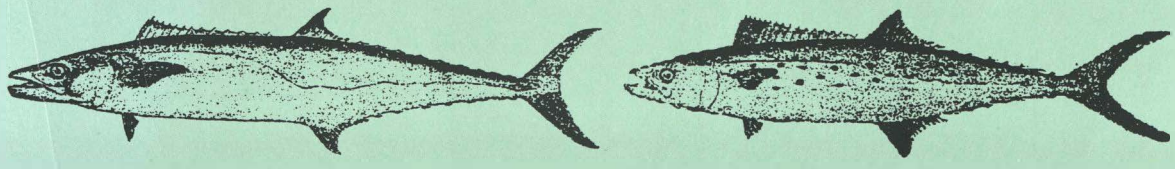
SAFMC011

SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL
FRAMEWORK SEASONAL ADJUSTMENT OF HARVEST LEVELS AND RELATED MEASURES UNDER THE FISHERY MANAGEMENT PLAN FOR THE COASTAL MIGRATORY PELAGIC RESOURCES (MACKERELS) IN THE GULF OF MEXICO AND SOUTH ATLANTIC REGION

(INCLUDING REGULATORY IMPACT REVIEW, SOCIAL IMPACT ASSESSMENT/FISHERY IMPACT STATEMENT AND ENVIRONMENTAL ASSESSMENT)

JANUARY 2000



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FRAMEWORK SEASONAL ADJUSTMENT COVER SHEET

This integrated document contains all elements of the Framework Seasonal Adjustment, Environmental Assessment (EA), Regulatory Impact Review (RIR) and Social Impact Assessment/Fishery Impact Statement (SIA/FIS).

National Environmental Policy Act (NEPA) regulations require certain information be presented to define the issues and provide a clear basis for choice among options by the decision maker and the public. The Council s documents must also conform to Magnuson-Stevens Act and Other Applicable Law requirements. National Environmental Policy Act regulations are one of the Other Applicable Laws referenced. The South Atlantic Council s policy is to consolidate Magnuson-Stevens Act and Other Applicable Law (including NEPA) requirements into one non-duplicative and non-repetitive document. This results in a document that is more easily read by the general public and saves large quantities of paper, reduces copying requirements and saves money on postage costs. The Council concluded this is the most cost effective and efficient manner to meet the many requirements faced in preparing fishery management plans, amendments and framework seasonal adjustments.

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NAME OF ACTION

(X) Administrative ( ) Legislative

SUMMARY

The proposed management program is to implement the following:

1) Increase the Total Allowable Catch (TAC) to 10.0 million pounds for Atlantic migratory group king mackerel. The commercial allocation is 3.71 million pounds (37.1%) and the recreational allocation is 6.29 million pounds (62.9%) which, based on an average recreational weight of 10.46 pounds in 1998/99 from the 1999 stock assessment, equates to 601,338 fish.

2) Increase the Total Allowable Catch (TAC) to 7.04 million pounds for Atlantic migratory group Spanish mackerel. The commercial allocation is 3.87 million pounds (55%) and the recreational allocation is 3.17 million pounds (45%) which, based on an average recreational weight of 1.56 pounds in 1998/99 from the 1999 stock assessment, equates to 2,032,000 fish.

3) Increase the recreational bag limit from 10 to 15 fish per person per day for Atlantic migratory group Spanish mackerel.

4) Increase the Atlantic migratory group king mackerel trip limit in the Southern Zone (Brevard through Miami-Dade Counties, FL) to 75 fish.

5) Modify the Atlantic migratory group Spanish mackerel trip limits for the Southern Zone (south of the Florida/Georgia boundary):

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

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

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

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

6) Modify MSY and the status determination criteria (using ranges) to reflect the new biomass-based values.

1.0 HISTORY OF MANAGEMENT

The Fishery Management Plan for Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic (FMP), approved in 1982 and implemented by regulations effective in February of 1983, treated king and Spanish mackerel each as one U.S. stock. The present management regime for mackerel recognizes two migratory groups of king and Spanish mackerel, the Gulf Migratory Group and the Atlantic Migratory Group. King mackerel from these two groups seasonally mix on the east coast of Florida. For management and assessment purposes, a boundary between groups of king mackerel (Figure 1) was specified as the Volusia/Flagler County border on the Florida east coast in the winter (November 1 - March 31) and the Monroe/Collier County border on the Florida southwest coast in the summer (April 1 - October 31). Spanish mackerel mix in south Florida but abundance trends along each coast of Florida are different indicating sufficient isolation between the two migratory groups. The boundary for Spanish mackerel is fixed at the Miami-Dade/Monroe County border on Florida's southeast coast. Allocations were established for recreational and commercial fisheries, and the commercial allocation was divided between net and hook-and-line fishermen. For the purpose of allocating a limited resource among users, the management plan has set ratios based on historic unregulated catches. The Atlantic Migratory Group of king mackerel is allocated with 62.9% to recreational fishermen and 37.1% to commercial fishermen. The Atlantic Migratory Group of Spanish mackerel is presently allocated 55% to commercial fishermen and 45% to recreational fishermen.

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

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

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

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

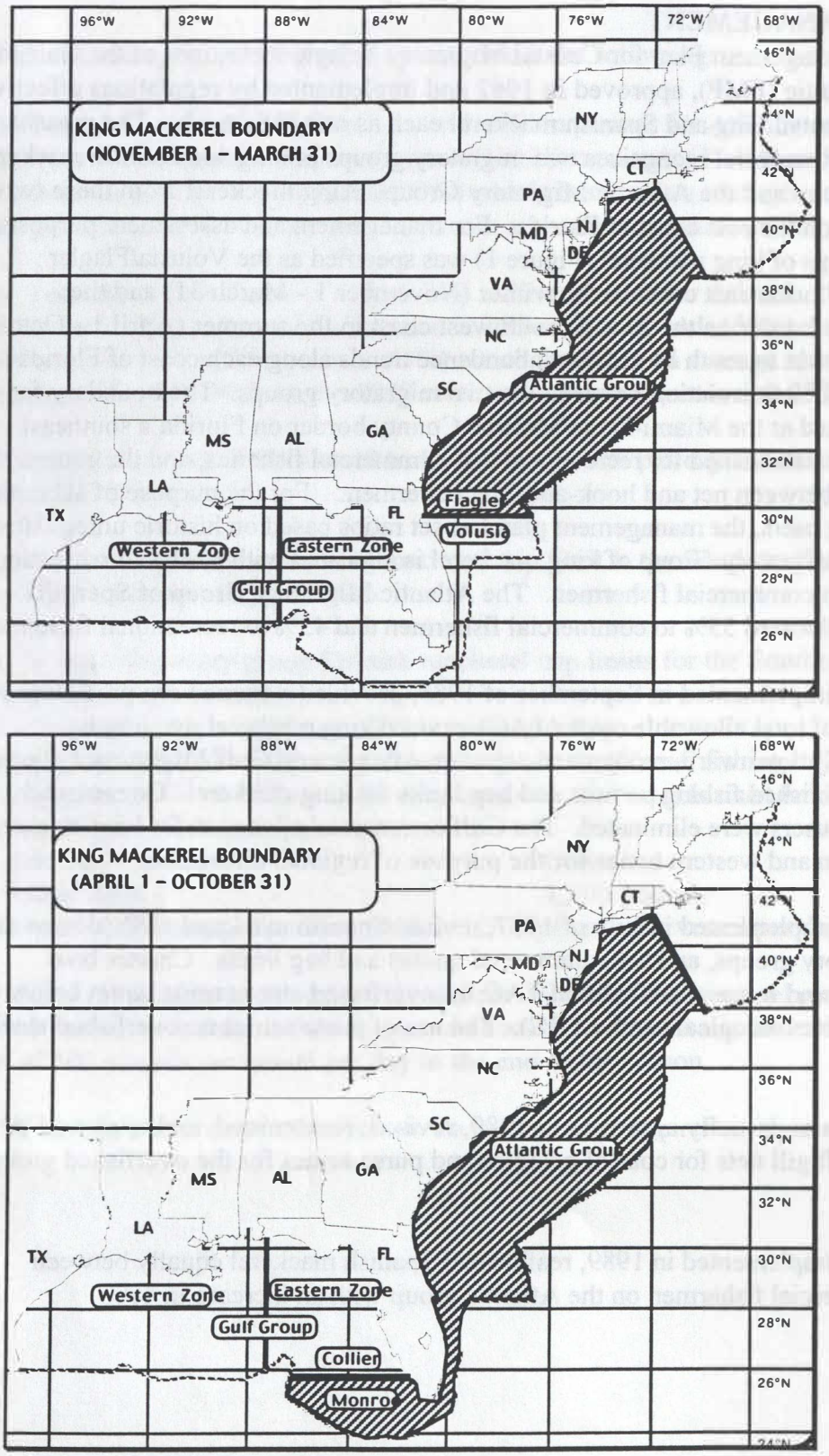


Figure 1. Seasonal boundary between Atlantic and Gulf Migratory Groups of king mackerel. (Source: SAFMC Staff)

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

1. Extended management area for Atlantic groups of mackerels through the Mid- Atlantic Fishery Management Council s (MAFMC) area of jurisdiction;
2. Revised problems in the fishery and plan objectives;
3. Revised the fishing year for Gulf Spanish mackerel from July-June to April-March;
4. Revised the definition of Overfishing ;
5. Added cobia to the annual stock assessment procedure;
6. Provided that the South Atlantic Fishery Management Council (SAFMC) will be responsible for pre-season adjustments of TACs and bag limits for the Atlantic Migratory Groups of mackerels while the Gulf Council will be responsible for Gulf Migratory Groups;
7. 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;
8. Redefined recreational bag limits as daily limits;
9. Deleted provision specifying that bag limit catch of mackerel may be sold;
10. Provided guidelines for corporate commercial vessel permits;
11. Specified that Gulf group king mackerel may be taken only by hook-and-line and run- around gill nets;
12. Imposed a bag limit of two cobia per person per day for all fishermen;
13. Established a minimum size of 12-inch (30.5 cm) fork length or 14-inch (35.6 cm) total length for king mackerel and included a definition of "conflict" to provide guidance to the Secretary.

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

1. Identified additional problems and an objective in the fishery;
2. Provided for rebuilding overfished stocks of mackerels within specific periods;
3. Provided for biennial assessments and adjustments;
4. Provided for more seasonal adjustment actions, including size limits, vessel trip limits, closed seasons or areas, and gear restrictions;
5. Allowed Gulf king mackerel stock identification and allocation when appropriate;
6. Provided for commercial Atlantic Spanish mackerel possession limits;
7. Changed commercial permit requirements to allow qualification in one of three preceding years;
8. Discontinued the reversion of the bag limit to zero when the recreational quota is filled;
9. Modified the recreational fishing year to the calendar; and
10. Changed minimum size limit for king mackerel to 20 inches fork length, and changed all size limit measures to fork length only.

Amendment 7, implemented in August 1994, made the following changes:

1. Suballocated the eastern zone Gulf Migratory Group of king mackerel commercial quota at the Miami-Dade/Monroe County line with 50% in the northern area (Miami-Dade through Volusia County) and 50% in the southwestern area (Monroe to the Florida/Alabama border);
2. Further suballocated within the two areas between net and hook-and-line fishermen with no allocation by gear in the northern area and 50% hook-and-line/50% net in the southwestern area; and

3. Require permits to specify gear type fished: A gear permit endorsement for the use of nets is required for taking Gulf group king mackerel in the southern area. Permittees with the net endorsement may fish for king mackerel only with nets in that area.

Amendment 8 implemented in March 1998, made the following changes:

1. Identified additional problems in the fishery.
2. Specified allowable gear.
3. Established a moratorium on new commercial king mackerel permits, and provide for transferability of permits during the moratorium.
4. Revised qualifications for a commercial permit.
5. Extended the management area of cobia through New York.
6. Allowed retention of up to 5 cut-off (damaged) king mackerel on vessels with commercial trip limits.
7. Revised the seasonal framework procedures to:
    a. Delete a procedure for subdividing the Gulf migratory group of king mackerel.
    b. Request that the stock assessment panel provide additional information on spawning potential ratios and mixing of king mackerel migratory groups.
    c. Provide for consideration of public comment.
    d. Redefine overfishing and allow for adjustment by framework procedure.
    e. Allow changes in allocation ratio of Atlantic Spanish mackerel.
    f. Allow setting zero bag limits.
    g. Allow gear regulation including prohibition.
    h. Provide that the South Atlantic Fishery Management Council is to set vessel trip limits, closed seasons or areas, or gear restrictions within the commercial suballocation for Gulf king mackerel for the northern area of the Eastern Zone (Miami-Dade-Volusia Counties, Florida).
    i. Provide that the Councils' request for seasonal adjustments, if approved, must be implemented in 60 days.
    j. Clarify that the Regional Director of the National Marine Fisheries Service (NMFS) may implement quota closures and reopenings when the quota is filled.

Amendment 9, currently under review by NMFS would:

1. Reallocate the percentage of the commercial allocation of TAC for the North Area (Florida east coast) and South/West Area (Florida west coast) of the Eastern Zone to 46.15% North and 53.85% South/West and retain the recreational and commercial allocations of TAC at 68% recreational and 32% commercial. (check the federal register notice).
2. Subdivide the commercial hook-and-line king mackerel allocation for the Gulf group, Eastern Zone, South/West Area (Florida west coast) by establishing 2 subzones with a dividing line between the two subzones at the Collier/Lee County line.
3. Establish regional allocations for the west coast of Florida based on the 2 subzones with 7.7% of the Eastern Zone allocation of TAC being allowed from Subzone 2 and the remaining 92.3% being allocated as follows: 50% Florida east coast; 50% Florida west coast; 50% Net Fishery; 50% Hook and Line Fishery.
4. Establish a moratorium on the issuance of commercial king mackerel gill-net endorsements and allow re-issuance of gill net endorsements to only those vessels that: (1) had a commercial mackerel permit with a gill net endorsement on or before the moratorium control date of

October 16, 1995 (Amendment 8), and (2) had landings of king mackerel using a gill net in one of the two fishing years 1995-96 or 1996-97 as verified by NMFS or trip tickets from the FDEP; allow transfer of gill net endorsements to immediate family members (son, daughter, father, mother, or spouse) only; and prohibit the use of gill nets or any other net gear for the harvest of Gulf group king mackerel south of an east/west line at the Collier/Lee County line.

5. Allow the retention and sale of cut off (damaged) legal-sized king and Spanish mackerel within established trip limits.

Amendment 10 incorporated essential fish habitat provisions for the South Atlantic Fishery Management Council. To date this has not been implemented.

Amendment 11 included proposals for mackerel in the SAFMC's Comprehensive Amendment Addressing Sustainable Fishery Act Definitions and other Provisions in Fishery Management Plans of the South Atlantic Region. This was partially approved on May 19, 1999.

Amendment 12, currently going through the informal review and public hearing process proposes to extend the commercial king mackerel permit moratorium from its current expiration date of October 15, 2000 with a preferred alternative to extend the permit moratorium to October 15, 2005, or until replaced with a license limitation, limited access, and/or ITQ or IFQ, whichever occurs first.

1.1 Management Objectives

The management objectives of the Mackerel Fishery Management Plan as modified are:

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 1970 s, which is prior to the development of the deep water run-around gill-net fishery and when the resource was not overfished.
6. To minimize waste and bycatch in the fishery.
7. To provide appropriate management to address specific migratory groups of king mackerel.
8. To optimize the social and economic benefits of the coastal migratory pelagic fisheries.

1.2 Issues/Problems to be Considered

The problems (issues) listed in the Mackerel Fishery Management Plan, as modified through Amendment 8, are:

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 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.

11. Localized reduction of fish in abundance due to high fishing pressure.

12. Disruption of markets.

2.0 PURPOSE AND NEED

2.1 Issues/Problems Requiring Regulatory Amendment

The Council based the proposed actions in this regulatory amendment on the 1999 Stock Assessment Update (MSAP, 1999); the 1999 SAFE Report for King Mackerel, Spanish Mackerel, and Cobia (SAFMC, 1999); input from the Scientific and Statistical Committee; input from the Mackerel Advisory Panel; and public input during the June 1999 Council meeting. Based on the Allowable Biological Catch (ABC) as determined from the 1999 Stock Assessment Report, this amendment proposes to adjust Total Allowable Catch (TAC) for Atlantic migratory group king mackerel and Atlantic migratory group Spanish mackerel. An increased bag limit for Atlantic Spanish mackerel is proposed. The Council is adjusting trip limits and incorporating biomass-based maximum sustainable yield (MSY) and status determination criteria.

The Mackerel Stock Assessment Panel (MSAP) reviewed several estimates of mackerel bycatch in the southeast Atlantic shrimp trawl fisheries, but concluded that all estimates were imprecise and showed too much variability to be incorporated into the assessment. Although the panel recognizes that bycatch of both Spanish and king mackerel occurs in the Atlantic shrimp trawl fisheries, it was concluded that to-date no acceptable method of estimating the magnitude of that bycatch has been derived. The panel indicated the best approach was to estimate the ABC ranges without including these bycatch estimates, but noted that the status of the stock could be overestimated if bycatch is occurring (MSAP, 1998 & 1999). Because bycatch estimates were not incorporated into the stock assessment, the SSC encouraged the Council to be conservative in choosing TACs.

The ABC, TAC, user group allocations and bag limits for Atlantic Migratory Group king and Spanish mackerel are as follows:

Catch Specifications Currently in Effect.

	ABC	TAC	COMM	REC
King Mackerel	8.4 - 11.9 Mlb	8.4 Mlb	3.12 Mlb	5.28 Mlb
Spanish Mackerel	5.4 - 8.2 Mlb	6.6 Mlb	3.63 Mlb	2.97 Mlb

*Note: Mlb = million pounds

Catch Specifications Proposed.

	ABC	TAC	COMM	REC
King Mackerel	8.9 - 13.3 Mlb	10.0 Mlb	3.71 Mlb	6.29 Mlb
Spanish Mackerel	5.7 - 9.0 Mlb	7.04 Mlb	3.91 Mlb	3.20 Mlb

*Note: Mlb = million pounds

The MSAP recommended a median TAC value of 10.0 million pounds for Atlantic migratory group king mackerel.

The MSAP recommended a median TAC value of 7.1 million pounds for Atlantic migratory group Spanish mackerel. The existing framework allows the Council to set TAC no higher than 10% above the best point estimate for maximum sustainable yield (MSY). With the 1999 estimate of MSY equal to 6.4 million pounds, the Council is limited to setting TAC for Atlantic Migratory Group Spanish mackerel at 7.04 million pounds.

With the proposed increase in TAC for Atlantic group king mackerel, the Council felt that there is less risk of the commercial sector exceeding its quota, thus the trip limit in the southern zone is being increased from 50 to 75 fish to allow fishermen adequate access to the resource.

In response to a request from the fishing industry, the Council is proposing to modify the Atlantic migratory group Spanish mackerel trip limit. The proposed change will allow fishermen a greater opportunity to harvest their quota. The reduced number of vessels will allow adequate tracking of the quota.

In response to the recreational fishery not harvesting their allocation of Spanish mackerel, the State of Florida and the Gulf Council proposed increasing the bag limit from 10 to 15 fish per person per day. The South Atlantic Council is also proposing to raise the bag limit to allow the recreational sector to harvest their allocation and for consistency in Florida which will increase enforcement and voluntary compliance. This will provide additional benefits to anglers who are currently constrained by the existing bag limit.

The Magnuson-Stevens Act (1996) requires that the Councils incorporate biomass-based estimates for MSY and status determination criteria. The Comprehensive SFA Amendment (SAFMC, 1998c) described how these values would be added once they were provided by the NMFS. These values were provided in the 1999 Assessment Panel Report (MSAP, 1999) and are being added via the framework.

2.2 Description of the Fishery

King and Spanish mackerel are major target species of important commercial fisheries in Florida and North Carolina, as well as major target species for the private boat and charter boat recreational fishery along widespread areas within the South Atlantic region. Small amounts of king and Spanish mackerel are caught as an incidental catch or supplemental commercial target species off Georgia and South Carolina. Recreational and commercial catches are presented in Tables 1 and 2.

King mackerel are particularly important to the charter boat and offshore private boat fleets. In addition, smaller amounts of king mackerel are caught as a commercial supplement by the North Carolina charter boat fleet. North Carolina and Virginia follow Florida in commercial production of Spanish mackerel.

Recreational users in general have increased in numbers over time. Increased income and the growth in coastal populations are probably the main factors responsible for the increase in recreational fishing effort in the South Atlantic region during the 1980s and 1990s. Substantial numbers of recreational participants are visitors to coastal states in the management area. Apart from the economic value (consumer surplus) anglers derive from the resource, they generate significant economic impact through expenditures for recreational fishing.

Table 1. Catches of Atlantic Migratory Group King Mackerel. Source: Mackerel Stock Assessment Panel (1999).

Fishing	Numbers of fish in thousands			Weight of fish in thousands of pounds			Average Com &
Year	Com	Rec	Total	Com	Rec	Total	Rec Weight
1981/82	276	497	772	2,390	4,422	6,812	8.82
1982/83	382	530	911	3,,938	5,246	9,185	10.08
1983/84	235	671	906	2,441	6,253	8,694	9.60
1984/85	182	613	794	1,947	6,131	8,078	10.17
1985/86	233	818	1,051	2,495	7,121	9,616	9.15
1986/87	277	700	977	2,837	5,979	8,816	9.02
1987/88	348	544	892	3,453	3,905	7,357	8.25
1988/89	340	556	897	3,091	4,881	7,972	8.89
1989/90	283	380	664	2,635	3,400	6,036	9.09
1990/91	310	439	750	2,676	3,718	6,394	8.53
1991/92	296	639	934	2,516	5,822	8,338	8.93
1992/93	270	673	943	2,227	6,251	8,477	8.94
1993/94	225	375	600	2,018	4,438	6,456	10.76
1994/95	226	382	607	2,197	3,728	5,925	9.76
1995/96	180	463	644	1,870	4,153	6,023	9.35
1996/97	316	384	700	2,702	4,016	6,718	9.60
1997/98				2,678	5,392*	8,070	
1998/99				2,520	4,565*	7,085	

*Recreational landings, in pounds, were estimated by multiplying number of fish caught by 10.46 lb./fish.

Table 2. Catches of Atlantic Migratory Group Spanish Mackerel. Source: Mackerel Stock Assessment Panel (1999).

Fishing	Numbers of fish in thousands			Weight of fish in thousands of pounds			Average Com &
Year	Com	Rec	Total	Com	Rec	Total	Rec Weight
1984/85	2,184	942	3,126	3,292	1,311	4,602	1.47
1985/86	2,346	496	2,842	4,192	747	4,939	1.74
1986/87	1,907	798	2,704	2,565	1,196	3,761	1.39
1987/88	2,446	1,053	3,498	3,559	1,474	5,033	1.44
1988/89	2,647	1,726	4,373	3,524	2,740	6,264	1.43
1989/90	2,234	1,103	3,337	3,963	1,569	5,533	1.66
1990/91	2,067	1,323	3,390	3,560	2,075	5,635	1.66
1991/92	2,913	1,464	4,377	4,736	2,287	7,023	1.60
1992/93	2,274	1,210	3,484	3,716	1,995	5,712	1.64
1993/94	2,525	920	3,445	4,813	1,493	6,306	1.83
1994/95	3,169	1,085	4,254	5,233	1,378	6,611	1.56
1995/96	1,476	785	2,260	2,009	1,089	3,098	1.37
1996/97	2,170	658	2,829	3,096	851	3,946	1.40
1997/98				3,057	1,357*	4,414	
1998/99				3,200	774*	3,974	

*Recreational landings, in pounds, were estimated by multiplying number of fish caught by 1.29 lb./fish.

2.3 Status of Stocks

The Sustainable Fisheries Act requires Councils to manage fishery resources based on MSY as a limit to optimum yield (OY) and maximum fishing mortality threshold (MFMT) as a limit to fishing mortality rate. Stocks should also be maintained above the minimum stock size threshold (MSST). These and other stock status values were calculated in the 1999 assessment and are shown in Table 3.

Overfishing can be determined by several methods; overfishing is occurring if Fcurrent / Fmsy > 1.0, or if Fcurrent % Static SPR > F30% Static SPR (proxy for Fmsy or MFMT). The stock is overfished if Bcurrent / MSST is < 1.0, where MSST =(1.0- M)Bmsy. For king mackerel, the best point estimate of MSST would be 0.85x5.2 = 4.4, and for Spanish mackerel, 0.70x13.7 = 9.6.

Table 3. Mackerel MSY, Fishing Mortality, and Biomass Estimates Indicating Stock Status. Source: Mackerel Stock Assessment Panel (1999).

	Atlantic King Mackerel	Atlantic Spanish Mackerel
MSY 20-80 CI (Median)	9.4 – 14.5 MP (10.4)	5.7 – 7.5 MP (6.4)
Fcurrent	0.15 (=F54%Static SPR)	0.18 (=F55%Static SPR)
Fmsy (=MFMT)	0.40 (=F30%Static SPR)	0.40 (=F30%Static SPR)
Bcurrent*	6.5	20.0
Bmsy 20-80 CI (Median)*	4.7 – 7.1 (5.2)	12.2 – 15.8 (13.7)
M	0.15	0.30
MSST spawning stock*	4.0 – 6.1 (4.4)	8.5 – 11.1 (9.6)

*Values represent relative fecundity and are unitless.

Atlantic Migratory Group King Mackerel

Overfishing:

Fcurrent equals 0.15, and Fmsy is 0.40, thus the ratio is much lower than 1.0. Fcurrent Static SPR = 54%, which represents a fishing mortality rate much lower than the Static SPR proxy for Fmsy of 30% . Thus, overfishing is not occurring.

Overfished:

Bcurrent is estimated as a (unitless) relative fecundity with a value of 6.5 million which is larger than the MSST value of 4.4, thus the stock is not overfished.

Prior to the Magnuson-Stevens Act reauthorization, the Council used transitional SPR to indicate whether the stock was overfished (30%SPR), and as a rebuilding target (40% Static SPR). However, transitional SPR does not indicate a yield, thus it is inappropriate to use transitional SPR as an indicator of MSY (or OY). Nevertheless, the Council may still use this parameter as a guiding reference point. For Atlantic king mackerel, transitional SPR is estimated to be 43% against the benchmark of 30%, thus suggesting the stock is not overfished, nor in need of rebuilding.

Atlantic Migratory Group Spanish Mackerel

Overfishing:

Fcurrent is much lower than Fmsy (0.18 vs. 0.40); thus the ratio is much smaller than 1.0. Additionally, Fcurrent % Static SPR = 55%, which represents a fishing mortality rate much lower than the Static SPR proxy for Fmsy of 30% . Overfishing is not occurring.

Overfished:

Bcurrent, as a relative number of recruits to spawners has a median value of 20.0, whereas MSST is 9.6, thus stock size is well above MSST and the stock is not considered overfished.

Prior to the Magnuson-Stevens Act reauthorization, the Council used transitional SPR to indicate whether the stock was overfished (30%SPR), and as a rebuilding target (40% Static SPR). However, transitional SPR does not indicate a yield, thus it is inappropriate to use transitional SPR as an indicator of MSY (or OY). Nevertheless, the Council may still use this parameter as a guiding reference point. For Atlantic Spanish mackerel, transitional SPR is estimated to be 46% against the benchmark of 30% , thus suggesting the stock is not overfished, nor in need of rebuilding. The Panel attributes the steady increase in transitional SPR since 1995 to the reduction in fishing mortality rates resulting from the elimination of gill nets from Florida state waters (July 1995).

2.4 Economic Status of the Fishery
(Taken from the Mackerel SAFE Report; SAFMC, 1999)

Recreational Fishing in the South Atlantic Region

Recreational fishing trips off Florida and North Carolina account for nearly 90 percent of all recreational fishing trips in the South Atlantic region (Table 4A). Recreational fishing effort in the South Atlantic region has been relatively stable since 1984 (Figure 2), fluctuating randomly, with a slight peak in effort during 1994. For the two primary states, Florida and North Carolina, the slight trend in increasing recreational fishing during the early and mid 90s could be the result of many factors. However, it is reasonable to speculate that the growth in population in coastal counties, the recovery of the economy from the mild recession in the early 90s (increasing disposable income to spend on leisure activities), and the improvement in some fish stocks are partly responsible for this trend. The slight decline in fishing effort after 1994 may be the result of extreme weather conditions and other episodic events and it remains to be seen whether this is indicative of a long term trend.

Table 4A. The Distribution of Recreational Fishing Trips in the South Atlantic by State. Data Source: National Marine Fisheries Service Marine Recreational Fisheries Statistical Survey; NMFS, 1999)

Year	EAST FLORIDA	GEORGIA	NORTH CAROLINA	SOUTH CAROLINA
1992	62%	3%	26%	9%
1993	57%	4%	28%	11%
1994	59%	5%	26%	10%
1995	61%	4%	27%	8%
1996	61%	3%	27%	8%
1997	61%	3%	27%	9%

Boats with home ports in the southeast participate in multiple fisheries (Table 4B). Fishermen switch from fishery to fishery depending on season, fishing conditions, and economic factors.

Table 4B. Number of Boats (with federal fishing permits for commercial fishing) by Fishery and Geographic Area, 1997. (Source: Vondruska, 1998b)

HP/Reg	#Boats	Mack	SG	SpLob	Rock S.	Sword	Shark	CB	CMP
NC	654	455	339	28	26	94	179	307	299
SC	163	83	101	3	15	20	56	82	80
GA	49	15	19	6	14	5	6	22	21
FLEC	1,258	863	796	220	97	220	488	291	264

Note: HP/Reg = Home port state or region; Mack = mackerel; SG = Reeffish & Snapper Grouper; SpLob = Spiny Lobster; Rock S. = Rock Shrimp; Sword = Swordfish; CB = Charter fishing; and CMP = Coastal pelagic charter fishing.

Both king mackerel and Spanish mackerel are important to the recreational fishery in the South Atlantic region. In recent years recreational harvest of king mackerel has fluctuated without any definite trend, while landings of Spanish mackerel declined (Fisheries of the United States 1998, 1999). The number of trips where king mackerel were caught varied between 307,000 to 470,000 during the period 1986 to 1997, and comprised anywhere from 1.65% and 2.8% of all recreational trips (Table 5). For Spanish mackerel the number of trips increased from 325,000 in 1986 to 600,000 in 1991 and declined thereafter to levels comparable to the late 1980s (Table 5).

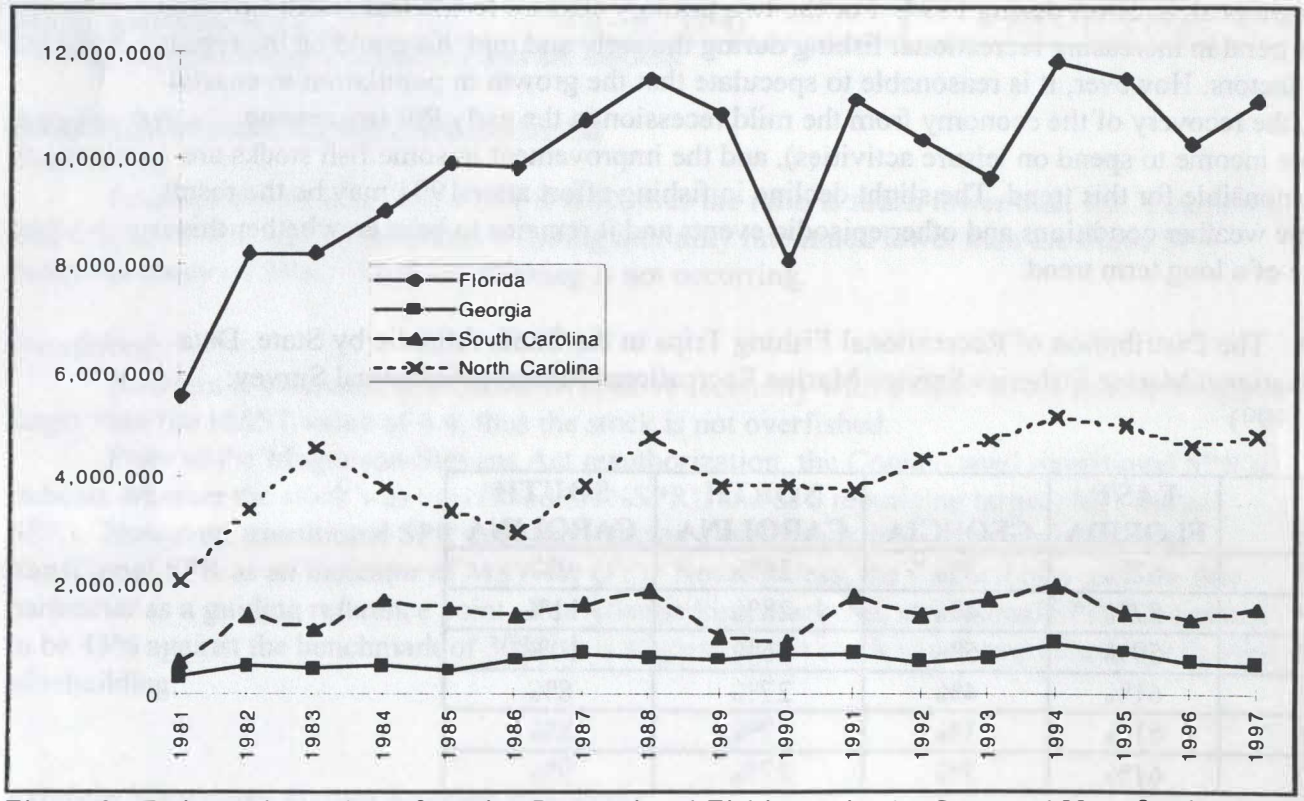


Figure 2. Estimated Number of Marine Recreational Fishing Trips by State and Year for the South Atlantic (Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division.)

Table 5. South Atlantic recreational trips where king mackerel & Spanish mackerel were caught (taken from Holiman, 1999).

YEAR	TOTAL RECREATIONAL TRIPS	KING MACKEREL TRIPS NUMBER	%	SPANISH MACKEREL TRIPS NUMBER	%
1986	14,904,371	362,525	2.43	325,619	2.18
1987	16,948,183	327,988	1.94	348,534	2.06
1988	18,820,938	464,193	2.47	473,747	2.52
1989	16,361,344	307,189	1.88	428,783	2.62
1990	13,572,038	379,983	2.80	446,933	3.29
1991	17,386,060	403,600	2.32	602,291	3.46
1992	16,741,411	469,804	2.81	475,375	2.84
1993	16,795,870	336,126	2.00	314,819	1.87
1994	19,928,325	329,568	1.65	392,746	1.97
1995	18,754,342	366,133	1.95	244,862	1.31
1996	16,822,946	307,419	1.83	301,949	1.79
1997	17,996,562	421,551	2.34	393,523	2.19

In addition to the above, information on the for-hire sector is forthcoming (Holland, S.M., A. J. Fedler, and J. W. Milon. Forthcoming. Operations and Economics of the Charter and Party Boat Fleets of the Eastern Gulf of Mexico, and South Atlantic Coasts. Univ. of Florida, Gainesville, FL. MARFIN Grant No. NA77FF0553).

Commercial Fishing for King Mackerel and Spanish Mackerel in the South Atlantic Region

During 1997, of all vessels with mackerel permits in the Atlantic and Gulf of Mexico, 3,422 boats reported selling king mackerel, and to a lesser extent 2,126 boats sold Spanish mackerel (Table 6). Vondruska (1998a) indicates that 2,124 federal permits were issued to vessels with home ports in the South Atlantic region in 1997, and 1,411 of these vessels held commercial mackerel permits. The majority of these vessels also held snapper/grouper permits. Most of these vessels are based in North Carolina and East Florida (Table 6).

Spanish mackerel is landed primarily by runaround gill nets, other gill nets and to a lesser extent, hook and line. The catches by gear type have remained fairly constant for all gear types from 1994 onward, whereas runaround gill nets have declined since 1993 (Vondruska, 1998a).

Most of the king mackerel landed in the South Atlantic region are taken by hook and line gear. Since 1985 the run-around gill net fishery declined. Also drift gill nets were prohibited during the 1988/89 fishing season. By 1990 at least 90% of the king mackerel landed came from the hook and line fishery. This remains true today (Vondruska, 1998a). Landings in Florida occur throughout the year but fish are more abundant from December through May.

(Vondruska, 1998a) came to the conclusion that demand for king mackerel was very elastic and thus large changes in quantity did not have an appreciable effect on the ex-vessel price. Prices tend to fluctuate throughout the year and examination of monthly price data indicates that seasonal peaks in price occur in June and September for East Florida (Figure 3). Seasonal price fluctuations from North Carolina to Georgia are depicted in Figure 3. The pattern in 1998 appears to be a departure from trends in the earlier years. Prices may vary depending on whether the fish are caught by hook and line or nets.

Imports of large mackerels comparable to king and Spanish mackerel enter the United States mainly from the Indo West Pacific and the central west Atlantic. These imports increased from about half a million pounds in the mid 1980s to several million pounds by the 1990s, and reached a peak of 10.6 million pounds in 1996. By 1998 imports fell to 4.1 million pounds.

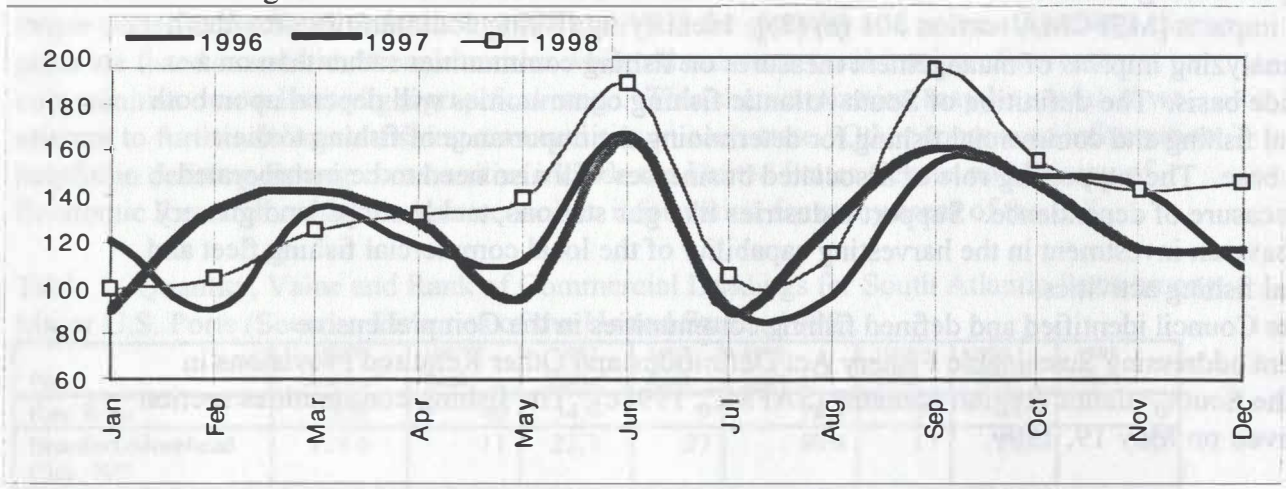
Table 6. Vessels with federal fishing permits and vessels with mackerel permits in 1997 (Vondruska, 1998b).

Home Port State/Region	Total Boats*	Mackerel Permits	% of all boats in state/region with mackerel permits
New England	181	22	12.2%
Mid-Atlantic & Chesapeake	272	96	35.3%
North Carolina	654	455	69.6%
South Carolina	163	83	50.9%
Georgia	49	15	30.6%
Florida-East Coast	1,258	863	68.6%
Florida-West Coast	2,371	1,406	59.3%
Florida-Non Coastal	202	141	69.8%
Alabama	194	15	7.7%
Mississippi	63	14	22.2%
Louisiana	380	231	60.8%
Texas	342	70	20.5%
Other States	37	11	29.7%
Total	**6,166**	**3,422**	**55.5%**

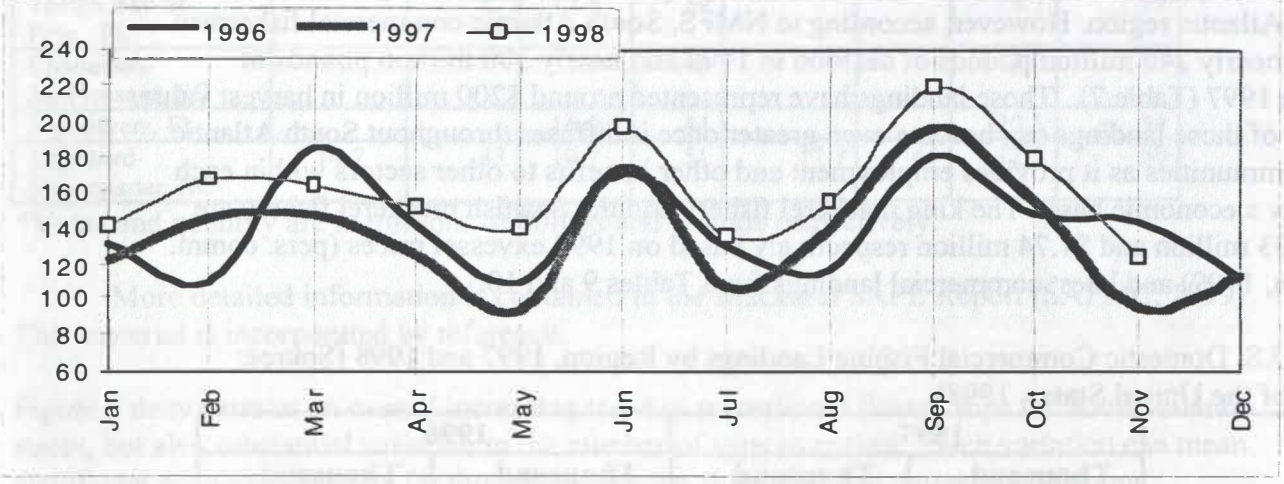
*Total number of vessels with federal fishing permits that are administered by the NMFS Southeast Regional Office, except Golden Crab, Wreckfish, and Coral permits.

Figure 3. Real exvessel monthly prices for king mackerel in 1990 cents (Source: Vondruska, 1999a).

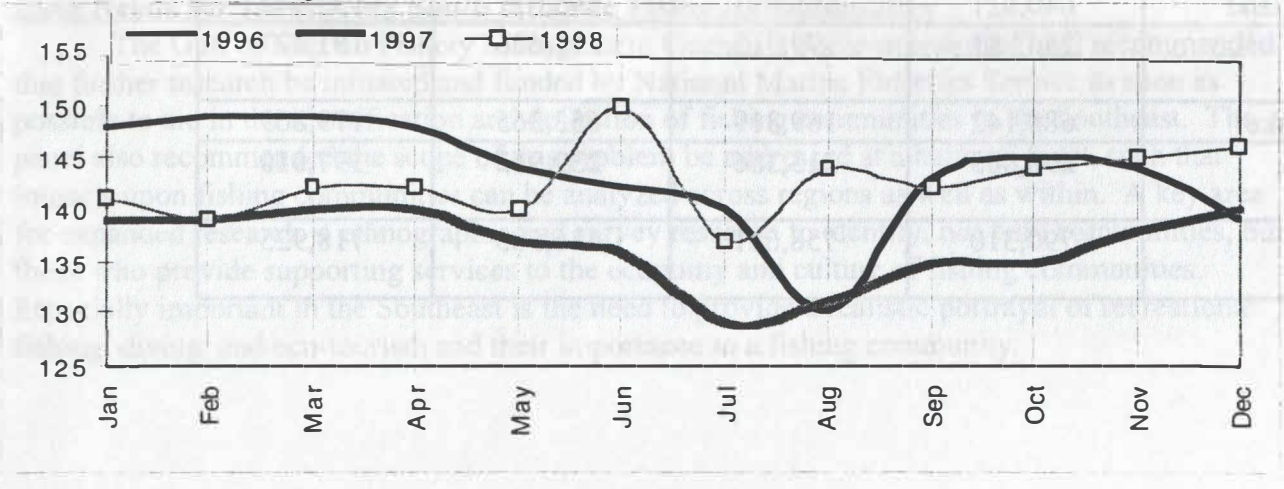
Entire Southeast Region from North Carolina to Texas:



East Florida



North Carolina to Georgia



2.5 Social Evaluation of the Fishery
(Modified from the Mackerel SAFE Report, SAFMC, 1999)

With the addition of National Standard 8, FMPs must now identify and consider the impacts upon fishing communities to assure their sustainable participation and minimize adverse economic impacts [MSFCMA section 301 (a) (8)]. Identifying fishing communities provides a basis for analyzing impacts of management measures on fishing communities rather than on a fishery-wide basis. The definition of South Atlantic fishing communities will depend upon both recreational fishing and commercial fishing for determining the importance of fishing to their economic base. The supporting role of associated businesses will also need to be incorporated into any measure of dependence. Support industries like gas stations, tackle shops, and grocery stores all have an investment in the harvesting capability of the local commercial fishing fleet and recreational fishing activities.

The Council identified and defined fishing communities in the Comprehensive Amendment addressing Sustainable Fishery Act Definitions and Other Required Provisions in FMPs of the South Atlantic Region contains (SAFMC, 1998c). The fishing communities section was approved on May 19, 1999.

South Atlantic Fishing Communities

Currently, limited information is available to adequately identify fishing communities in the South Atlantic region. However, according to NMFS, South Atlantic commercial fishermen harvested nearly 240 million pounds of seafood in 1998 and nearly 300 million pounds of seafood in 1997 (Table 7). Those landings have represented around $200 million in harvest value. The value of those landings can become even greater once it diffuses throughout South Atlantic fishing communities as it provides employment and other benefits to other sectors within each community s economic base. The king mackerel fishery and the Spanish mackerel fishery are worth $3.93 million and $1.74 million respectively based on 1998 exvessel prices (pers. comm. Vondruska, 1999) and latest commercial landings from Tables 9 and 10.

Table 7. U.S. Domestic Commercial Fishing Landings by Region, 1997 and 1998 (Source: Fisheries of the United States, 1998).

	1997		1998	
Region	**Thousand pounds**	**Thousand dollars**	**Thousand pounds**	**Thousand dollars**
New England	640,621	555,913	595,611	537,442
Middle Atlantic	236,881	199,912	261,686	181,177
Chesapeake	688,142	169,319	653,365	179,869
South Atlantic	**298,685**	**213,386**	**239,912**	**197,010**
Gulf of Mexico	1,790,310	758,681	1,536,583	718,925

To identify fishing communities within the South Atlantic one might begin with the National Oceanic and Atmospheric Administrations publication *Fisheries of the United States* (1998). Among the various statistics listed are commercial landings of major U.S. ports. These ports could be considered to be substantially dependent upon fishing. Table 8 lists the major ports for the South Atlantic in 1997 and 1998 for quantity and value of landings. Some ports are listed as individual communities while others are a combination of several communities over a limited geographical range. This characterization may be useful as we attempt to further delineate fishing communities in each state. Other sources of information helpful in defining fishing communities include the United States Census and Bureau of Economic Research, which include economic information for many areas of the U.S.

Table 8. Quantity, Value and Rank of Commercial Landings for South Atlantic Ports among Major U.S. Ports (Source: Fisheries of the United States, 1998).

Port	1997 Quantity*	1997 Rank	1997 Value*	1997 Rank	1998 Quantity*	1998 Rank	1998 Value*	1998 Rank
Key West	18.8	40	54.9	5	18.9	39	44.8	6
Beaufort-Morehead City, NC	128.6	11	23.7	27	80.4	17	20.8	32
Wanchese-Stumpy Point, NC	38.1	27	24.0	25	36.7	25	24.7	27
Tampa Bay-St Pete., FL			17.6	39			28.7	19
Charleston-Mt.Pleasant, SC			14.6	48			13.0	47
Fort Myers, FL			16.0	44			20.5	34
Englehard-Swanquarter, NC	14.7	43	10.7	51	17.7	44	12.5	50

*Value and quantity are in millions of dollars and pounds respectively.

More detailed information is contained in the Mackerel SAFE Report (SAFMC, 1999). This material is incorporated by reference.

Figure 2 demonstrates an overall increasing trend in recreational fishing trips for South Atlantic states, but also substantial variation in the number of trips over time. Such variation can mean significant economic impacts for those communities that rely upon recreational fishing.

Data Needs for Identifying South Atlantic Fishing Communities

The Gulf of Mexico Fishery Management Council's Socio-economic Panel recommended that further research be initiated and funded by National Marine Fisheries Service as soon as possible to aid in the identification and definition of fishing communities in the Southeast. The panel also recommended the scope of this problem be addressed at a national level, such that impacts upon fishing communities can be analyzed across regions as well as within. A key area for expanded research is ethnographic and survey research to identify, not only communities, but those who provide supporting services to the economy and culture of fishing communities. Especially important in the Southeast is the need to provide a realistic portrayal of recreational fishing, diving, and eco-tourism and their importance to a fishing community.

The South Atlantic, Mid-Atlantic, and New England Fishery Management Councils, the ASMFC, NMFS, U.S. Fish & Wildlife Service, and all the Atlantic coastal States are currently developing a coastwide fisheries statistics program (Atlantic Coastal Cooperative Statistics Program or ACCSP). A minimum set of reporting requirements based on a trip-level for fishermen and dealers is being developed and once adopted by each state/agency, will become the minimum standard for data collection on the Atlantic coast. Nothing in the proposed program would prohibit a state/agency from requiring more detailed information on a trip basis if so desired. As the ACCSP provision are adopted, they will be incorporated into the reporting requirements for the coastal migratory pelagics fisher.

3.0 MANAGEMENT ALTERNATIVES AND REGULATORY IMPACT REVIEW

3.1 Introduction

This section is divided into two major parts. The first part addresses management measures and alternatives considered by the Council. Each Action and associated Rejected Option contains four subheadings: Biological Impacts, Economic Impacts, Social Impacts, and Conclusion. The second part depicts the consequences of management and forms the basis for analysis of the Regulatory Impact Review (RIR), and the Social Impact Assessment analyses and Fishery Impact Statement (SIA/FIS). The Council s rationale for its preference is presented under the heading Conclusion .

3.2 Management Measures

3.2.1 ACTION 1. Establish a Total Allowable Catch (TAC) of 10.0 million pounds for Atlantic Migratory Group King Mackerel.

The proposed TAC would be an increase over the current 8.4 million pound TAC. The commercial allocation will be 3.71 million pounds (37.1%). The recreational allocation will be 6.29 million pounds (62.9%), which, based on an average recreational weight of 10.46 pounds in 1998/99 (Table 1), equates to 601,338 fish.

Biological Impacts

The Stock Assessment Panel report indicated the total catch of Atlantic migratory group king mackerel has been either at or below TAC, except during the 1988/89 and 1997/98 fishing seasons. The Panel concluded that the Atlantic migratory group king mackerel fishery was not overfishing the available stock, nor was the stock overfished. The Panel recommended an ABC range of 8.9 to 13.3 million pounds for Atlantic migratory group king mackerel. However, because the highly variable and uncertain bycatch estimates for Atlantic group migratory mackerels in the shrimp trawl fishery were not included in the stock assessment, the Scientific and Statistical Committee (SSC) urged the Council to be conservative in choosing TAC.

The median value of the ABC range is 10.0 million pounds, thus there is a 50% chance that a TAC of 10.0 million pounds will not exceed a fishing mortality that would achieve a spawning stock capable of producing OY. The Council, in choosing TAC at the mid point of the ABC range, is being conservative and still allowing for increased catch levels for both the commercial and recreational sectors.

Economic Impacts

The preferred TAC of 10.0 million pounds means an increase of 16 percent in allowable total harvest over the existing TAC of 8.4 million pounds. The increase in TAC will result in a recreational allocation of 6.29 million pounds. The highest level of recreational harvest occurred in the 1992/93 fishing year at 6.25 million pounds. Over the past two fishing seasons, recreational landings were 5.39 million pounds in 1997/98, and 3.62 million pounds in the 1998/99 fishing year (Table 9). If the TAC and recreational allocation were to remain at 8.4 and 5.28 respectively, there is a small probability that the 1999/00 recreational landings could exceed this allocation. However, with the increase in the 1999/00 recreational allocation, it is expected that the recreational catch for the 1999/00 fishing year would not exceed this sector s allocation.

Table 9. Atlantic Migratory Group King Mackerel Management Regulations and Landings (Source: Mackerel Stock Assessment Panel Report (MSAP, 1999) and Mackerel Quota Monitoring Report dated 5/10/99)).

Fishing Year	ABC (million pounds)	TAC (million pounds)	Actual Combined Catch (million pounds)	Rec. Alloc. (62.9%) (million pounds)	Actual Rec Landings (million pounds)	Comm. Alloc (37.1%) (million pounds)	Actual Comm. Landings (million pounds)
1986/87	6.9 - 15.4	9.68	8.82	6.09	5.98	3.59	2.84
1987/88	6.9 - 15.4	9.68	7.36	6.09	3.91	3.59	3.45
1988/89	5.5 - 10.7	7.00	7.97	4.40	4.88	2.60	3.09
1989/90	6.9 - 15.4	9.00	6.04	5.66	3.40	3.34	2.64
1990/91	6.5 - 15.7	8.30	6.39	5.22	3.72	3.08	2.68
1991/92	9.6 - 15.5	10.50	8.34	6.60	5.82	3.90	2.52
1992/93	8.6 - 12.0	10.50	8.48	6.60	6.25	3.90	2.23
1993/94	9.9 - 14.6	10.50	6.46	6.60	4.44	3.90	2.02
1994/95	7.6 - 10.3	10.00	5.93	6.29	3.73	3.71	2.20
1995/96	7.3 - 15.5	7.30	6.02	4.60	4.15	2.70	1.87
1996/97	4.1 - 6.8	6.80	6.72	4.28	4.02	2.52	2.70
1997/98	4.1 - 6.8	6.80	8.07	4.28	5.39	2.52	2.68
1998/99	8.4 - 11.9	6.80	6.14	4.28	3.62	2.52	2.52
1999/00	8.9 - 13.3	8.40		5.28		3.12	

Note: Shaded cells indicate landings exceeded allocation

It should be noted that recreational fishermen are regulated by the bag limits of 3 fish per person per day off New York through Georgia, and 2 fish per person per day off Florida. Therefore, this increase in TAC will not yield an increase in recreational benefits per recreational trip (consumer surplus). However, this increase in TAC will accommodate increased future harvests, and there is less risk of early closures or other restrictive measures being applied to the recreational sector in the future.

The preferred commercial allocation of 3.71 million pounds represents an increase of 0.59 million pounds over the current commercial allocation. Given the fact that commercial landings since 1990 have not exceeded 2.7 million pounds (Table 9), it is unlikely that the commercial sector would exceed its allocation under this proposed TAC even with the increased trip limit (Action 4). Approximately 3% to 10% of the trips exceeded 50 fish. However, this allocation will accommodate an increase in commercial fishing effort for those already in the fishery, which could increase benefits to commercial fishermen. The extent of this increase in benefits would depend on how efficient commercial fishermen are in their operations, on market conditions, and an increase in effort by existing permit holders. Another factor that could result in higher commercial landings is the increase in trip limits for the Southern zone proposed under Action 4. If the entire commercial allocation is utilized, total exvessel landings value should increase by up to $0.92 million ((3.71-3.12) x 1.56) per year over the previous season s revenue. This is based on the 1998 exvessel price of $1.56 per pound whole weight (pers. comm. Vondruska, 1999). Since there is a permit moratorium for king mackerel, there is no possibility of the increase in allocation attracting new entrants to the fishery. Thus, there is no risk of the short-term benefits being dissipated by new entrants expanding total effort in the fishery.

Social Impacts

Positive social impacts should be in store for the king mackerel fishery with the Council's decision to choose TAC at this level. An increase in TAC will likely prevent a closure of the commercial fishery if landings are similar to last year s. In addition, there may be increasing effort in the king mackerel fishery with recent actions in Snapper Grouper Amendments 8 & 9. Those actions may force fishermen to substitute effort in the mackerel fishery for that lost in snapper grouper due to closures and other regulatory action. Although there is a moratorium on king mackerel permits, it is likely that most snapper grouper fishermen presently have or are eligible for king mackerel permits. An increase in TAC may accommodate a shift in effort from the snapper grouper fishery. Also, setting TAC at this level may prevent an overrun of the recreational fishery if landings were to exceed the previous year's TAC. The recreational fishery does not close because monitoring the quota is not feasible at this time and the Council concluded the recreational sector is better managed with bag limits than closures.

Conclusion

The Council concluded that a TAC at the mid point of the ABC range (10.0 million pounds) is the most prudent course of action. This TAC is at the level recommended by the Stock Assessment Panel yet represents an increase of 1.6 million pounds over last year's TAC. This TAC addresses the SSC s concern about being conservative to accommodate unknown bycatch in the shrimp trawl fishery and was also recommended by the Mackerel Advisory Panel. Setting TAC at 10.0 million pounds will prevent overfishing and allow the Council to achieve optimum yield from the Atlantic migratory group king mackerel resource. This option best addresses the management objective of stabilizing yield at maximum sustainable yield and maintaining population levels sufficient to ensure adequate recruitment. The Council concluded this increase will optimize the social and economic benefits over the long-term.

Rejected Options for Action 1:

Rejected Option 1. Establish a Total Allowable Catch (TAC) at a lower, more conservative level that is below the median 10.0 million pounds for Atlantic Migratory Group King Mackerel.

The Council considered several alternative options: 6.8 million pounds (1997/98 TAC), 8.4 million pounds (1998/99 TAC), and 8.9 million pounds (lower end of the proposed ABC range).

Biological Impacts

A TAC of 8.9 million pounds or less is at or below the lower end of the ABC range. These options would be more biologically conservative than the Council s proposed action.

Economic Impacts

There is no economic justification for setting TAC below the lower end of the ABC range or even at the lower end of this range. This can result in non-optimum utilization of the resource.

Recreational allocations under a 6.8 million pound TAC and under an 8.4 million pound TAC would be 4.28 million pounds, and 5.28 million pounds respectively. During the past two seasons recreational catches were 5.39 million pounds and 3.62 million pounds (Table 9). Thus, there is some risk that the recreational sector s landings could exceed its allocation if TAC was

set at 6.8 million pounds or 8.4 million pounds. Should the Council take steps such as an early closure or reduced bag limits, then total recreational benefits would be reduced.

Given total landings in the previous seasons, there is some risk that the commercial sector would exceed its allocation under a TAC of 6.8 million pounds. It is unlikely that the commercial sector would exceed its allocation if TAC was set at 8.4 million pounds even with the increased trip limit (Action 4). The commercial catch during the 1998/99 season was estimated at 2.52 million pounds.

Social Impacts

With increasing catches in recent years, TAC at this level would unnecessarily constrain communities from enjoying increased benefits. There is a risk that both sectors will exceed their allocations given past history in this fishery. This could result in more restrictive regulations for commercial and recreational fishermen, which could have negative social impacts in the long term.

Conclusion

The Council rejected these options because they did not adequately address the social and economic issues within the fishery, and because these options would not optimize the social and economic benefits from the fishery.

Rejected Option 2. Establish a Total Allowable Catch (TAC) at a higher, less conservative level that is above the median 10.0 million pounds for Atlantic Migratory Group King Mackerel.

The Council considered two options: 10.4 million pounds (MSY point estimate); 13.3 million pounds (the upper end of the proposed ABC range).

Biological Impacts

A TAC of 10.4 million pounds would equate to harvesting at MSY; MSY is a threshold that should not be met. Given that the median value of the ABC range is 10.0 million pounds, a TAC of 10.4 million pounds has a greater than 50% chance of exceeding a fishing mortality that would achieve a spawning stock capable of producing OY. At the upper end of the ABC range, a TAC of 13.3 million pounds would have a 84% chance of exceeding a fishing mortality that would achieve a spawning stock capable of producing OY. Both options would be more risk prone than the Council's proposed action.

Economic Impacts

The highest landings recorded for the past 12 seasons was 8.82 million pounds during the 1986/87 fishing season. Thus, it is likely that landings would be lower than either the 10.4 or 13.3 million pound options. The recreational allocation would increase to 6.54 or 8.4 million pounds under these two allocation options. Based on historical recreational landings, this sector is not expected to meet these allocations, unless there is a shift in trip targeting behavior from other species to king mackerel, or other changes in recreational fishing dynamics. If the commercial allocation is fully utilized, the exvessel value of total commercial landings could increase by up to $1.15 million (3.86-3.12=0.74 million pounds at $1.56 per pound) to $2.82 million (4.93-3.12=1.81 million pounds at $1.56 per pound). Nevertheless, if TACs of this magnitude were met, there is a high probability of overfishing the stock, and thus benefits would not be sustainable in the long term.

Social Impacts

A TAC at the upper end of the ABC range (13.3 million pounds) was not recommended by the stock assessment panel because it would not likely be sustainable and communities could suffer negative impacts.

Conclusion

The Council rejected these options because they would not optimize the social and economic benefits from the fishery over the long-term. These options would also be more risk prone and could result in overfishing in the long-term. Also, setting TAC at this level would not be in accord with the conservative action called for by the SSC and the Committee.

3.2.2 ACTION 2. Establish a Total Allowable Catch (TAC) of 7.04* million pounds for Atlantic Migratory Group Spanish Mackerel.

[*Note: The Council approved a TAC of 7.1 million pounds, but under the mackerel framework 7.04 is the maximum TAC allowed given the estimated MSY.]

TAC is currently 6.6 million pounds, and based on the most recent assessment, the Stock Assessment Panel recommended an ABC range of 5.7 to 9.0 million pounds, with a median value of 7.1 million pounds. This yield would be in excess of the best point estimate of maximum sustainable yield (6.4 million pounds); however, the Atlantic migratory group Spanish mackerel fishery is not overfishing the available stock, and the stock is not overfished. This is because the current biomass is estimated to be well in excess of the biomass at MSY. Therefore, the difference in the current stock size and the MSY stock size could be harvested, reducing the stock size to the MSY level. At that point, a continuation of a TAC in excess of OY would lead to overfishing and the Council would have to lower TAC to a yield that is no higher than MSY, and preferably at OY.

Under the current framework procedures, the Council may not set TAC to exceed the best point of estimate of MSY by more than 10 percent. The estimate of MSY from the 1999 Assessment Panel Report is 6.4 million pounds with a range (80 percent confidence intervals) of 5.7 to 7.5 million pounds. A TAC of 7.04 million pounds would be the maximum increase allowed under the framework procedures, and would be within the range of values identified for MSY. Given that the stock size is well above the stock size necessary to maintain MSY and because the proposed TAC is within the ranges of MSY and OY, a TAC of 7.04 million pounds would not lead to overfishing. Using F40% SPR as a first-order proxy for OY, the Mackerel Stock Assessment Panel concluded that there is less than a 50% chance that a TAC of 7.04 million pounds will exceed that fishing mortality rate.

With a 7.04 million pound TAC, the commercial allocation would be 3.87 million pounds (55%). The recreational allocation would be 3.17 million pounds (45%) which, based on an average recreational weight of 1.56 pounds in 1998/99 from the 1999 stock assessment, equates to 2,032,000 fish.

Biological Impacts

The total catch of Atlantic migratory group Spanish mackerel exceeded the TAC during the 1987/88, 1988/89, 1990/91, and 1991/92 fishing seasons (Table 10). Total catch during other fishing seasons was either at or below the TAC. The recreational sector exceeded its allocation in three of four years between 1987/88 and 1990/91; catches have been well less than the allocation

since the 1991/92 fishing season. The commercial catch exceeded its allocation in each year between 1987/88 and 1994/95, until Florida implemented a ban on entangling net gear in Florida state waters. Estimated commercial catches during 1998/99 were below their allocation. The Stock Assessment Panel believes that the reduction in harvest in recent years reflects the elimination of gill nets from Florida state waters in 1995 and is not due to reduced stock sizes (MSAP, 1999). There is virtually no chance that the fishery will be overfishing during the coming year with a TAC of 7.04 million pounds.

Economic Impacts

The proposed TAC represents an increase of 0.44 million pounds over the current TAC of 6.6 million pounds. However, it is unlikely that this TAC will be exceeded given the recent history of landings in both the commercial and recreational sectors. Total catch (commercial and recreational) was 4.35 million pounds for the 1998/99 fishing season. Thus, only 66 percent of the TAC was taken (Table 10).

This action may not provide additional benefits to the commercial sector if past landings trend continues. However, landings could increase if there is increased effort directed at Spanish mackerel, and as a result of Action 5 where an increase in trip limits is proposed. If landings in the commercial sector were to meet the proposed allocation, then the gains realized could be up to $130,000 (3.87-3.63=0.24 million pounds, and assuming an ex-vessel price of $0.53 per pound (pers. comm., Vondruska, 1999). This is possible given the proposed increase in trip limits (Action 5).

Spanish mackerel recreational harvests in recent years have been well below the annual allocations, and have not exceeded 2.74 million pounds. Total catch for the 1998/99 season was 1.15 million pounds (Table 10). Thus, increasing the recreational allocation from 2.97 million pounds to 3.17 million pounds would not impact the recreational fishery if current catch trends continue. The proposed increase in the bag limit (Action 3) may lead to an increase in total harvest, but should not stimulate a doubling in annual harvest.

Social Impacts

The commercial sector landings decreased dramatically, primarily because of the Florida ban on entanglement nets in state waters. However, commercial catches have been increasing in the most recent years. The recreational sector harvest, on the other hand, has remained well below its allocation.

Conclusion

The Council concluded that a TAC of 7.04 million pounds is the most prudent course of action. This TAC is slightly below the best point estimate as recommended by the Stock Assessment Panel and represents an increase of 0.44 million pounds from the 1998/99 TAC. Setting TAC at 7.04 million pounds will allow the Council to achieve Optimum Yield from the Atlantic migratory group Spanish mackerel resource. This option best addresses the management objective of stabilizing yield at Maximum Sustainable Yield and maintaining population levels sufficient to ensure adequate recruitment. The Council concluded this level of TAC will optimize the social and economic benefits over the long-term.

Table 10. Atlantic Migratory Group Spanish Mackerel Management Regulations and Landings (Source: Mackerel Stock Assessment Panel Report (MSAP, 1999) and Mackerel Quota Monitoring Report dated 5/10/99)).

Fishing Year	ABC (million pounds)	TAC (million pounds)	Actual Combined Catch (million pounds)	Rec. Alloc. (million pounds)	Actual Rec Landings (million pounds)	Comm. Alloc. (million pounds)	Actual Comm. Landings (million pounds)
1987/88	1.7 - 3.1	3.1	5.03	0.74	1.47	2.36	3.56
1988/89	1.3 - 5.5	4.0	6.26	0.96	2.74	3.04	3.52
1989/90	4.1 - 7.4	6.0	5.53	2.76	1.57	3.24	3.96
1990/91	4.2 - 6.6	5.0	5.64	1.86	2.08	3.14	3.56
1991/92	5.5 - 13.5	7.0	7.02	3.50	2.29	3.50	4.74
1992/93	4.9 - 7.9	7.0	5.71	3.50	2.00	3.50	3.72
1993/94	7.3 - 13.0	9.0	6.31	4.50	1.49	4.50	4.81
1994/95	4.1 - 9.2	9.2	6.61	4.60	1.38	4.60	5.23
1995/96	4.9 - 14.7	9.4	3.10	4.70	1.09	4.70	2.00
1996/97	5.0 - 7.0	7.0	3.95	3.50	0.85	3.50	3.10
1997/98	5.8 - 9.4	8.0	4.42	4.00	1.36	4.00	3.06
1998/99	5.4 - 8.2	8.0	4.35	4.00	1.15	4.00	3.28
1999/00	5.7 - 9.0	6.6		2.97		3.63	

Note: Shaded cells indicate landings exceeded allocation

Rejected Options for Action 2:

Rejected Option 1. Establish a Total Allowable Catch (TAC) at a lower, more conservative level less than the median 7.1 million pounds for Atlantic Migratory Group Spanish Mackerel TAC.

The Council considered three options: 5.7 million pounds (the lower confidence interval of the proposed ABC), 6.4 million pounds (best point estimate of MSY), and 6.6 million pounds (current TAC).

Biological Impacts

A TAC of 5.7, 6.4, or 6.6 million pounds would generate fishing mortalities well below F40% SPR, which was used as a first-order proxy for OY by the Mackerel Stock Assessment Panel. Given that the stock size is well above the stock size necessary to maintain MSY, there is an available excess resource which can be safely cropped from the stock; thus TAC can - for the short-term - be set above the MSY point estimate threshold. The proposed TAC is within the 80 percent confidence intervals for the estimate of MSY.

Economic Impacts

For the three rejected options (5.7, 6.4, and 6.6 million pounds), the recreational allocation would be 2.57, 2.88, and 2.9 million pounds respectively. Based on the previous seasons catch figures, it is unlikely that the recreational allocation would be met (Table 10). Even with the proposal to increase the bag limits, there may be little risk that the recreational sector would exceed these allocations.

For the three rejected options (5.7, 6.4, and 6.6 million pounds), the commercial allocation would be 3.14, 3.52, and 3.63 million pounds respectively. Subsequent to the 1994/95 season, the highest commercial landings have been 3.2 million pounds during the 1998/99 fishing year. With the increase in trip limits proposed under Action 5 commercial landings would likely increase. Thus, these lower TACs could constrain the commercial sector, as there is a slight probability these allocations could be exceeded in the future, especially with the increase in trip limits proposed (Action 5).

Social Impacts

Because bycatch in the shrimp trawl fishery was not included in this year's assessment, TAC at this level would have been one of the most risk averse choices. However, because the commercial harvest has been increasing and the recreational harvest has remained well below its allocation, the Council considered TAC at this level would have long term negative social and economic impacts on the commercial sector. Setting TAC at a slightly higher level would still allow the Council to provide greater social and economic opportunities.

Conclusion

The Council rejected these options because they would not optimize the social and economic benefits from the fishery over the long-term.

Rejected Option 2. Establish a TAC at a higher, less conservative level that is above the median 7.1 million pound ABC.

The Council considered two options: 8.0 million pounds (1997/98 TAC) and 9.0 million pounds (upper confidence limit for the proposed ABC range).

Biological Impacts

A TAC of either 8.0 or 9.0 million pounds would be in excess to the ranges calculated for MSY and OY, and thus exceed the MSY threshold.

Economic Impacts

Under these high TACs of 8.0 and 9.0 million pounds, the commercial sector's allocation would be 4.4 or 4.95 million pounds respectively. Landings in recent years have not approached these levels. However, if landings in the commercial sector were to meet these allocations, then the gains realized could be up to $410,000 (4.40-3.63=0.77 million pounds) or up to $700,000 (4.95-3.63=1.32 million pounds), assuming an ex-vessel price of $0.53 per pound. Nevertheless, if this scenario were to occur these economic gains would not be sustainable as there is a high risk of over fishing. Although the fishery is not in overfishing status, setting a TAC outside the range of MSY and OY would more rapidly lead to overfishing if there is expansion of effort in this fishery.

The recreational catches have been well below the annual allocations. Total catch for the 1998/99 season was 1.15 million pounds. Thus, there would be no increased benefits for the recreational sector if current catch trends continue.

Also, data on Spanish mackerel bycatch in other fisheries is still being collected and refined. If further analysis of the data indicates a higher level of bycatch the risk of overfishing would become higher, which could lead to reduced benefits from the fishery in the long-term.

Even with the increase in bag limits it is unlikely that the recreational sector would exceed either of these allocations.

Social Impacts

Setting TAC at this level would have been near the upper level of the ABC range, and exceed the ranges established for MSY and OY. Given that the stock assessment panel chose not to include bycatch estimates from the shrimp trawl fishery in this year's assessment, these high harvest levels were deemed to be too risk prone. The long-term social impacts could be negative if the fishery falls below the optimum yield level.

Conclusion

The Council rejected these options because they would not optimize the social and economic benefits from the fishery over the long-term. These options would also be more risk prone and could result in overfishing in the long-term.

3.2.3 ACTION 3. Increase the Recreational Bag Limit From 10 to 15 Fish Per Person Per Day for Atlantic Migratory Group Spanish Mackerel.

The council is proposing to increase the bag limit for Atlantic migratory group Spanish mackerel from the status quo of 10 fish per person per day to 15 fish per person per day.

Biological Impacts

Increasing the bag limit from 10 fish to 15 fish per day per angler may increase landings by the recreational sector. However, even if the recreational sector were to increase landings it is unlikely that they will exceed their allocation and harvest should fall well within the TAC. This increase in fishing mortality is unlikely to negatively impact the stock given the TAC of 7.04 million pounds.

Economic Impacts

An increase in the bag limit to 15 fish will benefit those recreational anglers who are constrained by the current bag limit of 10 fish per person per day. Thus, the recreational sector should enjoy higher benefits under this bag limit. During 1997, of all trips where Spanish mackerel were caught 9% reported catching 10 or more fish, and 6.7% reported landing 10 or more fish (Holiman, 1999). This data was obtained from the MRFSS intercept survey.

In 1997, Spanish mackerel were caught on 393,523 trips (Holiman, 1999). Thus, it is estimated that under this regulation the maximum number of fish harvested could increase by up to 132,000 (0.067 x 5 x 393,523). This estimate was calculated under the assumption that all trips where 10 fish are harvested are constrained by the current bag limit, and 15 fish would be harvested per trip under this proposed increase in the bag limit. Assuming an average weight of 1.56 lb. per fish, the maximum expected increase in harvest is estimated at up to 205,920 pounds. (1.56x132,000). Even under these conditions it is unlikely that the recreational sector will exceed the proposed allocation of 3.17 million pounds unless additional recreational effort is directed at Spanish mackerel.

Valuation models that include bag limits in this range for Spanish mackerel or similar species are required to estimate intrinsic benefits to the recreational sector. Whether or not this increase in the bag limit would attract more angling effort can only be ascertained if there were

recreational trip response models for this fishery or similar fisheries in the South Atlantic region. However, these models have not yet been developed for the South Atlantic region.

Social Impacts

This action would result in higher social benefits to the recreational anglers who would prefer to harvest larger quantities of Spanish mackerel. These benefits are sustainable since the recreational catch is unlikely to go over that sector's allocation. This action will reward anglers for their conservative efforts while the resource was not as healthy as it is today.

Conclusion

The Council concluded that increasing the bag limit would not have an adverse impact on the stock and could accommodate those anglers who would like to harvest a larger quantity of fish on certain fishing trips. This action would best addresses the management objective of stabilizing yield at maximum sustainable yield and maintaining population levels sufficient to ensure adequate recruitment. The Council concluded this bag limit will contribute to optimizing social and economic benefits over the long-term.

Rejected Options for Action 3:

Rejected Option 1. No action. Retain current bag limits of 10 fish per person per day.

Biological Impacts

Provides more biological protection as this will serve to constrain the recreational harvest.

Economic Impacts

The No Action option would not increase benefits to the recreational sector and thus there would be no change in recreational benefits in the coming season. However, there may be lost value in terms of forgone user benefits if the current bag limit constrains recreational anglers who would like to harvest more than 10 fish per trip. This option would not optimize benefits if the increased harvest could be sustained in this fishery.

Social Impacts

Because there is no increase in bag limits over that in the previous season, there would be no increase in social benefits from the status quo bag limits.

Conclusion

The Council rejected this option because increasing the bag limits would increase benefits that could be sustained, and thus optimize the social and economic benefits from the fishery.

3.2.4 ACTION 4. Increase the Atlantic Migratory Group King Mackerel Trip Limit in the Southern Zone (Brevard Through Miami-Dade Counties, FL) to 75 Fish.

The Council is proposing to increase the 50 fish trip limit for Atlantic migratory group king mackerel in the southern zone to 75 year-round. Table 11 provides catch information. It should be noted that the groupings of fish per trip include 50 fish in the 50-59 fish category which overstates the percentage of trips with over 50 fish. This will be corrected in the future. Also, fishermen at times consolidate fish from several trips for one run to the fish house where

they are recorded as being from one trip, which again overstates the percentage of trips over 50 fish.

Biological Impacts

None. The harvest is constrained by a quota.

Economic Impacts

Data on the frequency of trips that landed king mackerel in the region from Brevard/Volusia to Miami-Dade/Monroe are depicted in Table 12 for 1997/98 and 1998/99. It should be noted that fishermen at times consolidate fish from several trips for one run to the fish house where they are recorded as being from one trip, which overstates the percentage of trips landing 50 or more fish. It appears that in 1997/98 at least 90% of all trips landed less than 50 fish/trip, and 67% of the total harvest in the Southern zone was taken during these trips. In the 1998/99 season, the proportion of trips with landings below 50 fish/trip increased to just over 97%, accounting for 85% of the total landings in this region. With the current data it can be speculated that 3-10% of all commercial trips are likely to be affected by this action.

By increasing trip limits from 50 to 75 fish, fishermen constrained by current trip limits could increase landings per trip. If this occurred, it would result in higher revenue per trip and increase the net benefits per trip (assuming that costs per trip remained constant). Also, depending on market conditions, there could be an increase in total annual landings since the Council proposed an increase in the Atlantic migratory group king mackerel TAC.
Under the assumption that price will not be significantly affected by an increase in landings, the proposed action is expected to increase benefits to fishermen in the Southern zone.

Social Impacts

Given the likely increase in net economic benefits to the commercial fishery in the Southern zone, this action is likely to increase social benefits. This action was requested by the industry and supported by the Advisory Panel.

Conclusion

The Council approved this action because revising the trip limit will contribute to optimizing the social and economic benefits over the long-term.

Table 11. Atlantic Migratory Group King Mackerel Landings in Brevard through Miami-Dade Counties (not separated by gear).

	Fishing Year = 1997/98			
Fish/Trip	Number	Cumulative Number	Number	Cumulative Number
	Fish	Fish	Trips	Trips
1-9	15,277	10.7%	3,554	45.7%
10-19	22,829	26.6%	1,653	66.9%
20-29	20,491	40.9%	851	77.9%
30-39	17,786	53.3%	520	84.6%
40-49	**19,347**	**66.8%**	**435**	**90.1%**
50-59	28,746	86.9%	518	96.8%
60-69	9,046	93.2%	144	98.7%
70-79	2,802	95.1%	38	99.1%
80-89	1,954	96.5%	23	99.4%
90-99	1,581	97.6%	17	99.7%
>100	3,463	100.0%	27	100.0%
Total Number	143,322		7,780	
Total Pounds	1,274,813			
Avg. Weight	8.9			

	Fishing Year = 1998/99			
Fish/Trip	Number	Cumulative Number	Number	Cumulative Number
	Fish	Fish	Trips	Trips
1-9	17,864	16%	3,981	49.7%
10-19	29,892	43%	2,165	76.8%
20-29	21,654	62%	912	88.2%
30-39	15,014	75%	444	93.7%
40-49	**10,771**	85%	**246**	**96.8%**
50-59	6,604	91%	123	98.4%
60-69	3,694	94%	58	99.1%
70-79	2,362	96%	32	99.5%
80-89	1,263	97%	15	99.7%
90-99	1,150	98%	12	99.8%
>100	1,873	100.0%	15	100.0%
Total Number	112,141		8,003	
Total Pounds	996,878			
Avg. Weight	8.9			

Rejected Options for Action 4:

Rejected Option 1. No action. Trip limits remains at 50 fish year-round.

Biological Impacts

None.

Economic Impacts

This will not increase economic benefits. In fact, under this option there could be forgone revenues that could be derived from trips constrained by the current limits.

Social Impacts

This action is not expected to increase social benefits.

Conclusion

The Council rejected this option because it did not adequately address the social and economic issues within the fishery, and because this option would not optimize the social and economic benefits from the fishery.

3.2.5 ACTION 5. Modify the Atlantic Migratory Group Spanish Mackerel Trip Limits for the Southern Zone (south of the Florida/Georgia border).

The Council is proposing to modify the current trip limits for southern zone Atlantic migratory group Spanish mackerel as follows:

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

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

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

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

Biological Impacts

None. The harvest is constrained by a quota.

Economic Impacts

This action will increase the Spanish mackerel trip limit to 3,500 lb/day from April to November and thus benefit larger vessels that are currently constrained by the 1,500 lb trip limit. The unlimited season will be delayed by one month until December 1, however the number of days of unlimited fishing will increase by two per week. In the region from Miami-Dade to Nassau counties about 8% of all trips landed more than 1,500 lb/trip, and these trips accounted for 65% of total landings during the 1998/99 season (Table 12). It is possible that higher trip

limits could result in higher overall landings and gross revenue to fishermen, provided there is not a significant decline in price due to the increased supply of fish on the market.

Social Impacts

If current trip limits were binding constraints for fishermen then these proposed increases in trip limits will result in positive social impacts. This action was requested by the industry and supported by the Advisory Panel.

Conclusion

The Council accepted this option because it will likely sustain higher economic benefits in the commercial fishery and optimize the social and economic benefits from the fishery.

Table 12. Spanish Mackerel Landings by trip poundage categories for Miami-Dade-Nassau counties (Fishing year starts on April 1 and ends on March 31 of the following year).

	1996/1997		1997/1998		1998/1999	
Catch/Trip	**POUNDS**	**TRIPS**	**POUNDS**	**TRIPS**	**POUNDS**	**TRIPS**
0-1500 lb	680,007	2,395	1,099,310	3,957	959,272	3,782
1501-3000 lb	189,101	92	216,453	116	374,840	185
3001-5000 lb	118,517	32	179,489	45	377,837	98
> 5000 lb	1,398,095	85	576,864	49	999,370	97
TOTAL	2,385,720	2,604	2,072,116	4,167	2,711,319	4,162

Data provided by the Florida Marine Research Institute. Marine Fisheries Information System. Edited data through batch 553, unedited data b554-b561

Rejected Options for Action 5:

Rejected Option 1. No action. The southern zone possession limits are as follows (from the 1996/97 Framework):

a. April 1 - October 31 -- 1,500 pounds per vessel per day.

b. November 1 until 75% of the adjusted allocation 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 Friday	Unlimited
Other days	1,500 pounds

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

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

Biological Impacts

None.

Economic Impacts

This option is the status quo and thus it would provide no additional economic benefits to commercial fishermen. However this option may constrain fishermen from taking their allocation and may not optimize economic benefits.

Social Impacts

No impact.

Conclusion

The Council rejected this option because it would not optimize social and economic benefits from the fishery.

Rejected Option 2. Modify the Atlantic Spanish mackerel trip limit to:

a. Oct. 1-31 -- 3,000 pounds per day
b. Nov. 1 -- unlimited M,W & F; 3,000 pounds per day other days
c. When unlimited filled -- 1,500 pounds per day
d. Dec. 1 — unlimited M,W & F; 1,500 pounds per day other days

Biological Impacts

None.

Economic Impacts

This action would increase the Spanish mackerel trip limit to 3,000 lb/day during October and November (except for M, W, F when catches are unlimited). Thus, fishermen constrained by the current limits could increase landings. In the region from Miami-Dade to Nassau counties about 5% of all trips landed more than 3,000 lb/trip, and these trips accounted for 51% of total landings during the 1998/99 season. It is possible that higher trip limits could result in higher overall landings and gross revenue to fishermen, provided there is not a significant decline in price due to the increased supply of fish on the market.

Social Impacts

If current trip limits were binding constraints for fishermen then these proposed increases in trip limits will result in positive social impacts. This option was not supported by the industry.

Conclusion

The Council rejected this option because it would not optimize social and economic benefits from the fishery.

3.2.6 ACTION 6. Modify MSY and the Status Determination Criteria (Using Ranges) to Reflect the New Biomass-Based Values.

The Council is required by the Magnuson-Stevens Act to add these values as they are provided by NMFS. This is the process described in the Council s SFA document. The Council is adopting the ranges for MSY, MFMT, Bmsy, and MSST as shown in Table 3.

Biological Impacts

None.

Economic Impacts

These measures will have no economic impact on the entities in this fishery. Positive or negative impacts will occur only if management measures are undertaken to restrict fishing activities to conform to these criteria.

Social Impacts

These measures will have no social impact on the entities in this fishery. Positive or negative impacts will occur only if management measures are undertaken to restrict fishing activities to conform to these criteria.

Conclusion

The Council adopted this option because it is based on the best available scientific information and because it meets the mandates of the Magnuson-Stevens Act.

Rejected Options for Action 6:

Rejected Option 1. No action.

Biological Impacts

None.

Economic Impacts

None.

Social Impacts

None.

Conclusion

The Council rejected this option because it is not based on the best available scientific information and because it does not meet the mandates of the Magnuson-Stevens Act.

4.0 ENVIRONMENTAL CONSEQUENCES

4.1 Unavoidable Adverse Effects

The following information summarizes the short-term effects and the long-term gains with the coastal migratory pelagic resources (mackerels) at optimum yield (See Summary of Regulatory Impact Review and the discussion under each action item for more details):

The proposed actions would not create adverse effects within this fishery. The TAC for Atlantic migratory group king mackerel could result in an estimated increase of up to $0.92 million in commercial exvessel value. The TAC and reallocation of Atlantic migratory group Spanish mackerel as estimated could increase commercial exvessel value by up to $130,000. The increase in Atlantic migratory group Spanish mackerel bag limit is estimated to positively impact recreational anglers constrained by the current bag limits. The actions affecting trip limits for Atlantic migratory group king mackerel could result in increased ex-vessel revenue to the commercial sector. Spanish mackerel trip limit changes may increase gross revenue in the commercial sector. These actions are not expected to have any adverse impact on recreational fishermen.

4.2 Relationship of Short-term Uses and Long-term Productivity

There is no short-term negative impact from choosing a TAC of 10.0 million pounds for Atlantic migratory group king mackerel. This TAC represents an increase of 19 percent over the previous season s TAC and has a 50 percent chance of not exceeding a fishing mortality that would achieve a spawning stock capable of producing OY. The TAC of 7.04 million pounds for Atlantic migratory group Spanish mackerel results in a 7 percent increase in the TAC. This TAC has less than a 50 percent chance of exceeding a fishing mortality that would achieve a spawning stock capable of producing OY.

The Council weighed the short-term impacts upon stocks against the long-term productivity and stability of this fishery and concluded that the proposed actions would result in net long-term economic benefits to society.

4.3 Irreversible and Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of resources associated with the proposed actions. The Council established the framework procedure to regulate TACs, bag limits, trip limits, etc. in order to regulate fishing mortality on the Atlantic migratory group of king and Spanish mackerel. If such actions are not taken, substantial reductions in catches and economic net benefits in the long-term would likely occur.

4.4 National Environmental Policy Act

Section 1508.27 of the CEQ Regulations list 10 points to be considered in determining whether or not impacts are significant. Impacts of these actions are relative to the individuals that will be required to forego catches in the short-term and to the individuals, and society, in the long-term, because higher and more stable catches will be maintained. The analyses presented below are based on the detailed information contained in Section 3.0 Management Alternatives and RIR.

The proposed action is an adjustment of the original regulations of the fishery management plan to protect the mackerel resource. The proposed action should not result in impacts significantly different in context or intensity from those described in the Environmental

Impact Statement (EIS) published with the initial regulations implementing the approved fishery management plan. The preparation of a formal Supplemental Environmental Impact Statement (SEIS) is not required for this regulatory amendment by Section 102(2)(c)(c) of the National Environmental Policy Act or its implementation regulations.

Mitigating measures related to proposed actions are unnecessary. No unavoidable adverse impacts on protected species, wetlands, or the marine environment are expected to result from the proposed management measures in this amendment.

The proposed regulations will protect the resource from depletion, better achieve the objectives of the fishery management plan, and lessen the environmental impacts of the fishery. Overall, the benefits to the nation resulting from implementation of this amendment are greater than management costs.

Beneficial and Adverse Impacts

There are beneficial and adverse impacts from the proposed actions, as described in the amendment. In addition, the effects on small businesses is summarized in section 4.8. It was not possible to quantify all impacts. The beneficial and adverse impacts as analyzed in section 4.0 are not significant.

Public Health or Safety

The proposed actions are not expected to have any significant adverse impact on public health or safety.

Unique Characteristics

The proposed actions are not expected to have any significant adverse impact on unique characteristics of the area such as proximity to historic or cultural resources, park lands, wetlands, or ecologically critical areas. The Council evaluated the effects of the fishery on the environment and concluded that the fishery, as presently prosecuted, does not significantly impact the habitat that is essential to Atlantic Migratory Group king and Spanish mackerel under Council management.

Controversial Effects

The proposed actions are not expected to have any significant controversial issues. The Council has provided for input by the public through committee and Council meetings that are open to the public and through meetings with the mackerel advisory panel.

Uncertainty or Unique/Unknown Risks

The proposed actions are not expected to have any significant effects on the human environment that are highly uncertain or involve unique or unknown risks. Benefits from management cannot be quantified but the direction and relative magnitude are known and are positive.

Precedent/Principle Setting

The proposed actions are not expected to have any significant effects by establishing precedent and do not include actions that would represent a decision in principle about a future consideration.

Relationship/Cumulative Impact

The proposed actions are not expected to have any significant cumulative impacts that could have a substantial effect on the coastal pelagics resource or any related stocks, including sea turtles. (See Section 4.0, Regulatory Impact Review, Summary of Social Impacts, and 4.8 Effects on Small Businesses).

Historical/Cultural Impacts

The proposed actions are not expected to have any significant effects on historical sites listed in the National Register of Historic Places and will not result in any significant impacts on significant scientific, cultural, or historical resources.

Endangered/Threatened Impacts

A formal Section 7 consultation under the Endangered Species Act (ESA) was completed for Amendment 6. In a biological opinion dated August 19, 1992, the National Marine Fisheries Service determined that fishing activities conducted under the regulatory amendment and its implementing regulations, as well as the fisheries for coastal migratory pelagic resources, are not likely to jeopardize the continued existence of any endangered or threatened species under its jurisdiction. However, it was also determined that gillnet fisheries may adversely affect the recovery of listed species of sea turtles. Accordingly, in compliance with the endangered species act, an Incidental Take Statement was issued and reasonable and prudent measures were specified to minimize such adverse impacts. The measures described and considered herein are expected to have no additional impact on endangered or threatened species.

Interaction With Existing Laws for Habitat Protection

The proposed actions are not expected to have any significant interaction that might threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment.

Additional points analyzed by the Council in determining that a SEIS was not necessary are presented below.

Effects of the Fishery and Proposed Actions on the Environment and Essential Fish Habitat

The habitat of king and Spanish mackerel is described and was updated in Amendment 1 (GMFMC and SAFMC, 1985) and Amendment 3 (SAFMC and GMFMC, 1989a). Essential fish habitat and Essential fish habitat-habitat areas of particular concern and recommendations to protect these habitats for Coastal Migratory Pelagic resources are described in the Council s Habitat Plan (SAFMC, 1998a) and Comprehensive Habitat Amendment (SAFMC, 1998b).

Essential Fish Habitat:

The area affected by the proposed action in the Coastal Migratory Pelagic fishery includes areas that have been identified as EFH for the Red Drum, Reef Fish, Shrimp, Stone Crab, and Coral FMPs of the Gulf Council; the Shrimp, Red Drum, Snapper Grouper, Coral, and Golden Crab FMPs of the South Atlantic Council; the Coastal Migratory Pelagics and Spiny Lobster joint FMPs of the Gulf and South Atlantic Councils; the Bluefish and Squid/Mackerel/Butterfish FMPs of the Mid-Atlantic Council, and the Tuna/Swordfish/Shark and Billfish FMPs of NMFS HMS. The proposed actions in the context of the fishery as a whole will not have an adverse impact on EFH; therefore an EFH consultation is not required.

Bycatch

The measures in this regulatory amendment will not impact bycatch and do not have bycatch considerations.

Effort Directed at or From Other Fisheries

The measures in this regulatory amendment will not result in effort being shifted into other fisheries.

Finding of No Significant Environmental Impact (FONSI)

The Council s preferred action is to implement revised TAC and quota for Atlantic Migratory Group king and Spanish mackerel, increase the recreational bag limit for Atlantic migratory group Spanish mackerel, increase the Atlantic migratory group king mackerel trip limit in the southern zone, increase the Atlantic migratory group Spanish mackerel trip limit, modify MSY and the status determination criteria and modify the framework. Section 3.0 describes the Council s management measures in detail.

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 the Coastal Migratory Pelagic Resources (Mackerels) in the Gulf of Mexico and South Atlantic Region would not significantly affect the quality of the human environment with specific reference to the criteria contained in NAO 216-6 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

4.5 Public and Private Costs

The preparation, implementation, enforcement, and monitoring of this and any federal action involves expenditure of public and private resources which can be expressed as costs associated with the regulation. Costs associated with specific actions in this regulatory amendment are shown below.

Council costs of document preparation, meetings, public hearings and information dissemination	$10,000
NMFS administrative costs of document preparation, meetings and review	$5,000
NMFS law enforcement costs	$0
Total	$15,000

4.6 Effects on Small Business — Threshold Analysis

Introduction

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

This proposed rule, if promulgated, will:
(1) Increase the TAC to 10.0 million pounds for Atlantic migratory group king mackerel for the 1999/00 fishing year. This TAC could result in an estimated increase of up to $920,000 in commercial exvessel value.

(2) Increase the TAC to 7.04 million pounds for Atlantic migratory group Spanish mackerel for the 1999/00 fishing year. This TAC could result in an estimated increase of up to $130,000 in commercial exvessel value.

(3) Increase the bag limit of Atlantic migratory group Spanish mackerel from 10 fish per person per day to 15 fish per person per day.

(4) Increase the trip limit for Atlantic migratory group king mackerel in the Southern zone from Brevard/Volusia to Miami-Dade/Monroe to 75 fish per trip.

(5) Modify trip limits for Atlantic migratory Spanish mackerel to 3,500 lb. per vessel per day from April 1 to November 30, and delay the unlimited season by one month until December 1, however the number of days of unlimited fishing will increase by two per week.

(6) Modify MSY and the status determination criteria to reflect the new biomass based values.

All of the commercial and recreational (headboats, guideboats, and charter boats) entities harvesting the Atlantic migratory groups of king and Spanish mackerel and Gulf migratory group king mackerel, affected by the rule, will qualify as small business entities because their gross revenues are less than $3.0 million annually. Hence, it is clear that the criterion of a substantial number of the small business entities comprising the Atlantic migratory groups of king and Spanish mackerel and Gulf migratory group king mackerel harvesting industry being affected by the proposed rule will be met. The outcome of significant impact is less clear but can be triggered by any of the five conditions or criteria discussed below.

The regulations are likely to result in a change in annual gross revenues by more than 5 percent. The discussions under economic impacts in Section 4 details the effects on commercial and recreational entities for each proposed action to the extent possible given available data. For the commercial sector, it is estimated that proposed Action 1 could increase annual exvessel value in the first year. The recreational entities are likely to experience increases in recreational benefits or in revenue (for headboat and charter boat sectors) since this actions allows for increased harvest.

Proposed Action 2 could have a positive impact on recreational entities since their allocation would increase, and it is possible that ex-vessel revenue could increase in the commercial fishery during the next season. Proposed Action 3 could result in increased revenue for the for-hire sector if additional recreational trips are taken due to the higher bag limits. Proposed Actions 4 and 5 are expected to positively impact the commercial fishery since trip limits would increase compared to trip limits in the previous season. Proposed Action 6 by itself will not have an economic impact on entities in the fishery.

Annual compliance costs (annualized capital, operating, reporting, etc.) increase total costs of production for small entities by more than 5 percent. The eight proposed actions are not expected to cause any increase in production costs.

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

Capital costs of compliance represents a significant portion of capital available to small entities considering internal cash flow and external financing capabilities. The proposed actions do not require any existing fishing entity to acquire new equipment or to completely refit existing equipment for compliance purposes.

The requirements of the regulation are likely to result in a number of the small entities affected being forced to cease business operations. This number is not precisely defined by SBA but a rule of thumb to trigger this criterion would be two percent of the small entities affected. The analyses under economic impacts for each proposed action do not indicate that any entity will be forced out of business. On the contrary, the results show that there would be some short-term increase in exvessel value resulting from these actions.

Considering all the criteria discussed above, the conclusion is that small businesses will not be significantly affected by the proposed rule. Hence, the determination is made that the proposed rule will have no significant impact on a substantial number of small business entities and an Initial Regulatory Flexibility Analysis (IRFA) is not required.

5.0 LIST OF PREPARERS

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6.0 LIST OF AGENCIES AND ORGANIZATIONS

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List of Agencies and Persons Consulted:

SAFMC Mackerel Advisory Panel
SAFMC Scientific and Statistical Committee
National Marine Fisheries Service
- Southeast Region
- Southeast Center

7.0 APPLICABLE LAW

7.1 Vessel Safety Considerations

PL. 99-659 amended the Magnuson-Stevens Act to require that a fishery management plan or amendment must consider, and may provide for, temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safety of the vessels.

No vessel will be forced to participate in the fishery under adverse weather or ocean conditions as a result of the imposition of management regulations set forth in this regulatory amendment to the Coastal Pelagics Fishery Management Plan. Therefore, no management adjustments for fishery access will be provided.

There are no fishery conditions, management measures, or regulations contained in this amendment which would result in the loss of harvesting opportunity because of crew and vessel safety effects of adverse weather or ocean conditions. No concerns have been raised by people engaged in the fishery or the Coast Guard that the proposed management measures directly or indirectly pose a hazard to crew or vessel safety under adverse weather or ocean conditions. Therefore, there are no procedures for making management adjustments in this amendment due to vessel safety problems because no person will be precluded from a fair or equitable harvesting opportunity by the management measures set forth.

There are no procedures proposed to monitor, evaluate, and report on the effects of management measures on vessel or crew safety under adverse weather or ocean conditions.

7.2 Paper Work Reduction Act

The Council does not propose additional permit and data collection programs within this amendment.

7.3 Federalism

No federalism issues have been identified relative to the actions proposed in this amendment and associated regulations. The affected states have been closely involved in developing the proposed management measures and the principal state officials responsible for fisheries management in their respective states have not expressed federalism related opposition to adoption of this amendment.

8.0 REFERENCES

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