proposed rule: Refer to the section on Management Objectives. The Magnuson-Stevens Fishery Conservation and Management Act of 1976 provides the legal basis for the rule.

Description and estimate of the number of small entities to which the proposed rule will apply: The proposed rule will apply to all of the 3,069 commercial and charterboat mackerel harvesting firms that currently hold permits to fish for king mackerel in the Gulf of Mexico.

Description of the projected reporting, recordkeeping 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: The reporting, recordkeeping, and other compliance requirements of the proposed rule are not materially different from those of the current practice.

Identification of all relevant Federal rules which may duplicate, overlap or conflict with the proposed rule: No duplicative, overlapping, or conflicting Federal rules have been identified.

Description of significant alternatives to the proposed rule and discussion of how the alternatives attempt to minimize economic impacts on small entities: Several alternatives have been considered as ways to meet the FMP objectives. The status quo for TAC is determined to be inferior to the proposed TAC in terms of generating short-term benefits to fishery participants. The status quo on bag limits for captain and crew of for-hire vessels has been determined to adversely affect charterboat income and crew income as well. With respect to trip limits in the North Area of the Eastern Zone, one of the rejected alternatives provides for higher trip limits and thus could potentially result in higher short-term revenues for the fishing vessels in the area. However, this alternative poses a danger that the quota may be exceeded or that the fishery may be closed sooner. Closure of the fishery could potentially reduce fishermen's revenues, especially considering that king mackerel demand in March is relatively higher than for earlier months.

Conclusion

The foregoing information and pertinent portions of the RIR are deemed to satisfy the analysis required under the RFA.

VI. ENVIRONMENTAL CONSEQUENCES

Physical Environment: To the extent that can be ascertained, the action proposed in this amendment will have no impact on the physical environment. Gear traditionally used in this fishery (hook-and-line and run-around gill nets) have no adverse impact on the bottom substrate or other habitat. These gear are selective for the target species, and there is little bycatch. Continuing studies have provided no new information beyond that already contained in the FMP, as amended, that further defines the relationship between stocks and habitat.

Fishery Resources: The TACs previously developed and established under this framework seasonal adjustment are consistent with the Council's objective of rebuilding stocks. The proposed action is intended to protect coastal pelagic fish stocks from recruitment and growth overfishing while fairly allocating allowable catch among fishermen. The proposed actions will have insignificant effects on the fishery resources.

Human Environment and Social Impact Assessment: The management of fisheries may directly affect the human environment. Current social data on users in the mackerel fishery affected by this amendment are sparse. Most of the known impact is of an economic nature. The net impact on the users of the resource by the proposed action is in the RIR and IRFA (Section V). The impact on fishery resource users in adjacent areas has been coordinated with the appropriate Council.

Effect on Endangered Species and Marine Mammals: The National Oceanic and Atmospheric Administration (NOAA) conducted a consultation under Section 7 of the Endangered Species Act regarding the impact of Amendment 6 which included the framework measures under which this action is being taken. Therefore, no additional Section 7 consultation is necessary. A biological opinion resulting from that consultation found that: (1) Amendment 6 did not contain any regulatory changes that would adversely affect listed species of sea turtles, marine mammals, or fish, or their respective habitats; and (2) the fisheries for coastal migratory pelagic resources will not jeopardize the continued existence of any listed species.

Effect on Wetlands: The proposed action will have no effect on flood plains, wetlands, or rivers.

Mitigating Measures: No mitigating measures related to the proposed action are necessary because there are no harmful impacts to the environment.

Unavoidable Adverse Affects: The proposed action does not create unavoidable adverse affects.

Irreversible and Irretrievable Commitments of Resources: There are no irreversible commitments of resources caused by implementation of this amendment.

Finding of No Significant Environmental Impact

The proposed action is not a major action having significant impact on the quality of the marine or human environment of the Gulf of Mexico. The proposed action is an adjustment of the original regulations of the FMP under the framework procedure set forth in Amendment 6 to rebuild overfished stocks. The proposed action should not result in impacts significantly different in context or intensity from those described in the environmental impact statement and environmental assessment published with the regulations implementing the FMP and Amendment 6. The environmental consequences of this action are almost entirely economic in nature and are discussed in the RIR and IRFA (Section V).

Having reviewed the environmental assessment and available information relative to the proposed actions, I have determined that there will be no significant environmental impact resulting from the proposed actions. Accordingly, the preparation of a formal environmental impact statement on these issues is not required for this amendment by Section 102(2)(c) of the National Environmental Policy Act or its implementing regulations.

Approved: _____

Assistant Administrator for Fisheries

_____ Date

Scientific Data Needs

To monitor stocks to determine whether overfishing occurs, the SEFC of NMFS currently monitors catch by size (age) to estimate recruitment and acceptable biological catch. No additional collection of scientific data would be required by this amendment. The Mackerel Stock Assessment Panel and the Socioeconomic Assessment Panel have identified the following data needs:

1. An evaluation of CPUE indices should be completed relative to standardization methods and management history.
2. The socioeconomic risks of selecting TAC's above the recommended ABC range needs to be completed.
3. The size at age of both king and Spanish mackerel needs to be evaluated.
4. Size/age samples need to be increased for cobia, particularly in the Gulf.
5. The identification of Spanish mackerel stocks through multiple research techniques needs to be completed.
6. Yield per recruit analyses should be conducted relative to alternative selective fishing patterns.
7. Mexican landings data need to be obtained.
8. Research on the consequences and estimation of bycatch needs to be completed.

9. Research on the application of assessment and management models relative to dynamic species such as Spanish mackerel needs to be completed.
10. Recreational and commercial demand studies on the Spanish mackerel fishery need to be conducted, and there is a need to estimate supply functions for the vessels involved in the commercial and for-hire mackerel fishery. The supply studies would involve collection of vessel costs and returns information. The studies should also involve consideration of the effect of Mexican fisheries for Spanish and king mackerel.
11. There remains a need to determine the priority research which is necessary to provide minimally acceptable analyses of stock allocation among user groups.
12. At the minimum, provide the SEP with the following social data:
 1. Number of participants and their age, education, and marital status.
 2. Years fishing, family history of fishing participants.
 3. Percent of total household income from commercial fishing (include total household income).
 4. Effort by species and month and gear type (include all species fished and location to assess multispecies nature of mackerel fishermen).
 5. Job skills and employment history (job training).
 6. Perceived opportunities for alternative employment.

VII. OTHER APPLICABLE LAW

Impacts on Other Fisheries: The proposed action would decrease the commercial trip limit for Gulf group king mackerel in the North Area of the Eastern Zone from that proposed for implementation on June 2, 1997. This action along with the proposed actions to increase TAC and return bag limits of king mackerel to the captain and crew should not redirect effort to other fisheries, and they should not be impacted by this action.

Vessel Safety: The 1995 Framework Seasonal Adjustment which implemented daily commercial trip possession limits for mackerel was discussed with representatives of the affected Coast Guard District and commercial fishermen. They believed that because some catch was allowed on all days during the restricted, daily-limit period, fishermen would not require alternative fishing opportunities to compensate for unsafe weather for fishing. It was felt that these possession limits posed fewer safety problems than the previous derby fishing in which vessels tended to fish as hard as possible regardless of weather conditions before the quota is taken. The proposed action to modify trip limits, increase TAC on Gulf group king mackerel, and return the 2-fish daily bag limit to captains and crew of for-hire vessels should not change the current status of vessel safety; therefore, the proposed actions do not impose requirements for use of unsafe (or other) gear, nor do they direct fishing effort to periods of adverse weather conditions.

Paperwork Reduction Act: The Council proposes no additional permit or data collection programs in this amendment.

Federalism: This proposed action does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under E.O. 12612.

VIII. PUBLIC REVIEW

A hearing to obtain public comment on the proposals contained in this regulatory amendment was held by the Gulf of Mexico Fishery Management Council in New Orleans, Louisiana on May 14, 1997.

List of Agencies Consulted:

Gulf of Mexico Fishery Management Council's

- Scientific and Statistical Committee
- Mackerel Stock Assessment Panel
- Socioeconomic Assessment Panel
- Mackerel Advisory Panel

National Marine Fisheries Service

- Southeast Fisheries Science Center
- Southeast Regional Office

List of Organizations Consulted:

- Concerned Fishermen of Florida
- Organized Fishermen of Florida
- Monroe County Concerned Fishermen, Inc.

Responsible Agency:

Gulf of Mexico Fishery Management Council
3018 U.S. Highway 301, North
Suite 1000
Tampa, Florida 33619-2266
813-228-2815

List of Preparers:

Gulf of Mexico Fishery Management Council
Richard Leard, Fishery Biologist
Antonio Lamberte, Economist

IX. REFERENCES

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MSAP (Stock Assessment Panel, J. Shepperd, Chairman). 1996b. Supplement to the 1996 report of the mackerel stock assessment panel. Available from the Gulf of Mexico Fishery Management Council, 5401 W. Kennedy Blvd., Ste. 331, Tampa, Florida 33609. 14 p. + tables.

MSAP (Stock Assessment Panel, J. Shepard, Chairman). 1997. 1997 report of the mackerel stock assessment panel. Available from the Gulf of Mexico Fishery Management Council, 3018 U.S. Highway 301, North, Ste. 1000, Tampa, Florida 33619-2266. 25 p. + figures.

SEP (Socioeconomic Assessment Panel, R. Palmer, Chairman). 1996. Report of the fifth coastal migratory pelagics socioeconomic panel meeting. Available from the Gulf of Mexico Fishery Management Council, 3018 U.S. Highway 301, North, Ste. 1000, Tampa, Florida 33619-2266. 15 p.

SEP (Socioeconomic Assessment Panel, R. Palmer, Chairman). 1997. Report of the fifth mackerel socioeconomic panel meeting. Available from the Gulf of Mexico Fishery Management Council, Tampa, Florida. 15 p.

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TABLE 1. Comparisons of Gulf group king mackerel allocations and landings for fishing years 1986/87 through 1995/96.

FISHING YEAR	RECREATIONAL		COMMERCIAL		TOTAL
	ALLOCATION	LANDINGS	ALLOCATION	LANDINGS	ALLOCATION/ LANDINGS
1986-87	1.97	3.27	0.93	1.47	2.90 / 4.74
1987-88	1.50	2.15	0.70	0.87	2.20 / 3.02
1988-89	2.31	5.28	1.09	1.41	3.40 / 6.69
1989-90	2.89	3.36	1.36	1.95	4.25 / 5.31
1990-91	2.89	3.95	1.36	1.82	4.25 / 5.77
1991-92	3.91	4.77	1.84	2.12	5.75 / 6.89
1992-93	5.30	6.26	2.50	3.60	7.80 / 9.86
1993-94	5.30	6.15	2.50	2.57	7.80 / 8.72
1994-95	5.30	7.86	2.50	2.94	7.80 / 10.80
1995-96	5.30	6.30	2.50	2.69	7.80 / 8.99

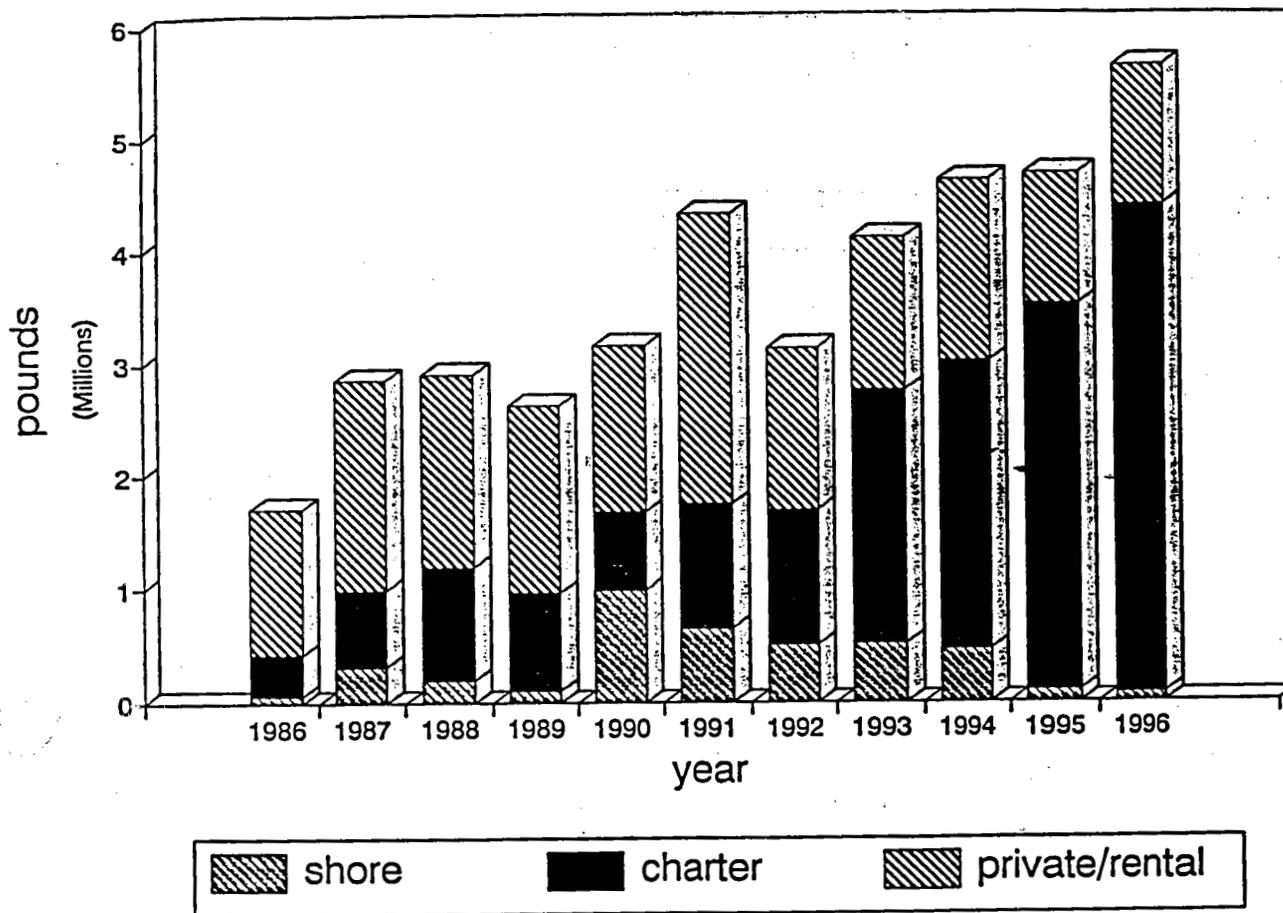
Source: MSAP Report 1996 (Supplement) and Godcharles (unpublished data)

TABLE 2. Percentage overages of TAC by the recreational and commercial fishery for Gulf king mackerel, fishing years 1986/87 through 1995/96.

YEAR	RECREATIONAL OVERAGE	COMMERCIAL OVERAGE
1986 - 1987	66.0%	58.1%
1987 - 1988	43.3%	24.3%
1988 - 1989	99.9%	29.4%
1989 - 1990	16.3%	43.4%
1990 - 1991	36.7%	33.8%
1991 - 1992	22.0%	15.2%
1986-92 AVERAGE	47.4%	34.0%
1992 - 1993	18.1%	44.0%
1993 - 1994	16.0%	2.8%
1994 - 1995	48.3%	17.6%
1995 - 1996	18.9%	7.6%
1992-93 - 1995-96 AVERAGE	27.3%	18.0%

Source: SEP (1996) and Godcharles (unpublished data)

Figure 2. Gulf group king mackerel landings by mode, 1986 through 1996.



Source: Marine Recreational Fisheries Statistics Survey (MRFSS)

APPENDIX I

Section 6.1.1: Mechanism for Determination of Framework Adjustments, as modified by this and previous amendments, is revised as follows:

Section 12.6.1.1

- A. An assessment panel appointed by the Councils will normally reassess the condition of each stock or group of king and Spanish mackerel and cobia in alternate years 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, the 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. The Panel will address the following 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 should describe the likely alternatives.
2. MSY for each identified stock. If more than one possible stock division exists, 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. When the panel is able separate ABC ranges for the eastern and western groups of Gulf king mackerel, separated at the Alabama/Florida border, the ratio of the mix is to be calculated on allele frequencies. Allocations between recreational and commercial users are to remain unchanged or 68 to 32 percent. For each stock, this should include but not be limited to:
 - a. Fishing mortality rate relative to F_{msy} and $F_{0.1}$
 - b. Abundance relative to an adequate spawning biomass.
 - c. Trends in recruitment.
 - d. Acceptable Biological Catch (ABC) which will result in long-term yield as near MSY as possible.
 - e. Calculation of catch ratios based on catch statistics using procedures defined in the FMP

4. **Overfishing (See options 2, 7)**

a. A mackerel or cobia stock shall be considered overfished if the spawning potential ratio (SPR) is less than the target level percentage recommended by the assessment panel, approved by the Scientific and Statistical Committee (SSC), and adopted by the Councils.

b. When a stock is overfished (as defined in a), the act of overfishing is defined as harvesting at a rate that is not consistent with programs to rebuild the stock to the target level percentage and the assessment panel will develop ABC ranges based on a fishing mortality rate that will achieve and maintain at least the minimum specified SPR. The recovery period is not to exceed 12 years for king mackerel beginning in 1987.

c. When a stock is not overfished [as defined in (a)], the act of overfishing is defined as a harvest rate that if continued would lead to a state of the stock that would not at least allow a harvest of OY on a continuing basis, and the assessment panel will develop ABC ranges based upon OY (currently MSY).

5. **Management options.** If recreational or commercial fishermen have achieved or are expected to achieve their allocations, the Panel may delineate possible options for

nonquota 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. **Other biological questions as appropriate.**

B. The assessment panel will prepare a written report with its recommendations for submission to the Councils by such date as may be specified by the Councils. The report will contain the scientific basis for their recommendations and indicate the degree of reliability which the Council should place on the recommended stock divisions, levels of catch, and options for nonquota controls of the catch.

C. The Councils will consider the reports and recommendations of the assessment panel and such public comments as are relevant to the assessment panel's submission. A public hearing will be held at a time and place where the Council consider the panel's report. The Councils may convene the Scientific and Statistical Committee to provide advice prior to taking final action. After receiving public input, Councils will make findings on the need for changes.

- D. If changes are needed in MSYs, TACs, quotas, bag limits, size limits, vessel trip limits, closed seasons or areas, gear restrictions, or initial requirement of permits for each stock of king or Spanish mackerel or cobia, the Councils will advise the Regional Administrator of the Southeast Region of the National Marine Fisheries Service (RA) in writing of their recommendations, accompanied by the assessment panel's report, relevant background material, and public comment.

Recommendations with respect to the Atlantic groups of king and Spanish mackerel will be the responsibility of the South Atlantic Council, and those for the Gulf groups of king and Spanish mackerel will be the responsibility of the Gulf Council. This report shall be submitted by such date as may be specified by the Councils.

- E. The RA will review the Councils' recommendations, supporting rationale, public comments and other relevant information, and if he concurs with the recommendation, he will draft regulations in accordance with the recommendation. He may also reject the recommendation, providing written reasons for rejection. In the event the RD rejects the recommendation, existing regulations shall remain in effect until resolved. However, if the RD finds that a proposed recreational bag limit for Gulf migratory group or groups of king mackerel is likely to exceed the allocation and rejects the Councils' 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, he shall implement the regulations by notice 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 notice in the Federal Register are:

1. Adjustment of the point estimates of MSY for cobia, for Spanish mackerel within a range of 15.7 MP to 19.7 MP, and for king mackerel within a range of 21.9 MP to 35.2 MP.
2. Setting 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 TAC may exceed the best point estimate of MSY by more than 10 percent.
 - b. No TAC may exceed the upper range of ABC if it results in overfishing as defined in Section 12.6.1.1, A.4.
 - c. Downward adjustments of TAC of any amount are allowed in order to protect the stock and prevent overfishing.

d. Reductions or increases in allocations as a result of changes in the TAC are to be as equitable as may be practical utilizing similar percentage changes to allocations for participants in a fishery. (Changes in bag limits cannot always accommodate the exact desired level of change).

3. Adjusting user group allocations in response to changes in TACs according to the formula specified in the EMP.

Implementing or modifying quotas, adjusted quotas, bag limits, size limits, vessel trip limits, closed seasons or areas, gear restrictions, or initial requirement of permits, as necessary to limit the catch of each user group to its allocation.