AMENDMENT 6

to

The Fishery Management Plan

for

Coastal Migratory Pelagics

in

The Gulf of Mexico

and

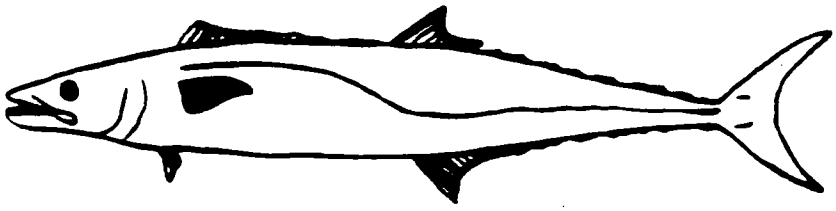
South Atlantic

Includes Environmental Assessment

Regulatory Impact Review

and

Initial Regulatory Flexibility Analysis



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Regulatory Impact Review and Initial Regulatory Flexibility Analysis

I. Introduction

The "Mackerel" 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 as was the use of purse seines on overfished stocks. 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).

Amendment 3 was partially approved in 1989, revised, resubmitted, and approved in 1990. It prohibits 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 included:

- Extended management area for Atlantic groups of mackerels through the Mid-Atlantic Council's area of jurisdiction;
- Revised problems in the fishery and planned objectives;
- Revised fishing year for Gulf Spanish mackerel from July-June to April-March;
- Revised definition of "overfishing";
- Added cobia to the annual stock assessment procedure and provided that the South Atlantic Council will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic migratory groups of mackerels while the Gulf Council will be responsible for Gulf migratory groups;
- Continued to manage the two recognized Gulf migratory groups of king mackerel as one until management measures appropriate to the eastern and western groups can be determined;
- Redefined recreational bag limits as daily limits;
- Deleted provision specifying that bag limit catch of mackerel may be sold;
- Provided guidelines for corporate commercial vessel permits;
- Specified that Gulf king mackerel may be taken only by hook-and-line and run-around gill nets;
- Imposed a bag limit of two cobia per person per day;

- 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.

This amendment would make changes described in Section II.

II. Actions

Actions proposed for this amendment are:

A. Identification of additional problems and an objective in the fishery.

B. Rebuilding overfished stocks within a specific period.

C. Schedule of assessments and adjustments.

D. Seasonal adjustment actions.

E. Gulf king mackerel stock identification and allocation.

F. Atlantic Spanish mackerel possession limits.

G. Commercial permit requirements.

H. Control of recreational allocation.

I. Modification of the recreational fishing year.

J. Minimum size limit for king mackerel.

III. Description of the Fishery

King mackerel and Spanish mackerel are major target species of an important commercial fishery in South Florida as well as a major target species for the private boat and charterboat recreational fishery along widespread areas within the Gulf and South Atlantic regions. 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 the North Carolina charterboat fleet. Small amounts of Spanish mackerel are caught as an incidental catch or supplemental commercial target species off Alabama, Mississippi, Louisiana, North Carolina, and to a smaller degree Georgia and South Carolina.

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

Recreational users have increased in numbers over time. Many come from outside the management unit as well as areas within it. Increased income, leisure time, and a wide variety of supplies have increased participation. This participation has, in turn, generated significant amounts of economic value and also employment.

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 which was 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). The Gulf Migratory Group may be divided at the Florida-Alabama border when the stock assessment panel is able to provide separate acceptable biological catches for each group. The commercial allocation for the Gulf group is currently divided at this boundary.

For Spanish mackerel two migratory groups are recognized with a division between the Atlantic and Gulf groups being at the Dade-Monroe County line in South Florida. The commercial fishery is almost entirely a South Florida winter fishery utilizing gill nets.

For the purpose of allocating a limited resource among users, the FMP has set ratios based on historic unregulated catches.

MACKEREL USER ALLOCATIONS

Migratory Group	Percent Allocation	
	Recreational	Commercial
Gulf King	68	32
		Eastern Zone 69
		Western Zone 31
Atlantic King	62.9	37.1
Gulf Spanish	43	57
Atlantic Spanish	50	50

Stocks of Gulf king mackerel and Gulf Spanish mackerel continue to be defined as being overfished; though reduced allowable catches have improved their condition somewhat. See Appendix IV for a description of the condition of the stocks and migratory groups of king and Spanish mackerels, cobia and dolphin. Trawl bycatch of juvenile mackerels and overruns of total allowable catches have reduced the effectiveness of remedial management measures, however.

Permits are required of commercial boats and charter boats fishing for coastal pelagics. The numbers of such permits have increased in each of the past three years.

Number of Permits Issued for the Mackerel Fishery

Year	Commercial	Charter	Total
91-92*	1,620	1,444	3,064
90-91	1,652	1,654	3,306
89-90	1,463	1,566	3,029
88-89	1,315	1,153	2,468

*Issued through February 1992

IV. Purpose and Need

Problems in the Fishery

The current FMP through Amendment 5 lists the followings problems:

1. The stocks of Spanish mackerel and Gulf king mackerel are below the level of producing MSY, and spawning stocks have been reduced such that recruitment has been affected. The harvest levels of Atlantic king mackerel are close to their upper limit. Uncontrolled fishing would further reduce biomass.

2. A. Available recreational catch statistics were not designed to track catch for quota purposes.

   B. Additional biological and statistical data on both the recreational and commercial fisheries are needed, and social and economic information that assesses the impact of regulations and allocations is not available.

3. Intense conflicts and competition exist between recreational and commercial users of the mackerel stocks and between commercial users employing different gears.

4. The existence of separate state and federal jurisdiction and lack of coordination between these two make biological management difficult since, in some instances, the resource may be fished beyond the allocation in state waters.

5. The condition of the cobia stock is not known, and increased landings over the last ten years have prompted concern about overfishing.

6. Lack of information on multiple stocks or migratory groups of king mackerel which may mix seasonally confounds and complicates management.

7. Large catches of mackerel over a short period cause quotas and TAC to be exceeded before closures could be implemented. Therefore, some users obtained a share in excess of their allocation.

8. Closures of a fishery and reversion of bag limits to zero due to the filling of a quota have deprived geographic areas of access to a fishery.

9. Fish caught under the bag limit and sold contribute to the filling of both the recreational and commercial quotas.

10. Part-time commercial fishermen compete with full-time commercial fishermen for the available quota.

Management Objectives

The current FMP through Amendment 5 lists seven plan objectives:

1. The primary objective of this FMP is 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 total allowable catch of Atlantic migratory group Spanish mackerel between recreational and commercial user groups based on the catches that occurred during the early to mid 1970s, which is prior to the development of the deep water run-around 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.

The Councils have identified additional problems and a management objective, which are described and are to be added to the FMP in Option A-1. The actions in this amendment address the need to streamline management procedures in order to be more responsive and flexible. Most of the actions are administrative in that they provide guidelines for management (Options B, C, D, G, H, and I). Two actions, E and F, address issues of allocation among users. Action J would enhance yield as well as provide for improved geographic distribution of the limited allowable catch. While the changes are largely administrative, they will provide the opportunity for better management to the Councils and the Regional Director.

The actions proposed in this amendment are revisions and adjustments of current procedures and regulations. They would facilitate and improve management, decrease operating costs of management, and bring the FMP into compliance with new guidelines. The only new action is the introduction of trip (possession limits) in the Atlantic Spanish mackerel fishery to prevent exceeding quotas and to allocate among commercial fishermen.

Problems 1, 2a, 3, 4, 6, 7, and 8 and Objectives 1, 2, 4, 5, 7, and 8 are addressed by the proposed actions.

V. Proposed Actions and Alternatives in this Amendment

A. Identification of Additional Problems in the Fishery and an Objective for the FMP

Preferred Option A-1

The Councils have identified three additional problems and expanded three existing problems.

4: Inconsistencies in state and federal regulations make management and enforcement difficult and can result in fishing the resource beyond the allocation.

Rationale: Existing Problem 4 is expanded to include enforcement difficulties.

6: The extent of mixing and the appropriate boundaries between some migratory groups are uncertain. This complicates management and could result in allocation of landings to the wrong group, thus affecting ABC estimates for both groups.

Rationale: Existing Problem 6 is expanded to cite the danger of overestimating ABC for a depleted stock if it is mixed with a more abundant group.

8: Excessive effort and low quotas have resulted in closures which deprive some traditional fisheries of access to the resource and which precludes access to some valuable markets.

Rationale: Existing Problem 8 is expanded to address seasonal market opportunity such as Lent.

11. Bycatch needs to be quantified better.

Rationale: Estimates of bycatch in the Gulf shrimp fleet in the 1980s are available; however, this information needs to be updated, and information in the South Atlantic area is needed.

12. Violations of state and federal regulations continue.

Rationale: Enforcement efforts have been effective in some areas; however, violations are still occurring and management efforts are less effective as a result.

13. There may be a problem of localized depletion of dolphin due to heavy localized fishing pressure.

Rationale: When dolphins are available, large catches by an individual vessel may easily be made. These large catches may reduce the availability and fishing success both locally and in other areas along the dolphin's migratory route. It is not the Councils' intent to preclude a state from implementing more restrictive regulations on the dolphin fishery to address local fishing problems.

A new objective (8) is proposed as follows:

8. To optimize the social and economic benefits of the coastal migratory pelagic fisheries.

Rationale: This new objective provides a goal to enhance economic benefits to all groups.

Rejected Option A-2: No change; no recognition of additional problems or objectives.

Rationale: The Councils rejected this option in order to identify and be responsive to fishery issues.

B. Rebuilding Overfished Stocks Within a Specific Period

Preferred Option B-1: Section 12.6.1.1, number A-4, paragraph b., is revised as follows:

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 group will develop ABC ranges based on a fishing mortality rate that will achieve and maintain at least the minimum specified spawning potential ratio (currently set at 30 percent). The recovery period is not to exceed 12 years for king mackerel beginning in 1985 and 7 years for Spanish mackerel beginning in 1987. (Note: The revised mechanism for seasonal framework adjustments appears in Appendix I).

Discussion:

a. Ecological: The proposed recovery periods are slightly more than a generation time, 10 years for king mackerel and 5 years for Spanish mackerel (1992 Report of the Stock Assessment Panel) and have been deemed an appropriate period for remedial management measures to be effective. The recovery periods began when the migratory groups were identified as being overfished and when remedial recovery programs were initiated.

b. Socioeconomic: These periods provide the Councils with sufficient latitude to provide a recovery strategy without closing the fishery or severely impacting the economy or social structure of participants.

c. Environmental: Providing for recovery of overfished stocks with a reasonable allowable catch for users would have long term favorable results to both the fishery and human environment. Short term reduction of allowable catch, if severe, would have unfavorable economic effects on users (see Regulatory Impact Review (RIR)).

Rejected Option B-2: No change.

Amendment 5 provided a definition of overfishing in order to comply with new guidelines as follows: Section 12.6.1.1, number A-4.

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 group, approved by the Scientific and Statistical Committee (SSC), and adopted by the Councils. The target level percentage shall not be less than 20 percent. (The Councils have subsequently set a minimum index for SPR of 30 percent for king mackerel and Spanish mackerel with the 1990 seasonal adjustment based on more recent data provided by the assessment group and endorsed by the SSC.)

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 a program to rebuild the stock to the target level percentage, and the assessment group will develop ABC ranges for recovery periods consistent with a program to rebuild an overfished stock.

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 group will develop ABC ranges based upon OY (currently MSY).

Discussion:

NOAA General Counsel has pointed out that the 602 guidelines require that the FMP must contain a recovery program for overfished stocks within a specified period. The current definition as stated above, therefore, fails to comply with the guidelines and should be revised. The status quo has essentially the same ecological, economic, and environmental consequences since the recovery measures remain the same. Only legal specification of the recovery period changes.

Rejected Option B-3: Section 12.6.1.1, number A-4, paragraph b., is revised as follows:

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 group will develop ABC ranges based on a fishing mortality rate that will achieve and maintain at least the minimum specified spawning potential ratio (currently set at 30 percent). The recovery period is not to exceed one and one-half generation times for that species. The recovery period begins when the management program is initiated on the overfished stock.

Discussion:

a. Ecological: This period of one and one-half generation time (15 years for king mackerel and 7.5 years for Spanish mackerel) is judged to be adequate to restore the stock and allow sufficient flexibility for the Councils to consider various management options. However, the Councils preferred to specify the recovery period rather than use multiples of the generation time.

b. Socioeconomic: This period of recovery provides the Councils with some latitude to adjust the recovery period to meet the socioeconomic needs of persons dependent on the particular fishery.

c. Environmental: Long-term results in restoration of the stock would not be achieved as quickly, but short term impacts on users could be less severe if higher catches were allowed. No impact is anticipated on the habitat.

Rejected Option B-4: 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 group will develop ABC ranges based on a fishing mortality rate that will achieve and maintain at least the minimum specified spawning potential ratio (currently set at 30 percent). The recovery period is not to exceed one generation time for that species (10 years for king mackerel and 5 years for Spanish mackerel).

Discussion:

a. Ecological: Recovery can be accomplished within this period but would require more conservative management than the preferred option.

b. Socioeconomic: This suggested period for recovery provides less leeway for economic considerations than the preferred option. Lower allowable catches would affect users (see RIR).

c. Environmental: Long term recovery of the fishery would be reached later if higher allowable catches were allowed. No impact is expected on the habitat.

Rejected Option B-5: Specify that the recovery period for overfished stocks be no longer than _____ years.

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 a program to rebuild the stock to the target level percentage, and the assessment group will develop ABC ranges for recovery periods not to exceed _____ years.

Discussion:

a. Ecological: Specification of one fixed period of recovery resulted in chaos in management under the Gulf Reef Fish FMP when new data showed that red snapper recovery was virtually impossible within a prescribed 10-year recovery period without closing directed and bycatch fisheries. Also, recovery periods vary among species depending on generation time and appearance of strong year classes.

b. Socioeconomic: Meeting a 10-year recovery period in the Gulf Reef Fish FMP was socioeconomically unacceptable, and the plan is being revised to accommodate a longer recovery period. Any specification of a period for recovery should be flexible and long enough to allow for socioeconomic as well as biological considerations in setting TAC. Allowance must also be made for fishing after quota closures in waters of those states with incompatible regulations.

c. Environmental: One specified recovery period for all migratory groups of all species would have different effects on shorter-lived species than on the longer-lived species. This could affect the fishery and users when inappropriately too long or short. No impact on the habitat is anticipated.

C. Frequency of Assessments and Adjustments

Preferred Option C-1: Biennial Stock Assessments and Preseason Adjustments.

Section 12.6.1.1A is revised in part to read:

A. An assessment group appointed by the Councils will normally reassess the condition of each stock 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 continue to make annual seasonal adjustments within parameters of the most recent stock assessment. The assessment group 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.

(Note: The revised mechanism for framework seasonal adjustment appears in its entirety in Appendix 1.)

Discussion:

a. Ecological: Annual assessments and adjustments may be in excess of what is needed. Annual tinkering with TAC provides instability and does not allow sufficient time for measures to demonstrate their effectiveness. Some adjustment of bag limits may be needed between assessment years in the event of excessive recreational catches. The change would allow this.

b. Socioeconomic: Biennial adjustment of TAC would give commercial users more stability in planning to harvest quotas. Federal costs of management would be reduced considerably.

c. Environmental: This proposed measure is procedural and has no environmental implications.

Rejected Option C-2: No Change. Annual Stock Assessment and Preseason Adjustments.

An assessment group appointed by the Councils will reassess the condition of each stock of king and Spanish mackerel and cobia in the management unit on an annual basis.

Discussion:

a. Ecological: Stock recovery has proven to be slow for king and Spanish mackerels. Changes in ABC ranges have been more the result of better data than in changes in stock conditions.

b. Socioeconomic: Annual changes in TAC confuse recreational fishermen as bag limits vary, and commercial fishermen are frustrated over annual variation of the commercial quotas. Management costs are high.

c. Environmental: No effect.

D. Framework Seasonal Adjustment Actions

Preferred Option D-1: Additional Framework Options

Section 1.2.6.1.1 D is revised as follows:

D. If changes are needed in MSYs, TACs, quotas, bag limits, size limits, vessel trip limits, closed seasons or areas, gear restrictions, or initial permits for each stock of king or Spanish mackerel or cobia, the Councils will advise the Regional Director of the Southeast Region of the National Marine Fisheries Service (RD) in writing of their recommendations, accompanied by the assessment group'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 each year by such date as may be specified by the Councils. (Note: the revised mechanism for framework seasonal adjustment appears in its entirety in Appendix I.)

Discussion:

a. Ecological: The procedure for seasonal adjustments, as may be recommended by the Councils and which may be implemented by the Regional Director by modified Notice Action, is revised to include implementation or adjustment of size limits, vessel trip limits, closed seasons or areas, and gear restrictions, as well as the current allowable adjustment of MSYs, TACs, quotas, bag limits, and initial requirement of permits. Inclusion of these additional management options will provide the Councils and RD with more flexibility to respond to management needs to restore overfished stocks and achieve OY. The Gulf Council's Reef Fish FMP allows this flexibility as does Amendment 4 to the South Atlantic Council's Snapper-Grouper FMP.

b. Socioeconomic: Additional flexibility will allow more efficient management at lower public cost. Regulatory impact reviews are to be provided when changes are proposed.

c. Environmental: Given that restoration of stocks is beneficial to the fishery and users, more rapid response in needed management would enhance the environment.

Rejected Option D-2: No change. Seasonal adjustments are limited to MSYs, TACs, quotas, bag limits, and permits.

Discussion:

a. Ecological: Currently, adjustment of size limits, vessel trip limits, closed seasons (periods), or areas, and gear restrictions requires a plan amendment which takes six to eight months to prepare, review, and implement. This delays implementation of management adjustments and could impede stock recovery or attainment of OY.

b. Socioeconomic: Management costs would remain higher and response to changing conditions slower if plan amendment is the only option for management response.

c. Environmental: The current requirement of FMP amendment to make changes slows stock recovery.

E. Stock Identification and Allocation of Gulf Migratory Group King Mackerel

Preferred Option E-1: When the Council's stock assessment panel is able to provide ABC ranges for separate subgroups within the Gulf migratory group, the separation is to be at the Florida-Alabama border and is based on allele frequencies. The TACs for both subgroups of Gulf king mackerel are to continue to be allocated at 68 percent for recreational and 32 percent for commercial fishermen and are to be first implemented with the seasonal adjustment for that fishing year under the framework procedure. (See Appendix III for current mackerel allocations).

Discussion:

a. Ecological: Separate management of the subgroups could provide better opportunity to address the particular requirements of the subgroups. The Councils have previously in Amendment 5 recognized the existence of the two subgroups based on allele frequencies. More recent studies indicate the separation should be at the Alabama-Florida border (Table I) which also corresponds with the current commercial allocation. Lack of data on Mexican catch of king mackerel has prevented the assessment panel from providing ABC ranges for the western subgroup of king mackerel. When this information becomes available, the more accurate allowable catches should be implemented.

b. Socioeconomic: The ratio continues to be based on the ratio of the historic catches from 1975-1979 as provided in Amendment 1. Because recreational catch data were not available for that period, an average of the 1979 and 1980 seasonal catch was used as proxy (Table 2). Total average catch was 18.3 million pounds with an average commercial catch of 5.536 million pounds and recreational catch of 12.781 million pounds or a ratio of 30-70. Two percent of the recreational portion was transferred to the commercial allocation to allow for recreational catch that may be sold. This transfer appears to continue to be appropriate (see discussion of sale of recreationally caught fish in Florida in Rejected Option E-2).

   Note that Table 2 is from Amendment 1 and is not comparable with catches in Table 3 which are based on a different fishing year and variable proportions of mixes of the two Gulf subgroups.

c. Environmental: There are no environmental changes to the fishery or habitat. This option maintains the current ratio of allocation in the division of the Gulf group king mackerel. Effect on the human environment is discussed in the RIR.

Table 1

Proportion western fish by state by year using fishing year (July 1 - June 30) in the Gulf of Mexico based on peptidase (GL-2) A allele frequencies.[1] (Source: SEFC, Panama City Lab.)

State	1984-1989	1984	1985	1986	1987	1988	1989
Florida (Gulf Coast)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alabama	0.471	- -	- -	0.0000 (-0.028)[2]	0.470	1.000 (*1.047)	0.664
Mississippi	0.669	- -	- -	0.613	0.831	0.592	0.839
Louisiana	0.645	- -	0.553	0.678	0.687	0.701	0.481
Texas (east)	0.936	- -	- -	0.878	0.721	1.000 (+1.035)	0.835
Texas (south)	0.867	0.599	0.452	0.860	0.969	0.858	0.913
Texas (Total)	0.846	0.599	0.452	0.870	0.932	0.967	0.875
Mexico	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Year	Fe	Fw
1984	.023	.910 (using 1985 value)
1985	.074	.910
1986	.190	.789
1987	.078	.810
1988	.093	.883
1989	.131	.969
1984-1989	.117	.839

[1] Estimates as of 9/30/90 based on Allendorf and Utter (1979) and Pella and Milner (1987). P-(Fx-Fa)/(Fw-Fe) where P-proportion of western fish; Fx, Fe, and Fw are the Allele frequencies of peptidase (GL-2) in area in question, eastern fish, and western fish. Fe is Florida (Gulf Coast) and Fw is Mexico (Veracruz), respectively.

[2] Maximum value is 1.000 and minimum value is 0.000. Values in parenthesis ( ) are calculated values

Rejected Option E-2: Revise the allocation of Gulf group king mackerel to provide 70 percent of TAC to recreational fishermen and 30 percent to commercial fishermen. The revision is to be implemented when the TAC is increased so as not to decrease the commercial allocation.

Discussion:

a. Ecological: No change.

b. Socioeconomic: Implementation of Amendment 5 eliminated a provision that stated that recreational catch may be sold; thus, sale of mackerel became subject to state regulations.

c. Environmental: (See environmental discussion of Option E-1).

Because the sale of king mackerel by recreational fishermen may be expected to be reduced, the two percent transfer may no longer be appropriate. Implementing the revision on increase of TAC will not impose additional hardship on the commercial users. Texas and Louisiana laws prohibit the sale of fish taken by recreational fishermen. Alabama and Mississippi do not have separate residential recreational and commercial licenses; however, fishermen must possess a commercial license for sale.

Florida law requires that fishermen to be eligible for state permits to sell mackerel and other "restricted species" must have derived 25 percent of their total income or $5,000, whichever is less, from the sale of saltwater products. In order to estimate the sale of recreationally-caught king mackerel believed to be mostly from charter boats, the Florida Department of Natural Resources calculated the sale of king mackerel after the commercial quota was filled on January 3, 1991. This is the first year for which there were state quotas in Florida. Historically, fishing (commercially and recreationally) for king mackerel was suspended only when the federal quota was reached. From January 4, 1991, until July 1991, Florida landings are limited to the recreational bag limit of one fish per person per day. From January 4 through May, reported commercial landings of Gulf group king mackerel were 36,000 pounds (James E. McKenna, Jr. personal communication, 1991). Thus, Florida charterboat sales for that five-month period amounted to 0.85 percent of the TAC. The transfer of two percent from the recreational to the commercial allocation, therefore, seems appropriate.

Rejected Option E-3: Revise the TAC and allocations for Gulf group king mackerel to be separated into eastern and western subgroups. The new allocations are to become effective for the fishing year in which the stock assessment panel is able to provide ABC ranges for the separate subgroups. The separation is to be at the Florida-Alabama line based on allele frequencies. The revised allocations could be based on one of the following:

1. Maintain ratio of 32 percent for the commercial sector and 68 percent for the recreational sector until such time as the recreational bag limit allows 4 fish per person per day. Subsequent increases in TAC would accrue to the commercial sector after that level of the bag limit is attained; or

2. Reallocate using the ratio on the basis of some historic period of catch from Table 4; or

3. Reallocate for greatest economic benefits.

Discussion:

a. Ecological: No effect. ABC ranges are developed within guidelines to prevent overfishing.

b. Socioeconomic: There are various options for allocating between recreational and commercial fishermen. Actual catch data by migratory group for U.S. recreational and commercial fishermen are now available from 1979 through 1989 (Table 3). Catches were first restricted in 1983 when a hook-and-line commercial quota was reached and the fishery closed for king mackerel. Bag limits and commercial quotas for Atlantic and Gulf groups were implemented and catches were severely restricted in FY 1985. A commercial fishery for king mackerel developed off Louisiana in 1982. When the commercial quota was allocated to zones, the western zone was given 31 percent of the quota based on its greatest calendar year of landings (1982).

If separate ABCs and TACs for the two groups are to be implemented in a seasonal adjustment, an allocation must have been specified in a previous amendment. The Councils have tried to allocate fairly between recreational and commercial fishermen by basing the allocation ratio on some historic period of unregulated harvest. A variety of options are available as indicated in Tables 2, 3, and 4. Allocating for maximum economic benefits could unfairly displace some groups of current users of the resource.

c. Environmental: (See environmental discussion of Option E-1).

Rejected Option E-4: Allocate king mackerel caught between the Volusia-Flagler line and the Dade-Monroe line in Florida to the appropriate migratory group based on the best available scientific information on the proportions of each group in the catch from this mixing zone.

Discussion:

a. Ecological: Migratory patterns may have changed with a change in ratio of abundance since earlier tagging studies were made. NMFS proposes new tagging studies in South Florida in 1991 through 1993. When data become available, appropriate changes may be made by plan amendment. Currently, the stocks are being managed conservatively.

b. Socioeconomic: If the ratio of abundance has changed with the proportion of Atlantic group fish increasing, Atlantic fishermen may have lower quotas than may be appropriate. However, insufficient data are available to risk increasing TAC on depleted stocks of Gulf fish in the mixing zone by redesignating them as Atlantic group fish.

c. Environmental: (See environmental discussion of Option E-1).

Rejected Option E-5: No change. The Gulf king mackerel migratory group extends from Florida through Yucatan, Mexico.

Discussion:

a. Ecological: Studies using tag recovery and electrophoretic analysis of allele frequencies have convinced the Councils and their scientific advisors that two migratory groups of king mackerel exist in the Gulf of Mexico with a zone of mixing from Alabama through Texas. This was a part of Amendment 5. Some type of action is required to initiate the revision of management and to allocate fairly between users.

b. Socioeconomic: Allocation between recreational and commercial fishermen would remain unchanged.

c. Environmental: (See environmental discussion of Option E-1).

Table 2
(from Amendment 1)
Historic Catch by Migratory Group, 1975-1979[1] (Landings in Thousands of Pounds)
GULF GROUP

Year 1	Total Commercial	Net [2]	Hook and Line	Recreational[4]	Grand Total
1974-1975	4,888	3,174	1,714	12,781	17,669
1975-1976	6,359	4,465	1,894	12,781	19,140
1976-1977	8,332	5,770	2,562	12,781	21,113
1977-1978	4,434	2,425	2,009	12,781	17,215
1978-1979	3,668	1,990	1,678	12,781	16,449
Average Landings	5,536	3,565	1,971	12,781	18,317
Average Percent[3]	29.7	19.0	10.7	70.3	

[1] Season equals November 1st-October 31st for the Gulf Group.
[2] Net catch assumed to occur after January 1st each year.
[3] Average percent calculated on five-year average percent (not on percent of five-year average landings)
[4] Recreational catch is 1979-1980 average. East Florida divided as in stock assessment.

Table 3

(From 1991 Report of Mackerel Stock Assessment Panel)
King Mackerel Gulf Stock Catch Summary for Weight in Thousands of Pounds
(July - June Fishing Year)

The listings for East and West Gulf represent catch estimates derived by assuming a zone of mixing between these two hypothesized stocks. The assumed mixing zone ranges from Alabama through Texas with variable proportions of the catch attributed to each hypothesized stock as a function of distance along the U.S. Gulf of Mexico.

	East Gulf			West Gulf			U.S. Gulf			Mexico	Gulf		
Year	Com	Rec	Total	Com	Rec	Total	Com	Rec	Total	Com	Com	Rec	Tot
79[1]	4509	2270	6779	<0.5	2056	2057	4509	4326	8836	--	4509	4326	88
80	6154	9015	15168	<0.5	4695	4695	6154	13709	19863	--	6154	13709	198
81	5997	3856	9852	<0.5	4100	4100	5997	7956	13952	--	5997	7956	139
82	3921	2445	6366	837	1292	2129	4758	3738	8495	--	4758	3738	84
83	2634	1395	4029	348	756	1104	2982	2151	5134	--	2982	2151	51
84	2575	2886	5461	604	897	1500	3179	3783	6962	2831	6010	3783	97
85	2921	1674	4595	574	895	1469	3495	2569	6063	5301	8796	2569	113
86[2]	852	2269	3121	307	778	1084	1159	3046	4205	7425	8584	3046	116
87[3]	686	1497	2184	175	528	703	861	2025	2887	4661	5523	2025	75
88[4]	1103	3555	4658	302	582	884	1405	4137	5542	4945	6350	4137	104
89[5]	1373	2646	4018	433	473	906	1805	3119	4924	4945	8374	3119	114

[1]Fishing year 1979 begins on 1 July 1979 and ends on 30 June 1980.

[2]1986 FY: ABC = 1.2 - 2.9 million lbs; TAC = 2.9 million lbs.; Rec allocation = 1.97 million lbs. (bag=2/3), Com allocation = 0.93 million lbs., Purse = 0.06 million lbs. (E zone = 0.6, W zone = 0.27 million lbs.).
[3]1987 FY: ABC = 0.6 - 2.7 million lbs.; TAC = 2.2 million lbs., Rec allocation = 1.50 million lbs. (bag=2/3), Com allocation = 0.70 million lbs., (E zone = 0.48, W zone = 0.22 million lbs.).
[4]1988 FY: ABC = 0.5 - 4.3 million lbs.; TAC = 3.4 million lbs., Rec allocation = 2.31 million lbs. (bag=2/3), Com allocation = 1.09 million lbs., (E zone = 0.75, W zone = 0.34 million lbs.).
[5]1989 FY: ABC = 2.7 - 5.8 million lbs., TAC = 4.5 million lbs., Rec allocation = 2.89 million lbs. (bag=2/3), Com allocation = 1.36 million lbs., (E zone = 0.94, W zone = 0.42 million lbs.).

TABLE 4

Catch ratios derived from the above table for various combinations of years are listed below. A commercial fishery for king mackerel developed off Louisiana in 1982.

	Eastern Gulf	Western Gulf
Years	Comm/Rec % Ratio	Comm/Rec % Ratio
1979-1984	57-43	19-81
1979-1982	58-42	10-90
1979-1981	56-44	.01-99.99
1982-1984	58-42	37-63

F. Commercial Possession Limits for Atlantic Spanish mackerel

Preferred Option F-1: A new Section is added as follows:

12.6.5.2 Commercial Vessel Possession Limits

For the purpose of allocating commercial catches, Atlantic Spanish mackerel are separated into a northern zone (north of the Florida-Georgia line) and a southern zone (Florida east coast to the Dade-Monroe line). In the northern zone boats would be restricted to possession limits of 3,500 pounds of Spanish mackerel.

The southern zone possession limits are meant to be consistent with limits in state waters.

(a) April 1-November 30: 1,500 pounds per vessel per day.

(b) December 1 until 80 percent of adjusted quota is taken: (Vessel fishing days begin at 6:00 a.m. and extend until 6:00 a.m. the following day, and vessels must be unloaded by 6:00 p.m. of that following day.)

Monday, Wednesday, and Fridays: unlimited harvest.

Tuesdays and Thursdays: 1,500 pounds per vessel per day.

Saturdays and Sundays: 500 pounds per vessel per day.

(c) After 80 percent of adjusted quota is reached: 1000 pounds per vessel per day.

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

(e) **The adjusted quota for Atlantic migratory group Spanish mackerel is 3.25 million pounds, and is implemented for the fishing year that commenced April 1, 1992. The adjusted allocation and the trip limits may be modified in accordance with the framework procedure. (Note: The revised mechanism for framework seasonal adjustments appears in its entirety in Appendix 1.)**

Discussion:

a. Ecological: Commercial net boats are capable of landing large quantities (1/2 million pounds) of Spanish mackerel in a day, thus, quickly exceeding a quota by a substantial amount. By spreading the same commercial catch over a longer period, the localized effect of heavy fishing pressure is lessened. Catches are more evenly distributed geographically.

b. Socioeconomic: The Councils previously considered possession limits in Amendment 5 but rejected them as being too cumbersome for regional management. Florida, where the net fishery exists, proposed internal trip limits to extend the period of the fishery and to distribute the catch more equitably among Florida commercial fishermen. A federal court decision has held that state implementation of trip limits is improper because they discriminate against Florida fishermen fishing in federal waters, thus, providing unequal rights protection. Florida seeks to re-establish these trip limits through joint federal regulation at the request of small and large boat net fishermen in order to protect the resource and allocate fairly. Possession limits in federal waters are intended to be consistent with state regulations.

The Councils have adopted these possession limits which were developed with, and accepted by, representatives of both the large and small boat commercial Spanish mackerel fishery. The April 1-November 30 period allows small boats to fish but still protects those fish which may remain on the winter grounds into April (the next fishing year) from a second quota being taken from the same winter group. The December 1 to 80 percent of adjusted quota allocation divides the peak of the season between large vessels (Monday, Wednesday, and Friday) and small boats on Tuesday and Thursday. There are potential distributional consequences of this action which are elaborated in the RIR. Limited catch of 500 pounds on weekends corresponds to Florida law to prevent conflict with recreational fishermen. The 1,000 pound trip limit after 80 percent of the adjusted quota is taken reserves some catch for small vessel harvesters and provides fish for the higher value market in the Lenten season although industry profitability may not necessarily increase in this situation.

In recent years, landings in the Mid-Atlantic area from April through August have increased to over 600,000 pounds and will accelerate the reaching of the adjusted quota. This will tend to reduce the allocation to the unlimited catch per trip period beginning December 1, which is the profitable season for the larger net boats. This is analyzed in the accompanying RIR.

The 500 pound daily limit after the adjusted quota is reached allows small vessels to continue fishing through March. Large mesh nets are used to take limited numbers of large Spanish mackerel which bring a relatively higher value during March. This amount of catch is estimated and subtracted from the quota to set the adjusted quota. In the 1991-1992 season, the federal quota was reached in the December, but fishing continued in Florida waters under a 500 pound trip limit. Preliminary estimates of those catches are 57,000, 124,000, and 116,000 pounds in December, January, and February, respectively. While it is difficult to project the rate of catch with the new possession limits, the Councils anticipate that the adjusted quota will extend through January. Then the reserve of 250,000 pounds (calculated at 125,000 per month) would allow continued fishing under the 500 pound trip limit. Thus, the adjusted quota for the 1992-1993 season is 3.5 million pounds less the 0.25 million pounds or 3.25 million pounds. Florida monitors the catches and would advise NMFS of catch statistics as the quotas are reached. (Other scenarios are depicted in the accompanying RIR).

c. Environmental: This issue is partly one of allocation, but it does have beneficial effects on the fishery by reducing pulse fishing on first available schools of fish.

Rejected Option F-2: For the purpose of allocating commercial catches separate Atlantic Spanish mackerel into a northern zone (north of the Florida-Georgia line) and a southern zone (Florida east coast to the Dade-Monroe line. In the northern zone, boats would be restricted to trip limits of 3,500 pounds of king and/or Spanish mackerel.

For the southern zone there were two additional options:

Rejected Option F-2a. The Florida Marine Fisheries Commission originally proposed for Spanish mackerel:

East Coast: 1,500 pounds from April 1-November 30, then unlimited harvest allowed until 50 percent of the quota is projected to be harvested, then 10,000 pounds until 75 percent of the quota is projected to be harvested, then 1,500 pounds until the adjusted quota is reached, then 500 pounds until March 31 or:

Rejected Option F-2b. The Organized Fishermen of Florida had proposed for east coast Spanish mackerel:

April 1-November 30: 2,500 pound trip limits;

December 1 until 50 percent of quota reached: unlimited daily catch;

50 percent to 75 percent of quota: unlimited catch per trip every other day only;

At 75 percent of quota: 1,500 pound trip limits until the adjusted quota is filled;

Weekend closures begin at 50 percent of quota;

After quota is reached go to 500 pounds daily trip limit (The projected total amount will have been figured in quota calculations);

April 1 until 75 percent of quota: 2,500 pounds trip limit at any time unlimited daily harvest is not allowed;

If daily projection shows less than 200,000 pounds remaining on any particular segment then next segment begins.

Discussion:

a. Ecological: Little impact except that reduced daily limits lessen the chance of exceeding the quota before a closure can be initiated.

b. Socioeconomic: Daily limits would extend the fishing season and distribute the catch more equitably among fishermen and among different geographic areas. The management is complicated, but there are relatively few commercial Spanish mackerel boats that are affected.

c. Environmental: These two rejected variations in establishing possession limits were modified to the preferred option in a compromise between the South Atlantic Council and representatives of the commercial fishermen. The environmental impact is the same as the preferred option. Changes made were more of a socioeconomic nature to comply with more traditional fishing patterns.

Rejected Option F-3: No change. No commercial trip (possession) limits for Atlantic Spanish mackerel.

Discussion:

a. Ecological: Because of the large capacity of the net fleet which is capable of taking one-half million pounds in a single day, a commercial quota (3.5 million pounds in 1991) can quickly be exceeded by a large amount. Overwintering mackerel that remain schooled into April become vulnerable to a second quota when the new fishing year begins April 1.

b. Socioeconomic: Small net boats may be at a disadvantage when larger vessels can quickly fill the quota. The Councils had previously rejected trip limits as cumbersome micromanagement. The state of Florida closely monitors catch from the local areas where the net fishery occurs. Therefore, with the state monitoring the catches, the Councils found it advantageous to allocate the commercial catch more fairly among users and distribute it over time. The possession limit option was selected.

c. Environmental: By reducing the likelihood of the fleet to exceed the commercial quota by intensive fishing, the preferred option has more beneficial effects than the status quo. The benefits are in maintaining healthy stocks in the fishery, allocating fairly among fishermen, and providing fresh product to consumers over a longer period of time.

G. Income Requirement for Commercial Permits

Preferred Option G-1: Section 12.6.4.1 A is revised in part as follows.

A. Commercial Permits

Annual permits are required of the owner or operator of boats fishing in the EEZ under the commercial quota on king and Spanish mackerel. These vessels are exempt from the recreational bag limit. To be eligible for a permit, the owner or operator must be able to show that at least 10 percent of his earned income was derived from commercial fishing, i.e., sale of catch, during one of three preceding calendar years. (Note: The procedure and requirements for commercial permits as amended appear in Appendix 2.)

Discussion:

a. Ecological: No change.

b. Socioeconomic: The limitation of only the previous calendar year to qualify for the income requirement has caused undue hardship on some individuals who would normally qualify as commercial fishermen. Some examples where long term commercial fishermen fail to qualify in one year are illness (self or family), loss and rebuilding of vessel, and call to military duty. By allowing a fisherman to qualify in one of the three preceding years, some hardship cases would be eliminated while following the intent that non-commercial fishermen be restricted to the bag limit. The requirement that permits must be issued only for a permit year of April through the following March is also deleted to simplify processing.

c. Environmental: The change is of a socioeconomic nature and is discussed more fully in the RIR.

Option G-2: No change. Annual permits are required of the owner or operator of boats fishing in the EEZ under the commercial quota on king and Spanish mackerel. These vessels are exempt from the recreational bag limit. To be eligible for a permit, the owner or operator must be able to show that at least 10 percent of his earned income was derived from commercial fishing, i.e., sale of catch, during the preceding calendar year.

Discussion:

a. Ecological: No change.

b. Socioeconomic: Amendment 1 states:

"The limitation of permits to commercial fishing vessels is not intended as economic distribution; rather it is to be a means of achieving an equitable reduction in catch by both recreational and commercial fishermen. The allocations are based on recent catch ratios. In order to prevent large numbers of recreational fishermen from fishing under the commercial permit system, not selling their catches, and causing TAC to be exceeded through this uncounted catch, the permit limitation to commercial fishermen has been added. The 10 percent of earned income from commercial fishing was judged by the Councils to be sufficient to include those who may be partially dependent on social security, retirement benefits, or investments. New entrants in the king mackerel fishery may establish eligibility with a record of income from other commercial fisheries and bag limit sales."

c. Environmental: The preferred option corrects a procedure that causes economic hardship to some permit applicants. It is discussed as a socioeconomic issue.

H. Control of Recreational Allocation

Preferred Option H-1:

Section 12.6.6.1 is revised:

12.6.6.1 King and Spanish Mackerel Bag Limits

The recreational allocation of mackerels will be controlled by bag limits for anglers per day with a one-day possession limit. Charter and head boats on multi-day trips may have two-day possession limits provided that two qualified captains are aboard and anglers have been provided with receipts for multi-day trips. Different bag limits may be set for anglers on charter or private recreational vessels. The bag limit is intended to reduce the recreational catch and distribute it fairly throughout the fishing year.

If, under the framework procedure for seasonal adjustments, the RD determines that a Council-proposed bag limit for an overfished group of Gulf king mackerel is expected to exceed the recreational allocation and rejects the proposal, the bag limit reverts to one fish per person per day.

Section 12.6.1.1.E. is also revised to reflect this change (see Appendix I).

Discussion:

a. Ecological: Total catch under a bag limit is subject to changes in availability of fish and effort, both of which may vary seasonally due to recruitment, economic conditions, weather, and other variable influences. Thus, setting an appropriate bag limit is a matter of trial and adjustment. Catch predictions may err in providing too much or too little catch. If limits are set too high, the recreational allocation may be exceeded and restoration of overfished stocks may be delayed. The annual recreational catch for Gulf king mackerel has exceeded its allocation each year since 1985 (Table 5). The measure is intended to prevent these overruns while allowing an appropriate bag limit throughout the year. Should the Council propose a bag limit that the Regional Director finds will exceed the allocations, he may reject it. The bag limit for that overfished Gulf king mackerel group instead of remaining unchanged, would revert to one fish for the next season. By adopting the no reversion to zero provision, the Councils will encourage states to set their bag limits consistent with the federal bag limits.

b. Socioeconomic: Allowing an appropriate bag limit to remain in effect through a fishing year provides equal opportunity and access to anglers in all geographic areas through which the fish may migrate. Early reversion of a bag limit to zero under the current management arrangement for migratory groups defined as being overfished has deprived anglers of opportunity to retain their catch in those areas where the fish occur in the latter part of the season. More specifically, anglers in South Florida have been deprived of a fishery in the winter and spring due to a zero bag limit for Gulf group king mackerel in the EEZ.

c. Environmental: The preferred option addresses a socioeconomic problem, the reversion of the recreational bag limit to zero in mid season, by allowing the bag limit implemented by the Regional Director to remain in effect through the season. There is a risk that high effort or an abundance of fish could cause the recreational allocation to be exceeded. This could be addressed by adjusting the bag limit the following season.

Rejected Option H-2: No change. On migratory groups which are defined as being overfished, the bag limit for that group will revert to zero when its quota is caught.

Discussion:

a. Ecological: The reversion to zero was added to limit catches from overfished stocks from exceeding TAC if bag limits were set too high. Even with this provision, projections of estimated catches must be made because actual catch data are in two-month waves reported after an additional two months. Overruns of catch occur most often from catches from state waters after the federal bag limit reverted to zero. For example, from January 4 to July 1 after closure of the 1990-1991 commercial quota, Florida Department of Natural Resources recorded sales of 37,000 pounds of king mackerel. Presumably, these were taken from state waters under the state's one fish bag limit by charterboats holding commercial permits.

b. Socioeconomic: Currently, the recreational quota is being exceeded, and portions of South Florida where all of the fish may be beyond state jurisdiction (when locally available and the EEZ is closed) are deprived of fishing opportunity.

c. Environmental: The socioeconomic problem of bag limit closure would remain unchanged. Overruns of the allocation by states allowing fishing after the closure of federal waters may continue.

Rejected Option H-3: The recreational bag limit for a stock defined as being overfished will be reduced by 50 percent when 75 percent of the recreational allocation is projected to be taken. The bag limit would not revert to zero.

Discussion:

a. Ecological: This would allow fishing to continue in the EEZ at a reduced level throughout the fishing year. TAC can still be exceeded, particularly if higher bag limits are allowed in state waters.

b. Socioeconomic: This would provide a more even distribution of fish and access to areas now deprived because of reversion of the bag limit to zero. Coordination with state regulations would be difficult.

c. Environmental: The effect is similar to Option H-1.

Rejected Option H-4: Suballocate the Gulf group king mackerel recreational allocation into equal six-month quotas. The bag limit is to revert to zero when the quota is filled.

Discussion:

a. Ecological: In the 1989-1990 season, the bag limit did not revert to zero until the end of May. Approximately 50 percent of the total catch was taken by the end of December (Table 6); thus, equal subquotas could be set for six-month periods, July-December and January-June.

b. Socioeconomic: This action could result in two closures for a migratory group in a 12-month period. If the Gulf group is divided into eastern and western groups, there could be four Gulf closures in 12 months.

c. Environmental: With this option there could be two closures instead of one. States which would adopt cooperative closures may find two openings and closures difficult to administer.

TABLE 5

Mackerel Catches Compared with Quotas
Pounds x 1000

Fishing Year	Commercial Quota	Commercial Catch (%)	Recreational Quota	Recreational Catch(%)	Total TAC	Total Catch(%)
Gulf Group King Mackerel						
1986	930	1159(125)	1970	3046(155)	2900	4205(145)
1987	700	861(123)	1500	2025(135)	2200	2887(131)
1988	1090	1405(129)	2310	4137(179)	3400	5542(163)
1989	1360	1883(138)	2890	3313(115)	4250	5196(122)
1990	1360	1655(122)	2890	4945(171)	4250	6600(155)
Atlantic Group King Mackerel(NC-FL)						
1986	3590	2823(79)	6090	5138(84)	9880	7961(81)
1987	3590	3430(96)	6090	3740(61)	9880	7170(74)
1988	2600	3065(118)	4400	4743(108)	7000	7808(112)
1989	3340	2626(78)	5660	3129(55)	9000	5756(64)
1990	3080	2619(85)	5220	3456(66)	8300	6075
Gulf Group Spanish Mackerel						
1987	1420	2505(176)	1080	3038(281)	2500	5543(222)
1988	2850	3848(135)	2150	1861(87)	5000	5710(114)
1989	2990	1803(60)	2260	1560(69)	5250	3673(70)
1990	2990	1998(67)	2260	1710(76)	5250	3708(71)
Atlantic Group Spanish Mackerel (NC-FL)						
1987	2360	3256(138)	740	1407(190)	3100	4663(150)
1988	3040	3197(105)	960	2442(254)	4000	5729(143)
1989	4560	3541(78)	1440	1275(89)	6000	4816(80)
1990	3140	2987(95)	1860	1828(98)	5000	4815(96)

Source: 1992 Report of the Mackerel Stock Assessment Panel

Rejected Option H-5: Applicants for charter boat permits for fishing for coastal pelagics in the EEZ must agree to conform to the more restrictive of federal or state of landing bag limits regardless of where fishing occurs.

Discussion:

a. Ecological: This type of permit control is used in the joint Coral FMP and Atlantic Bluefish FMP. According to the Marine Recreational Fishery Statistical Survey (MRFSS), 31,000 Gulf king mackerel were taken by charter boats in Florida waters in January and February 1991, after the bag limit in the EEZ reverted to zero. This option should be coupled with one of the previous options which reduce the bag limit to extend through a season or provide seasonal subquotas. The intent of this option is to keep the recreational catch within its allocation without the bag limit reverting to zero.

b. Socioeconomic: The beneficiaries of maintaining a Gulf king mackerel bag limit through the fishing year are the South Florida charterboats who have lost winter seasons and those off Texas who lose a June fishery due to closures.

c. Environmental: Seasonal closures would still occur but permitted charterboat operators would not be able to fish in open state waters. This would enhance recovery of overfished stocks but disrupt the income of charterboat fishermen.

Table 6

1989-1990 Recreational Catch of Gulf Group King Mackerel

Wave	Catch 1000 Fish	Cum. Catch, 1000 Fish (Quota = 298)	Cum. Percentage Catch	Cum. Percentage
July-August	44	44	11	15
September-October	104.4	148.4	37	48
November-December	61.6	210	52	70
January-February	40.8	250.8	62	84
March-April	88	338.8	84	114
May-June*	63.7	402.5	100	135

*Bag limit reverted to zero May 21.

I. Modifications of Fishing Years (Currently, April-March for Atlantic and Gulf Spanish Mackerels and Atlantic King Mackerel, and July-June for Gulf King Mackerel

Preferred Option I-1: Section 12.2 is revised as follows:

Section 12.2 Fishing Year

The fishing year for recreational allocations is the calendar year, January 1 through December 31. For all Spanish mackerel and Atlantic group king mackerel, the fishing year for commercial

allocations is April 1 through March 31. For Gulf group king mackerel, the fishing year for commercial allocations is July 1 through June 30.

For other species the fishing year for commercial allocations is the calendar year.

Discussion:

a. Ecological: The fishing year for the recreational allocations is revised to be the calendar year, January through December. Bag limits are to be set seasonally for the following calendar year and in accord with Option H-1 which provides that the bag limit will not revert to zero when the allocation is taken. There is no change in the commercial fishing years, and commercial quotas will continue to be monitored for those periods.

b. Socioeconomic: Currently, bag limits are recommended by the Councils in April but are implemented retroactively in July or August. This season the change in the Atlantic king mackerel bag limit did not become effective until September, though the fishing year began last April. By having all bag limits become effective for the following calendar year, NMFS will have sufficient time for implementation, the states will have the opportunity to adopt compatible regulations for state waters, and more importantly, recreational fishermen can come to expect any changes with the calendar year.

   Because Option H-1 establishes a bag limit for the entire fishing season, this change does not change the regional opportunity for access to fish due to seasonal migrations.

c. Environmental: This action is administrative and will have no impact on the environment if the bag limit does not revert to zero.

Rejected Option I-2: The recreational and commercial fishing year for Gulf and Atlantic groups of king and Spanish mackerels is to be May 1 through April 30. The winter boundary for Atlantic-Gulf king mackerel would change May 1.

Discussion:

a. Ecological: This period closely fits a biological season for the species. In May, the fish will have departed from their winter grounds where the commercial fishery predominantly occurs. April is a transitional month depending on the weather. Following a prolonged, cold winter, the fish may remain on the winter grounds well into April as in 1988 when 653,000 pounds of king mackerel were taken there in the first three weeks of April. In that instance, 25 percent of the next season's quota was taken from the same group of overwintering fish. The May 1 boundary change and fishing year would eliminate this problem.

   A uniform fishing year for all mackerel groups will reduce confusion for fishermen. Recreational catch statistics are tabulated in two-month waves, with March-April being the second wave. Thus, for statistical purposes, the wave is currently being divided equally into two fishing years; though this is unlikely to reflect actual catch.

   Seasonal adjustments are currently being implemented retroactively for three of the four mackerel groups. A change in schedule of the annual assessment would allow all adjustments to be implemented at the beginning of the fishing year.

   The Councils selected the fishing years to begin when the stocks are widely distributed, and no one geographic area would have exclusive access during the first half of the fishing year.

When Amendment 1 was being developed, the technical advisors suggested that April is a transitional period in the biological year, and mid-month would be an appropriate time for the boundary shift. However, for statistical purposes it was suggested the effective date be at the end of a month.

b. Socioeconomic: The scheduling of the fishing year has some allocation effects when an allowable recreational or commercial catch may not extend through a season. A fall opening is favorable to South Florida where a winter fishery would have first opportunity. A spring opening would be more beneficial to the areas of the Northern and Western Gulf and the Atlantic states where the fishery occurs in the warmer months. With this option, some provision should be made to provide for a winter recreational fishing opportunity off South Florida for king mackerel.

c. Environmental: A change in the commercial fishing year would affect geographical allocation by availability. The Councils believe the present commercial seasons are fair, but are reviewing stock identification and fishing years for future consideration for change as data become available. There is no effect on the habitat.

Rejected Option I-3: The recreational and commercial fishing year for all mackerel groups is April 1 through March 31.

Discussion:

a. Ecological: The results would be similar to the May-April fishing year except that there will continue to be occasions when winter schools will remain vulnerable to an April net fishery.

b. Socioeconomic: There would be greater access for the spring-summer-fall fishery and less for the winter fishery.

c. Environmental: There would be limited impact on the fishery itself. There is no effect on the habitat.

Rejected Option I-4: Recreational and commercial fishing year for Gulf king mackerel to be November-October.

Rationale: This option was originally considered in Amendment 1 but was rejected. South Florida would have a fall, winter, and spring season. The Louisiana commercial fishery would be directed at the large, overwintering individuals which have a lower value per pound and comprise the major brood stock for the Gulf group.

Socioeconomic: The commercial fishery in the Gulf would be limited to South Florida and overwintering fish off Louisiana. The recreational quota would be allocated mostly to South Florida with a short summer season in the Northern Gulf.

Environmental: A fall opening would limit commercial fishing to the fall and winter months when heavy net fishing begins on the compact schools. The quota could be quickly taken, and there would be no opportunity for the present summer fishing season.

Rejected Option I-5: No change. Gulf and Atlantic Spanish and Atlantic king mackerel would have a April-March fishing year. Gulf king mackerel would have a July-June fishing year.

Discussion:

a. Ecological: Pre-season adjustments are out of phase. Commercial fishery reopens in April some years on overwintering fish.

b. Socioeconomic: South Florida is deprived of its winter recreational season and the Northern Gulf of its spring season. Commercial fishery is closed for lucrative Lenten season.

c. Environmental: Retention of status quo would not affect the environment. The change of the recreational fishing year in the preferred option is administrative only in its effect.

Rejected Option I-6: The fishing year for all commercial mackerels is to be set for a fishing year of September through August.

Discussion:

a. Ecological: No effect.

b. Socioeconomic: The economic impact would result from first access to available fish during the early portion of the season before the allocation for a species is taken. In September mackerels are moving from the summer grounds to overwintering grounds. Fish are available in Florida and Louisiana. The Florida net fishery for Spanish mackerel begins in November or December and for king mackerel in December. The quota is usually filled about the end of December for eastern zone Gulf king mackerel with a July opening. The closure for western zone Gulf king mackerel (the Louisiana fishery) usually occurs in November with a July opening. A later opening in the western zone would extend the fishery into the schools of large individuals overwintering off Louisiana.

c. Ecological: There could be an impact on the stocks by taking older fish, but the effect is not known.

J. Minimum Size Limits

Preferred Option J-1: Section 12.6.7 Size Limits is revised as follows:

12.6.7.1 Spanish mackerel minimum size limit is 12 inches (30.5 cm) fork length. An undersized commercial catch of up to five percent by weight of the boat catch of Spanish mackerel is allowed.

12.6.7.2.1 Minimum size limit is 20 inches (50.8 cm.) fork length for king mackerel. An undersized commercial catch of up to five percent by weight of the boat catch of king mackerel is allowed.

12.6.7.2 Minimum size is 33 inches (83.8 cm) fork length for cobia.

Discussion:

a. Ecological: This action increases the minimum size limit for king mackerel from 12 inch fork length to 20 inch fork length as a means of enhancing yield, providing more spawners, and reducing the rate of the recreational catch. There is no change for Spanish mackerel and cobia except that reference to total length is deleted to prevent confusion. The tips of mackerel tails are brittle and easily broken in handling, so fork length measure only is preferred. Powers and

Parrack showed the distribution of the 1989-1990 recreational catch of king mackerel by age and size (Table 7). For example, a minimum size limit of 20 inches fork length in the 1989-1990 season could have resulted in a reduction in retained catch of about 38 percent. A large portion of the relatively high recreational harvest of small fish in the year of this analysis was taken in the shore mode of the MRFSS, thus occurring in state-regulated waters. Catch and release mortality is not known. Protection of smaller fish will enable more individuals to reach sexual maturity which begins at age two for some males and age three for some females. Most fish are mature and spawn the following year. An increase in the minimum size (now about 0.5 pounds) will also enhance yield per recruit.

There may also be some benefit from discouraging the highgrading of smaller-caught fish as subsequent larger individuals are landed.

b. Socioeconomic: A reduction in the rate of reaching the recreational allocation will allow a larger bag limit for recreational fishermen; because it reduces the likelihood of exceeding the allocation.

A minimum size limit set at 25-inch fork length or less would have little effect on the commercial fishery as the minimum mesh size of 4-3/4 inches excludes those fish. Small fish are not targeted by hook-and-line commercial fishermen because they are not profitable. Again, almost all are over 25 inches.

A minimum size limit of 25 inches which approximates the maximum yield per recruit was considered and rejected in the original FMP because of its possible adverse impact on the August recreational fishery off the Florida Panhandle. It was estimated that catch would be reduced by about 80 percent with the 25 inch minimum size limit. A minimum size limit of 20 inches would be more acceptable in that area and would still reduce landings by about 38 percent. A 20-inch king mackerel weighs about two pounds.

c. Environmental: The effect on the fishery of the increase in size of king mackerel caught and retained by fishermen would be that more fish would be allowed to reach maturity at age 3 (about 23 inches) instead of being taken at age 1. This will tend to slow harvest of recreational allocation where these smaller fish are now taken. The results are beneficial to the recovery of overfished stocks.

TABLE 7

GULF KING MACKEREL
RECREATIONAL CATCH BY SIZE AND AGE
IN 1989-1990

(Adapted from Powers and Parrack, 1991)

Age	Percent of Recreational Catch at Age	Approximate Length at Age (Fork Length in Inches)	Approximate Weight in Pounds
0	0.35	10	0.3
1	27.05	14	0.8
2	10.47	19	1.9
3	30.38	23	3.5
4	18.49	27	5.6

Rejected Option J-2: Increase the minimum size limit for king mackerel from 12-inch fork length (14-inch total length) to 20 inch fork length or the more stringent of state or federal size regulations.

Discussion:

a. Ecological: There is some interest in a larger minimum size limit in North Carolina, and this wording would allow its enforcement. The range of maximum yield per recruit is broad and is near 25 inch fork length.

b. Socioeconomic: Compatibility of state-federal regulations would enhance enforcement; however, differences in federal regulations within the EEZ would cause confusion. There may also be problems of preemption of state size limits with this concept.

c. Environmental: Minimum sizes greater than 20-inches would allow more fish to reach maturity. Higher yields can be attained at 24-inches. Both results would be beneficial to the fishery. The Councils, however, rejected the option because of confusion that might result from geographic variations in the size limit.

Rejected Option J-3: No change. Minimum size limit for king mackerel remains 12-inch fork length (14-inch total length).

Discussion:

a. Ecological: This size limit has minimal effect as very few king mackerel less than 12 inches are taken in the directed fishery. The measure was implemented to facilitate identification and enforcement of the 12-inch size limit on Spanish mackerel.

b. Socioeconomic: This measure has little social impact because few fish under this size are usually taken in the directed fishery. Because bag limits differ between Spanish and king mackerel, this action does not require additional ability for species identification.

c. Environmental: Status quo was rejected because the preferred option was judged to provide greater benefits to the fishery and users.

VI. Environmental Consequences

Environmental Consequences of proposed actions and alternatives have been discussed with each proposed action.

Physical Environment

The actions 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) has no adverse impact on the bottom substrate or other habitat. Continuing studies have provided no new information that further defines the relationship between stocks and habitat.

Fishing Resources

The proposed action is intended to protect coastal pelagic fish stocks from recruitment and growth overfishing while allocating allowable catch among fishermen.

Human Environment and Social Impact Assessment

The management of fisheries may directly affect the human environment. Social data on users in the mackerel fishery affected by this amendment are sparse. Most of the known impact is of an economic nature. A determination of the net impact on the users of the resource by the proposed action will better enable the Councils and the Regional Director to establish a more responsive management regime. This is considered in the attached regulatory impact review and initial regulatory flexibility analysis. The impact on fishery resource users in adjacent areas has been coordinated with the appropriate Council.

Effect on Endangered Species and Marine Mammals

NMFS conducted a consultation under Section 7 of the Endangered Species Act and prepared a biological opinion. It found that this amendment is not likely to jeopardize endangered species and marine mammals. However, gill activity could adversely affect recovery of sea turtles; though there is no evidence of this. Additional information is needed.

Effect on Wetlands

The proposed action has no effect on any flood plains, wetlands, trails, or rivers.

Vessel Safety

The proposal for implementation of daily commercial trip possession limits for Atlantic Spanish 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 opportunity to compensate for unsafe weather for fishing. It was felt that these possession limits posed fewer safety problems than the current derby fishing in which vessels tend to fish as hard as possible before the quota is taken.

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.

Data collection

This proposed action does not contain a collection of information requirement and, therefore, is not subject to the Paperwork Reduction Act.

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.

Federalism

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

Coastal Zone Management Consistency

The Assistant Administrator has determined that this proposed action will be implemented in a manner that is consistent to the maximum extent practicable with the approved coastal zone management program of the Gulf, South Atlantic and Mid-Atlantic states. This determination has been admitted for review by these states under Section 307 of the Coastal Zone Management Act.

VII. Conclusion

Mitigation measures related to the proposed action: No significant environmental impacts are expected; therefore, no mitigating actions are proposed.

Unavoidable adverse effects with implementation of the proposed actions and any negative net economic benefits are discussed in the Regulatory Impact Review.

Irreversible and irretrievable commitment of resources involved with the proposed action government costs are not expected to change significantly, if at all, as a result of this action.

Recommendation

Finding of No Significant Environmental Impact

In view of the analysis presented in this document, I have determined that the proposed action in this amendment to the Fishery Management Plan for Coastal Migratory Coastal Pelagics would not significantly affect the quality of the human environment with specific reference to the criteria contained in NDM 02-10 implementing the National Environmental Policy Act. Accordingly, the preparation of a Supplemental Environmental Impact Statement for this proposed action is not necessary.

Approved: _____ _____

Assistant/Administrator for Fisheries Date

Responsible Agencies

Gulf of Mexico Fishery Management Council
Lincoln Center, Suite 331
5401 West Kennedy Boulevard
Tampa, Florida 33609
813-228-2815

South Atlantic Fishery Management Council
Southpark Building, Suite 306
1 Southpark Circle
Charleston, South Carolina 29407

List of Agencies and Persons Consulted

Gulf of Mexico and South Atlantic Fishery Management Councils
- Scientific and Statistical Committees
- Advisory Panels
- Stock Assessment Panel

Coastal Zone Management Programs

National Marine Fisheries Service
- Southeast Fisheries Center
- Fisheries Operations Branch - Southeast Regional Office

List of Preparers

Gulf of Mexico Fishery Management Council
- Terrance R. Leary, Biologist
- Antonio B. Lamberte, Ph.D., Economist

South Atlantic Fishery Management Council
- Steven A. Berkeley, Biologist
- John Gauvin, Economist

Date and Location of Public Hearings

GULF COUNCIL HEARINGS

Date	City	Time	Location
November 19, 1991	Port Aransas, Texas	7:00 p.m.	University of Texas
November 25, 1991	Key West, Florida	7:00 p.m.	Old City Hall
December 2, 1991	Thibodaux, Louisiana	7:00 p.m.	Nichols State Univ-Guidry Stadium Century Club Room
December 4, 1991	Biloxi, Mississippi	7:00 p.m.	Mississippi Beach Resort
December 5, 1991	Mobile, Alabama	7:00 p.m.	Radisson Admiral Semmes
December 11, 1991	Panama City, Florida	9:00 a.m.	NMFS, Panama City Lab
December 12, 1991	Tampa, Florida	7:00 p.m.	Ramada Airport Hotel

SOUTH ATLANTIC COUNCIL HEARINGS

Date	City	Time	Location
November 26, 1991	West Palm Beach, Florida	6:00 p.m.	Royce Hotel
December 9, 1991	Norfolk, Virginia	6:00 p.m.	Quality Inn Lake Wright
December 9, 1991	Cocoa Beach, Florida	6:00 p.m.	Cocoa Beach Hilton
December 10, 1991	Manteo, North Carolina	6:00 p.m.	North Carolina Aquarium on Roanoke Island
December 10, 1991	Jacksonville Beach, Florida	6:00 p.m.	Holiday Inn - Oceanfront
December 11, 1991	Brunswick, Georgia	6:00 p.m.	Glynn Mall Suites Hotel
December 11, 1991	Morehead City, North Carolina	6:00 p.m.	Carteret Community College
December 12, 1991	Wilmington, North Carolina	6:00 p.m.	New Hanover County Courthouse
December 13, 1991	Charleston, South Carolina	6:00 p.m.	South Carolina Wildlife and Marine Resources Department

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Beardsley, G.L. 1967. Age, growth, and reproduction of the dolphin. Coryphaena hippurus, in the Straits of Florida. Copeia 1967: 441-451.

McKenna, J. E. Jr. 1991. Personal Communication. Florida Department of Natural Resources, St. Petersburg, Florida.

Palko, J.J., G. L. Beardsley, and W.J. Richards. 1982 Synopsis of the Biological Data on Dolphin - Fishes. Coryphaena hippurus Linnaeus and Coryphaena equisells Linnaeus. NOAA Technical Report Circular NMFS 44.

Powers, J.E., and N.C. Parrack, 1991. Ramifications of 1991 Mackerel Stock Assessment, NMFS-SEFC.

Stock Assessment Panel. 1992. 1992 Report of the Stock Assessment Panel. Gulf and South Atlantic Fishery Management Councils. Mimeo. 32 p.

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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 assessment 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 to provide 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} or $F_{0.1}$.
   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.

   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.

      The target level percentage shall not be less than 20 percent. (Based on the recommendation of the assessment panel and approval by the SSC, the Councils and RD have approved a SPR of 30 percent for king and Spanish mackerels.)

   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 <u>not to exceed 12 years for king mackerel beginning in 1985 and 7 years for Spanish mackerel beginning in 1987</u>.

   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 assessment 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 report 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 Councils consider the panel's report. The Councils may convene the joint Advisory Panel and 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 Director of the Southeast Region of the National Marine Fisheries Service (RD) 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 RD will review the Councils' recommendations, supporting rationale, public comments, and other relevant information, and if he concurs with the recommendation, will draft regulations in accordance with the recommendations. He may also reject the recommendation, providing written reasons for rejection. In the event the RD rejects the recommendations, 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 Council's recommendation, the bag limit reverts to one fish per person per day.

F. If the RD 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 which may be implemented by the Regional Director by notice in the Federal Register include:

1. Adjustment of the point estimates of MSY for cobia, for Spanish mackerel within a range of 15.7 million pounds to 19.7 million pounds, and for king mackerel within a range of 21.9 million pounds to 35.2 million pounds.

2. Setting total allowable catches (TACs) for each stock or 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 ten 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 FMP.

   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.

Appendix II

Permits

Section 12.6.4.1

A. Commercial Vessel Permits

Annual permits are required for vessels fishing under the commercial quota on king or Spanish mackerel. These vessels are exempt from the recreational bag limit. To be eligible for a commercial permit, the owner or operator of the vessel must be able to show he derived more than ten percent of his earned income from commercial fishing, i.e., the sale of his catch during one of three preceding calendar years.

An operator who is issued a permit must be aboard the vessel when it is operating under the permit. For a corporation to be eligible for a permit, a shareholder or officer of the corporation or the vessel operator must qualify.

Vessels fishing a group of fish for which commercial permits are issued and which do not possess a permit are presumed to be recreational boats and are subject to recreational bag limits.

Qualifying charterboats may obtain commercial permits to fish under the commercial quotas but must adhere to bag limits when under charter or when more than three persons are aboard.

Permits are transferable on the sale of vessel with new owner being responsible for changing name and address. The new owner or operator must be able to qualify.

Boats with permits must cease fishing for that group or zone for mackerel when its commercial quota is reached and the season closed. Charterboats with commercial permits may continue to fish under the bag limit.

A fee may be charged for the permit, but shall not exceed administrative costs incurred in issuing the permits. Fees are expected to be about $34.00.

The commercial vessel's official number is to be displayed on the port and starboard sides of the deck house or hull and on an appropriate weather deck so as to be clearly visible from enforcement vessels and aircraft. The number is to be in black Arabic numerals at least 18 inches in height for vessels over 65 feet in length and 10 inches in height for all other vessels.

12.6.4.1 B Charterboat Permits

Annual permits are required for charterboats fishing for coastal migratory pelagics for hire. Charterboats normally fish under bag limits but may also be eligible to obtain commercial permits to fish under the commercial quota when not under charter.

APPENDIX III

Allocations

12.6.3.1 King Mackerel Allocation

1. The TAC's for king mackerel have been divided between recreational and commercial fishermen based on catch ratios from 1975 to 1979.

2. The TAC for king mackerel in the Gulf group is to be allocated with 68 percent for the recreational fishermen and 32 percent for the commercial fishermen.

   When the Council's stock assessment panel is able to provide ABC ranges for separate eastern and western subgroups within the Gulf migratory group, the separation is to be at the Florida-Alabama border and is based on allele frequencies. The TACs for both subgroups of Gulf king mackerel are to continue to be allocated at 68 percent for recreational and 32 percent for commercial fishermen and are to be first implemented with the seasonal adjustment for that fishing year under the framework procedure.

3. Until separate ABC ranges and TACs for eastern and western Gulf subgroups can be developed, the commercial allocation for the Gulf migratory group is divided between eastern and western zones, with the separation to be the Florida-Alabama border and extending south. The allocation is divided with 69 percent of the commercial allocation for the eastern zone and 31 percent for the western zone.

4. For the Atlantic group of king mackerel, the TAC is allocated with 62.9 percent for recreational and 37.1 percent for commercial fishermen. No more than 0.4 million pounds may be harvested by purse seine.

12.6.3.3 Spanish Mackerel Allocation

1. Allocation of TAC for the Gulf migratory group of Spanish mackerel is to be divided between commercial and recreational fishermen based on the average ratio of the catch for the period 1979 through 1985. The ratio is to be 57 percent for commercial fishermen and 43 percent for recreational fishermen.

2. Allocation of TAC for the Atlantic group of Spanish mackerel is to be 50 percent for commercial fishermen and 50 percent for recreational fishermen.

APPENDIX IV

CONDITION OF THE STOCKS

(From the 1992 Report of the Mackerel Stock Assessment Panel)

Gulf Migratory Group King Mackerel

Over the time series from 1979 to 1990, U.S. landings from the Gulf group have ranged from 2.9 to 19.9 million pounds. Comparisons of annual landings are confounded by regulations implemented which restricted landings. The expected yield estimated by the Panel for the U.S. Gulf group of king mackerel in FY 91/92 is 7.1 million pounds.

The maximum fishing mortality rate was estimated for the directed fishery for age 3 fish, and including bycatch (age 0 fish), and was 0.31. This value for the directed fishery is less than that since the advent of regulations in 1985. The estimated F of .31 at age 3 is higher than the target of $F_{30\ \text{percent SPR}}$ (.19).

For the majority of the available time series, observed SPR (spawning potential ratio) has generally been less than 18 percent of maximum spawning potential. Realized or cohort specific SPR ranged from 6 percent-18 percent during the period from 1979-1990. Over the past few years SPR has increased, indicating recovery. However, over the past ten years, SPR has been reduced 20 to 30 percent by trawl bycatch.

The panel recommends that this stock should be considered overfished when realized SPR is less than 30 percent relative to maximum spawning potential. The current SPR is 19 percent. While the stock is still considered overfished, estimated SPR is higher than that estimated for the previous year in the previous assessment. Overage of catches in the past year and in the future will continue to reduce the ABC potential for this stock. Note that the most recent rates of fishing have been above the $F_{30\ \text{percent SPR}}$ criterion.

Atlantic Migratory Group King Mackerel

Catches have remained relatively stable since 1981. Catch estimates for 1979 and 1980 should be given less reliance because of initial estimation procedures in the MRFSS. Total yield varied between 5.8 and 9.4 million pounds during the period FY 1981 through FY 1990. Comparisons of annual landings are confounded by regulations implemented which restricted landings. The panel estimate of expected yield from this group during FY 91/92 is 6.4 million pounds.

Estimates of catch-at-age indicate that recruitment in recent years was higher than estimated early to mid-1980 levels. These year classes are beginning to enter the fishery in significant numbers as shown by VPA results and the basic catch-at-age data.

There appears to be an adequate spawning biomass present which should continue to increase in the future if increases in fishing mortality rates do not occur. SPR is estimated to generally be in excess of 30 percent of maximum spawning potential between fishing years 1981 and 1990. SPR ranged from 33 percent to 47 percent during this period.

The panel believes the Atlantic migratory group of king mackerel is not overfished because the fishing mortality rate is less than $F_{30\ \text{percent SPR}}$ and the spawning stock appears to be adequate. Presently, the SPR level is 47 percent.

Gulf Migratory Group Spanish Mackerel

Yields of Spanish mackerel from U.S. catches have ranged from 3.7 to 7.2 million pounds between FY 84/85 and 90/91. The expected U.S. yield for this group in FY 91/92 for both the recreational and commercial fisheries is 5.7 million pounds.

Since 1984, SPR has ranged from 20 to 29.7 percent of maximum spawning potential. The current rate of fishing is estimated to be less than $F_{30\ \text{percent SPR}}$. The SPR is estimated to be below 30 percent of maximum spawning potential. Presently, it is 29 percent, which is close to the 30 percent criterion. However, the stock has not recovered to the point where the panel feels the risk of recruitment overfishing is no longer a concern and, thus the Gulf group should be considered overfished.

Atlantic Migratory Group Spanish Mackerel

As with the Gulf group, the spawning biomass of the Atlantic Migratory Group of Spanish mackerel has been reduced to levels that are less than occurred in the 1970s and less than that which will produce maximum sustainable yields. However, fishing mortalities in the most recent years appear to be less than in 1984. The commercial quota had regularly been met within the first fishing month of each fishing year. The yield from this group has ranged from 3.5 to 6.3 million pounds between FY 1984 and 1990. The expected yield from this group in FY 91/92 is 6.2 million pounds.

We estimate that there have been recent increases in the spawning biomass which are expected to speed the stock toward recovery. SPR increased to close to 30 percent in 1990.

The estimated fishing mortality rate is less than the $F_{30\ \text{percent SPR}}$ rate and the SPR is near 30 percent when calculated using the weighted method (weighted by cohort strength). When the unweighted method is used to calculate realized SPR the level is greater than 30 percent. As such, Atlantic Spanish mackerel may be near its MSY level and longer overfished.

COBIA

Preliminary estimates from the Coastal Pelagic Management Plan set Maximum Sustainable Yield (MSY) at 1 million lbs. This estimate was based on the historic commercial fishery and did not recognize the magnitude of the recreational fishery. Commercial landings in the Gulf have been increasing while commercial landings in the Atlantic have remained relatively stable. Recreational landings appear to be more variable. Recreational catch estimates will tend to fluctuate and have large confidence limits due to the nature of the fishery as well as estimation procedures. Atlantic combined landings have remained relatively constant at approximately 0.9 million pounds, while Gulf catches have remained constant at approximately 1.3 million pounds. The combined catch of 2.2 million pounds far exceeds initial estimates of MSY, but have remained stable for greater than 1 generation period. Initial MYS estimates may have been low, as stable catches in excess of MSY are unlikely. The average catch from 1984-1991 appears to be stable and sustainable; therefore, the panel recommends replacement of MSY with 2.2 million pounds.

As limited size data are available and age at size is highly variable, cohorts are not clearly defined, and parameters are estimated with high uncertainty. A catch curve analysis was used to estimate instantaneous total mortality rate. Instantaneous fishing mortality rate for cobia in the U.S. Atlantic and Gulf was estimated at 0.15 using an estimated natural mortality rate of 0.4. Estimates of fishing mortality indicate the cobia fishery is operating at a level lower than $F_{30\ \text{percent SPR}}$ which was estimated at 0.4. Cobia are generally fished under a length limit that allows reproduction prior to recruitment to the fishery. This combined with restrictive bag limits appears to be acting to maintain F at a level which has prevented overfishing. Although current fishing mortality is well below $F_{30\ \text{percent SPR}}$ the panel does not recommend changes in regulations due to the uncertainty in the estimated parameters.

Dolphin

Commercial landings in the Atlantic have nearly tripled in weight and numbers since 1984 while Gulf catches have remained relatively stable. The commercial catch accounts for roughly 10 percent of the total landings, but is increasing in both the Atlantic and Gulf. Much of the commercial catch may be derived from recreational anglers that sell their catch. The entry of a new directed long line fishery in the Gulf was noted. Recreational landings appear to be more variable but have also generally increased since 1984. Atlantic combined landings have remained relatively constant at under 1 million pounds, except for peaks in 1985 and 1989. Gulf catches have fluctuated form 1.2 to 1.8 million pounds.

Dolphin are highly migratory, widely distributed, fast growing, short lived fish; and little is known about the stock structure. Thus, cohorts are not clearly defined. A catch curve analysis was used to estimate fishing mortality. Due to uncertainty in estimating natural mortality, fishing mortality was estimated assuming that $M = 0.1$. Under this condition, estimates of F do not exceed $F_{30\ \text{percent SPR}}$. Fluctuations in catch are expected, as population levels for dolphin are driven by recruitment variability.

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