

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

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May 7, 1987

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Mr. Craig O'Connor  
Acting Regional Director  
National Marine Fisheries Service  
9450 Koger Boulevard  
St. Petersburg, Florida 33702

Dear Craig:

In conformance with stock assessment procedures in the amended FMP, Amendment 2, and implementing regulations the Gulf and South Atlantic Councils reviewed the stock assessments on king and Spanish mackerels, the report of their Stock Assessment panel, recommendations made by the Scientific and Statistical Committees and Advisory Panels, and public comment regarding seasonal adjustments to the mackerel fisheries.

At their joint meeting on April 28, 1987, the Councils under the authority of §642.27 adopted recommendations for seasonal adjustments for king and Spanish mackerels in total allowable catches (TAC), quotas, and bag limits. All TACs are within the range of acceptable biological catch recommended in the report of the Stock Assessment Panel, enclosed. After consideration of the biological, economic, and social impacts, the Councils recommend the following TACs and quota distribution prescribed in the framework measures of the FMP with bag limits to reduce and distribute the recreational catch:

<u>Gulf King Mackerel</u>	<u>% of TAC</u>	<u>million pounds</u>	
TAC July 1, 1987 - June 30, 1988		2.2	
Recreational	68%	1.5	Bag limit 3 fish per person per trip excluding captain and crew on charter vessels and 2 fish per person on all other vessels.
Commercial	32%	0.7	
Eastern Zone	69%	0.5	
Western Zone	31%	0.2	
<u>Atlantic King Mackerel (no change)</u>			
TAC April 1, 1987 - March 31, 1988		9.68	
Recreational	62.9%	6.09	Bag limit 3 fish per person per trip.
Commercial	37.1%	3.59	
<u>Gulf Spanish Mackerel</u>			
TAC July 1, 1987 - June 30, 1988		2.50	

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Recreational	43 %	1.08	Bag limit 3 fish per person per trip.
Commercial	57 %	1.42	

Atlantic Spanish Mackerel

TAC April 1, 1987 - March 31, 1988 3.10

Recreational	24 %	0.74	Bag limit 10 fish per person per trip except 4 fish off Florida.
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Commercial	76 %	2.36	
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In accordance with the provisions of the FMP and regulations commercial fishing is to cease for a group or zone when its commercial quota is attained. Bag limits for a group that is overfished revert to zero when the recreational quota is filled. Prior to reversion of the bag limit to zero you are to consult with the Councils and advise them of the data on which the reversion is based (\$642.22). The closures or bag limit reversions will retain the catches within the TAC and protect the stocks from overfishing. Rationale for these recommendations is provided in the enclosed supplementary regulatory impact review. Draft regulations to implement this Notice Action are also enclosed.

Please note that the TACs for the Atlantic groups of king and Spanish mackerels apply to the current fishing year; however, there is no change recommended for the Atlantic king mackerel fishery.

The bag limits for Gulf and Atlantic Spanish mackerels will replace those established in the emergency rule which expires on June 30, 1987. We therefore request that this Notice Action be implemented with Amendment 2, July 1st in order to maintain continuity of management in the fishery. We will appreciate your favorable consideration of these recommendations.

Sincerely,

*George JRF*  
George A. Brumfield  
Chairman  
Gulf Council

*O'Neil JRF*  
O'Neil Sanders  
Chairman  
South Atlantic Council

GAB:OS:TRL:plb

Enclosures

cc: Gulf Council, w/copy SRIR and Regs  
Bob Mahood, w/copy SRIR and Regs  
Staff, w/copy SRIR and Regs  
Bill Lindall, w/copy all enclosures

SUPPLEMENTAL REGULATORY IMPACT REVIEW  
of  
PRE-SEASON CHANGES IN TAC, QUOTAS, AND BAG LIMITS  
for  
KING AND SPANISH MACKEREL GULF OF MEXICO AND  
ATLANTIC MIGRATORY GROUPS  
managed under the  
FISHERY MANAGEMENT PLAN  
for the  
COASTAL MIGRATORY PELAGIC RESOURCES  
of  
GULF OF MEXICO AND THE SOUTH ATLANTIC

## INTRODUCTION

The Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and the South Atlantic (FMP) was prepared jointly by the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils). The Assistant Administrator for Fisheries, NOAA (Assistant Administrator) approved the FMP on April 1, 1982, and the Secretary of Commerce (Secretary) implemented final regulations on February 4, 1983, (48 FR 5272), under the authority of the Magnuson Fishery Conservation and Management Act, as amended (Magnuson Act). Amendment 1 to the FMP was prepared jointly by the Councils, approved on July 26, 1985 by the Regional Director, NMFS, and implemented September 22, 1985 (50 FR 34843). Amendment 2 was submitted on April 1, 1987.

The FMP manages the coastal migratory pelagics fishery throughout the exclusive economic zone (EEZ) off the South Atlantic coastal states from the Virginia-North Carolina border south and through the Gulf of Mexico to the U.S.A.-Mexico border. Major species in the management unit for the FMP are Spanish mackerel, king mackerel, and cobia. Within the mackerel stocks, Gulf of Mexico and Atlantic migratory groups are distinguished for both species. Amendments 1 and 2 provide for annual assessments and adjustment of total allowable catch (TAC) for king and Spanish mackerels, both of which have within them one or more stressed migratory groups. Emergency rules were implemented for the first 180 days of 1987 to reduce the catch of Spanish mackerel. The rule and its extension provided for an interim reduction of commercial catch and bag limits to prevent excessive fishing prior to implementation of Amendment 1 in the summer of 1987.

Although Amendment 2 did provide acceptable biological catch (ABC), TAC, allocations, and commercial quotas for Spanish mackerel migratory groups, specific bag limits were deferred until the 1987 stock assessment report was received.

## DESCRIPTION OF THE PROPOSED ACTION

Changes in the TAC and resulting allocations, and bag limits for Spanish mackerel and the Gulf of Mexico migratory group of king mackerel are being made in accordance with the framework procedure under Amendments 1 and 2 to the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and the South Atlantic, and implementing regulations. The intended effects are to protect the stocks and still allow a catch by the important recreational and commercial fisheries that are dependent on these species.

In accordance with the framework provisions established in Amendment 1, the Councils have recommended TACs not to exceed the upper levels of the ABC ranges.

For the Atlantic migratory group of king mackerel the stock assessment panel noted that fishing mortality rates appear to be near rates of full exploitation, and significant increases in the fishing rate would likely result in losses of yield. The Councils recommend no change, retaining a TAC of 9.68 in a range of ABC between 6.9 and 15.4 million pounds (M).

The panel again concluded that overfishing on the Gulf group king mackerel has occurred, and that there has been no evidence of significant recovery of the stock as yet. The ABC range is very similar but slightly lower than for the 1986-1987 season. The Councils recommend a TAC of 2.2 M in the ABC range of 0.6 to 2.7 to hasten recovery of the stock.

For Spanish mackerel the panel noted apparent improvement in recent recruitment which will allow the spawning biomass to recover and still allow an increase in yield. The increase in yield allowance appears mainly in the Gulf where recruitment increases are more apparent. The Councils recommend for the Atlantic group a TAC of 3.1 M in a range of 1.7 to 3.1. In the Gulf group they recommend a TAC of 2.5 in a range of 1.9 to 4.0 M.

As provided by Amendments 1 and 2, the commercial fishery is to be regulated by quotas while the recreational fishery is to be regulated by bag limit and quota. The affected commercial fishery will be closed by the NMFS Regional Director when the relevant quota is reached. When the Regional Director has reason to believe that the recreational quota has been reached on a group of overfished mackerel, he will first consult with the Councils and advise them of the data on which he has based his opinion, and then shall lower the bag limit to zero (0), allowing the fishery to continue on a hook and release basis. Table 1 shows allocation of allowable catches.

The recreational bag limit for Gulf group king mackerel at the beginning of the fishing year remains unchanged at three (3) fish per person per trip for anglers on charter craft, excluding captain and crew, or two (2) fish per person including captain and crew, whichever is greater. For persons fishing from other recreational vessels, the bag limit remains at two (2) fish per person per trip.

For Atlantic group Spanish mackerel the bag limit is to remain four (4) fish in the EEZ off Florida and 10 fish off Georgia, North, and South Carolina. For Gulf group Spanish mackerel the bag limit is to be three (3) fish.

#### NEED FOR PROPOSED ACTION

Amendment 2 utilized the 1986 stock assessment to set TAC for Gulf king mackerel at 2.9 and for Atlantic king mackerel at 9.68 M. The Spanish mackerel resource was divided into Atlantic and Gulf groups with TACs set at 2.9 and 1.8 M respectively. The Councils provided allocations based on the 1986 report but deferred action on bag limits.

The Councils considered the report of the stock assessment panel meeting March 18-20, 1987. The 1987 report, as previously stated, found no apparent improvement in the depleted Gulf king mackerel group and assessed the Atlantic group as approaching full utilization. Spanish mackerel in the Gulf group received strong recruitment enabling an increase in the ABC range and TAC. Bag limits to retain the recreational catch of Spanish mackerel within allocations were deferred in Amendment 2 but must be implemented with its implementation.

The Councils reviewed the 1987 report of its stock assessment panel, subsequent comment by their Scientific and Statistical Committees and Advisory panels, and public comment before recommending the TACs and bag limits for the 1987-1988 season.

The TAC for Atlantic group king mackerel is retained at 9.68 M which is near MSY for that group. The recreational bag limit of three fish per person per trip has provided a fishery throughout the season without prematurely filling the allocation. The commercial fishery is well within its quota without need for closure.

The Gulf migratory group of king mackerel has shown no recovery. It has been necessary to close the commercial fishery in both eastern and western zones as quotas were filled. The recreational catch under the current bag limit was within the allocation during the season with no necessity for reversion to zero. The Councils have responded to the reduced range of ABC (0.6 to 2.7 M) to enhance recovery of the depressed stock. Allocations are shown in Table 1.

While improved recruitment of Gulf Spanish mackerel prompted an increase in the ABC recommended for that group (1.9-4.0 M), the Councils have recommended a conservative TAC of 2.2 M. This action is taken to maintain a high level of spawning stock biomass to accelerate recovery by providing protection to the high year class recruitment. Female Spanish mackerel may begin spawning at age 1, and age 2 females make a significant contribution to the spawning potential of the stock.

In the Atlantic group of Spanish mackerel, the Stock Assessment panel noted some historical decline in spawning stock biomass and average size. Conservative fishing mortality rates are needed. The Councils recommend a TAC of 3.1 within the recommended ABC range of 1.7 to 3.1 M.

## ALTERNATIVES CONSIDERED

### A. ATLANTIC GROUP KING MACKEREL

The assessment panel has noted a rapid expansion of this fishery since 1979. Catches are now high and variable from year to year. Recruitment levels are now near to those of the 1970s, and spawning biomass appears to be increasing. Fishing mortality rates appear to be near ratio of full exploitation. Significant increases in the fishing rate would likely result in losses of yield. TAC is now set at 9.68 M in ABC range of 6.9 to 15.4 M. For the 1987-1988 season the assessment panel recommends an ABC range of 6.9 to 15.4 M (no change). The fixed allocation ratio is 62.9 percent recreational

and 37.1 percent commercial. Because overfishing is not occurring in this group, the recreational bag limit does not revert to zero when the quota is filled.

Options:

**A-1 Preferred Alternative: No change. TAC is to be set at 9.68 M.**

Rationale: This action is conservative in that TAC is set near mid-range of ABC and enhances opportunity of recovery of the depleted Gulf stock. Commercial catch remains within its quota, and the current bag limit appears appropriate for the recreational allocation. Current catch is near MSY.

Commercial quota	3.59 M
Recreational quota	6.09 M
Bag limit = 3 fish per person per trip	

**A-2 Rejected Alternative: Set TAC for 15.4 M.**

Rationale: The original strategy of the assessment group was to increase the catch of the lightly fished Atlantic group while decreasing catch of the Gulf group to establish eventually a more uniform fishing mortality throughout the range. Increasing TAC would allow larger bag limits and commercial quotas on the Atlantic group. This action could, however, delay recovery of the Gulf group and lead to excessive effort in the commercial fishery which may need to be reduced when the stock stabilized. This TAC would be well above the MSY for the Atlantic group.

Commercial quota	5.71 M
Recreational quota	9.69 M

**A-3 Rejected Alternative: Set TAC at 6.9 M.**

Rationale: This more conservative approach could hasten recovery of the Gulf group, but may require a reduction in bag limits and seasonal closures of the commercial season as quotas are reached.

Commercial quota	2.56 M
Recreational quota	4.34 M

**A-4 Rejected Alternative: Set TAC at 11 M.**

Rationale: This option could have allowed an increase in the recreational bag limit to four fish per person per trip. The recreational catch is reaching its current allocation, although the commercial fishery is not. This alternative was rejected because the fishery at a TAC of 9.68 M is producing near its MSY.

Commercial quota	4.08 M
Recreational quota	6.92 M
Bag limit = 4 fish per person per trip	

## B. GULF GROUP KING MACKEREL

The stock assessment panel again concluded that overfishing has occurred on this group. A TAC at the upper range of ABC affords a smaller chance for stock recovery than a TAC at the lower end. There is a large chance that a high catch would allow no recovery. The panel recommends an ABC range of 0.6 to 2.7 M, slightly reduced from the current 1.2 to 2.9 M range. This is due to the absence of evidence of any significant recovery of the stock as yet. As provided in Amendment 2, the TAC may not be set higher than the upper range of ABC (2.7 M). Fixed allocations are 32 percent commercial and 68 percent recreational. The commercial allocation is divided 69 percent eastern zone and 31 percent western zone.

Options:

### B-1 Preferred Alternative: Set TAC at 2.2

Rationale: This reduction of TAC reflects the Councils' concern in the lack of evidence of recovery of the stock and the further decline of the ABC recommendation. The recreational bag limit remains unchanged but will revert to zero when the recreational allocation is filled to prevent overfishing.

Commercial quota	0.7 M
Eastern zone	0.5 M
Western Zone	0.2 M
Recreational quota	1.5 M
Bag limit = 2 fish private, 3 fish charter	

### B-2 Rejected Alternative: Set TAC at 2.7 M, the upper range of ABC.

Rationale: The reduced catch has been in effect less than two years, an insufficient time to be reflected in recruitment. The reduction of TAC by about seven percent would maintain the fishery within ABC although at the upper level. A still lower TAC would increase opportunity for recovery.

Commercial quota	0.86 M
Eastern zone	0.59 M
Western zone	0.27 M
Recreational quota	1.84 M
Bag limit = 2 fish private, 3 fish charter	

### B-3 Rejected Alternative: Set TAC at 0.6 M, the low range of ABC.

Rationale: A catch of 0.6 M would enhance the opportunity of recovery given a strong recruitment, but would be tantamount to a closure of the fishery.

Commercial quota	0.19 M
Eastern zone	0.13 M
Western zone	0.06 M
Recreational quota	0.41 M

**B-4 Rejected Alternative: Set TAC at 1.2 M, a point near mid ABC.**

Rationale: This provides a distribution of a low catch as follows:

Commercial quota	0.38 M
Eastern zone	0.26 M
Western zone	0.12 M
Recreational quota	0.82 M

**C. ATLANTIC SPANISH MACKEREL**

The report of the stock assessment panel notes historical decline in spawning biomass and average size particularly in the Atlantic but no discernible trend in recruitment. The ABC range for this group is recommended from 1.7 to 3.1 M. The allocation is 76 percent commercial and 24 percent recreational.

Options:

**C-1 Preferred Alternative: TAC set at 3.1 M, upper range of ABC.**

Rationale: This level would provide an overall reduction in catch of about 30 percent from recent years' catches of about 4.4 M.

Commercial quota	2.36 M
Recreational quota	0.74 M
Bag limit	4 Florida, 10 other states

Bag limits are used to reduce and distribute the recreational catch (see Regulatory Impacts Summary). In order to examine the impacts of these bag limits on the recreational catch, the following assumptions were made: (a) the overall percentage reduction is about 25% (Table 2); (b) the average recreational Spanish mackerel catch by wave and state for 1979 through 1985 is representative of the 1987/88 distribution; and (c) full compliance with the bag limit.

It is projected that the recreational allocation of 740,000 pounds will be exceeded in the September/October wave requiring the bag limit revert to zero (Table 3). Spanish mackerel are present in North Carolina and Florida east coast during April; during May/June, and July/August fish are present in all areas. However, the peak fishing time in North Carolina, South Carolina, and Georgia occurs during the July/August wave, whereas the peak time in Florida east coast is during the November/December wave, well after the fishery is projected to be closed.

The differential bag limit is justified because the actual fishing patterns are different. In the area from North Carolina through Georgia, trips are likely to be one day trips while fishermen in Florida east coast are more likely to make multiple trips in one day given their greater access to the resource (i.e., Spanish mackerel are closer to shore off the Florida east coast). In addition, the differential bag limit is necessary to ensure a fair and equitable allocation of the resource since the bulk of the fishery is a commercial fishery off the Florida east coast. Without the differential bag limit, Florida east coast fishermen, both commercial and recreational, would harvest an unfair portion



of the resource. This results in Florida bearing the majority of the burden which is justified because the decline in abundance coincides with the large net catches from Florida's east coast.

Enforcement is facilitated with the differential bag limit in that the four-fish limit for the Florida east coast is identical to existing state regulations. In North Carolina, South Carolina, and Georgia it is the opinion of Council members that compatible state/federal regulations will be possible with a 10-fish limit but that a more stringent limit, given the small catches in South Carolina and Georgia, would make compatible regulations less likely.

**C-2 Rejected Alternative: TAC set at 3.1 M.**

**Rationale:** The four-fish bag limit corresponds to that implemented by the State of Florida for its waters. Florida has the highest recreational catch of Atlantic states and dominates the commercial catch. The unrestricted recreational catch has been comparatively low in Georgia and South Carolina, and it is unlikely that these states would be able to set a four-fish bag for their waters.

Commercial quota	2.36 M
Recreational quota	0.74 M
Bag limit = 4 fish per person per trip	

**C-3 Rejected Alternative: TAC set at 2.5 M, mid-range of ABC.**

This level would reduce overall catch by about 43 percent from those of recent years.

Commercial quota	1.9 M
Recreational quota	0.6 M

**C-4 Rejected Alternative: TAC set at 1.7 M, lower range of ABC.**

This would constitute a 60 percent reduction over recent catches.

Commercial quota	1.29 M
Recreational	0.41 M

**D. GULF SPANISH MACKEREL**

There is evidence of some increase in recruitment in the most recent years. The panel felt there was potential for it to contribute to recovery of the spawning biomass, but that conservative fishing mortality rates are still needed. Recommended ABC range is 1.9 to 4.0 M. Allocations are 57 percent commercial and 43 percent recreational. Recent catches are in excess of 6.6 M.

Options:

**D-1 Preferred Alternative: TAC set at 2.5 M**

Rationale: This conservative TAC is intended to protect the strong recruitment now entering the fishery and to enhance a rapid restoration of spawning stock biomass. The low bag limit of three-fish per person per trip reverts to zero when the quota is filled.

Commercial quota	1.42 M
Recreational quota	1.08 M
Bag limit = 3 fish per person per trip	

**D-2 Rejected Alternative: TAC set at 4.0 M, upper ABC range.**

Rationale: Improvement in recruitment and implementation of larger mesh size will enhance recovery of stock. This TAC is a 40 percent reduction over the most recent year's catch but is the most liberal option available.

Commercial quota	2.28 M
Recreational quota	1.72 M

**D-3 Rejected Alternative: TAC set at 3.0 M, mid ABC range.**

Rationale: A more conservative approach provides a catch reduction of 55 percent.

Commercial quota	1.71 M
Recreational quota	1.29 M

**D-4 Rejected Alternative: TAC set at 1.9 M, low ABC range**

Rationale: This catch would protect the new recruits and speed recovery of the spawning stock biomass but would impose severe restrictions on users.

Commercial quota	1.08 M
Recreational quota	0.82 M

## REGULATORY IMPACTS SUMMARY

The alternatives available were described above and the allocations are summarized in Table 5. For this Notice Action the choice for TAC cannot exceed the upper ranges of ABC as estimated by the stock assessment panel and summarized in Table 5. There would be no relevance to comparing these alternatives to a hypothetical unregulated fishery since "no regulation" is not an option under Notice Action.

Ideally, the expected net present values of the yield streams associated with the different alternatives would be compared in evaluating impacts. Unfortunately, estimates of the yield streams and their associated probabilities are not available. The approach taken here is to describe short-term costs in terms of foregone catch for the commercial and recreational sectors and the likely distribution of these costs.

## Commercial

The proposed TAC for the Gulf group of king mackerel is 500,000 pounds less than the upper range of ABC. The commercial allocation is 160,000 pounds less than the maximum possible. Thus the exvessel value of the short-term loss to the commercial sector is approximately \$160,000, based on comparative values in Poffenberger (p. 44).

In 1986-1987 there were 894 commercial king mackerel permits issued for the Gulf (M. Justen, NMFS, personal communication). If a like number is issued in 1987-1988 and the loss is shared equally among license-holders, the loss would be approximately \$180 per license-holder. A more likely scenario is that the bulk of the loss would be borne by those license-holders specializing in mackerel fishing. Poffenberger (p. 26) reports that there were 33 vessels fishing for mackerel on the Florida west coast in 1985 with hook and line and gill nets. The NMFS vessel count does not include unregistered vessels that may catch substantial quantities of king mackerel, and it has no information on directed mackerel fisheries in areas of the Gulf other than Florida. An upper limit to the average vessel loss can be calculated to be \$4,800 per vessel by ascribing the entire \$160,000 reduction to the 33 vessels in the NMFS count.

The benefit to be gained from this short-term loss is an enhanced probability of recovery of the overfished Gulf stock of king mackerel. Data are not available to quantify this expected benefit.

The proposed TAC for the Atlantic group of king mackerel is 5,720,000 pounds less than the upper range of ABC. The commercial allocation is 2,100,000 pounds less than the maximum possible and represents a hypothetical dollar loss of \$2,200,000. It must be noted that the stock assessment panel concluded that the Atlantic group fishery was operating near MSY for the group at a TAC of 9,680,000 pounds. According to data in FMP Amendment 2 (p. 32) the average commercial catch for the Atlantic migratory group in fishing years 1981-82 through 1984-85 was about 2,900,000 pounds per year, some 700,000 pounds less than their current allocation. However, as Poffenberger notes (p. 45), quotas for the Atlantic group have not been reached during any of the three years they have been in effect. In addition, the number of vessels in the Florida east coast fishery (80% of the total) dropped significantly in recent years (Poffenberger, p. 26). Thus it is reasonable to assume there is no significant economic impact from the TAC proposed for the Atlantic group.

The benefits to be gained are that, by setting a conservative TAC for the Atlantic group of king mackerel, the fishery can likely continue to operate near MSY.

The proposed TAC for the Gulf group of Spanish mackerel is 1,500,00 pounds below the upper range of ABC. The commercial allocation is 860,000 pounds below the maximum possible but 390,000 pounds above the 1986-87 allocation. At a \$0.30 per pound average exvessel price, the commercial quota is worth \$258,000 less than the maximum possible. There is no information on the actual number of participants in the commercial fishery who will share this loss. An upper limit to the average vessel loss can be calculated as for Gulf group king mackerel by dividing it among the 33 Florida west coast hook and line and gill net vessels. The upper limit of the loss is about \$7,800 for the average vessel in NMFS file.

The benefit of this relatively conservative TAC level is that the strong incoming year class will be protected and the stock recovery occur more quickly.

The proposed TAC for the Atlantic group of Spanish mackerel is set at the upper limit of ABC so that the commercial allocation is the maximum possible and there is no short term loss. The benefits to this maximal allocation are assumed to be neutral in the absence of estimates of the yield streams for alternative levels of TAC.

### Recreational

There are very few data on which to estimate the costs and benefits of TACs and allocations to the recreational sector. If the allocations between sectors are optimal and if the commercial exvessel price of fish can be used as a proxy for the value of fish used as an input in both sectors, then the marginal losses to the recreational sector could be calculated as for the commercial sector. Poffenberger (p. 59) reporting on contractor work in the Panama City-Destin area on king mackerel charter fishing for the SEFC, notes that the average loss per charter boat angler associated with a reduction of king mackerel quota from three fish to two fish is \$2 and from two fish to one fish is \$7 to \$8. The average size of recreationally caught king mackerel in the Gulf in recent years has been eight to 10 pounds which would have had an average exvessel value of \$8 to \$10 which is in the same order of magnitude as the marginal values reported by Poffenberger. Poffenberger (p. 57) states that the results of the study are not presented as representative of charter boat fishing throughout the southeast U.S. and draws no conclusions on the impact of regulations on the recreational sector (p. 65). Given the professional controversy surrounding the valuation of fish to the recreational fishing sector, it does not seem fruitful or prudent to calculate dollar losses based on exvessel price as a proxy.

The primary method of distributing the recreational quota among participants has been by setting bag limits to prolong the season. Bag limits for king mackerel are not changed by this Notice Action. Bag limits for Spanish mackerel are implemented by this Notice Action and a discussion of their use follows:

The Councils propose to use a bag limit to restrict the recreational catch within a prescribed allocation and to distribute the catch throughout the fishing year. The bag limit is to revert to zero when the allocation for an overfished group is taken. The method utilized is to identify historic catch frequency patterns and from them develop catch limits that would have reduced total catch by various percentages in the historic pattern (Table 2).

The recreational allowable catch is calculated as a percentage of a predicted unrestricted recreational catch for next season. The Councils' Scientific and Statistical Committee has advised that the most recent recreational catch may best serve as the proxy for this expected unrestricted future catch.

The SSC noted that total recreational catch is highly dependent on number of trips; so the effect of bag limits may vary widely. The size of the year class entering the fishery will also affect the effort.

The closure at completion of the quota protects from overfishing but eliminates access for the rest of the season to some anglers.

The bag limit of three Spanish mackerel for the Gulf migratory group provides an estimated reduction of 34 percent. With the 1985-1986 fishing year as proxy for next year's unrestricted catch, the projected catch reduced by bag limit would reach the 1.08 million pound quota in June. The fishing year for Gulf Spanish mackerel (July 1 to June 30) may be expected to last for 11 months before the bag limit reverts to zero.

For Atlantic Spanish mackerel the estimated reduction in catch is 25 percent both off Florida with a four-fish bag limit and off the other Atlantic states with a 10-fish bag limit. The fishing season which begins on April 1 can be expected to reach its recreational quota in October at which time the bag limit would revert to zero until the following April.

The impact on the economics of the recreational fishery is not clear. Anglers may continue to fish for Spanish mackerel but must release their catch. Less than 10 percent of the Atlantic catch of Spanish mackerel is taken by charter vessels.

Table 1

**MACKEREL ALLOCATIONS**  
(Millions of Pounds)

U.S. KING MACKEREL

Gulf King Mackerel

ABC Range		0.6 - 2.7
TAC		2.2
Recreational	68%	1.5
Commercial	32%	0.7
Eastern Zone	69%	0.5
Western Zone	31%	0.2

Atlantic King Mackerel (no change)

ABC Range		6.9 - 15.4
TAC		9.68
Recreational	62.9%	6.09
Commercial	37.1%	3.59

U.S. SPANISH MACKEREL

Gulf Spanish Mackerel

ABC Range		1.9 - 4.0
TAC		2.5
Recreational	43%	1.08
Commercial	57%	1.42

Atlantic Spanish Mackerel

ABC Range		1.7 - 3.1
TAC		3.1
Recreational	24%	0.74
Commercial	76%	2.36

Table 2

EXPECTED % REDUCTION FROM BAG LIMITS ON NUMBER OF FISH PER ANGLER PER TRIP.

SPANISH MACKEREL (25% RELEASE MORTALITY)

BAG LIMIT	ATLANTIC MIGRATORY GROUP		GULF MIGRATORY GROUP	
	PRIVATE*	CHARTER*	PRIVATE**	CHARTER**
1	57	52	54	52
2	46	39	42	40
3	39	32	36	32
4	34	27	31	26
5	31	23	27	23
6	26	20	23	20
7	24	18	20	17
8	22	16	18	14
9	20	14	16	12
10	18	12	14	11
11	17	10	12	10
12	16	9	11	9
13	15	8	10	8
14	14	8	8	8
15	14	7	8	8
16	13	6	7	7
17	12	6	6	7
18	12	5	5	7
19	11	5	5	6
20	11	4	5	6

\*SOURCE: Bannerot (1987) Table 12.

\*\*SOURCE: Bannerot (1987) Table 13.

Table 3

PROJECTED RECREATIONAL CATCH OF ATLANTIC SPANISH MACKEREL  
IN POUNDS WITH A BAG LIMIT OF  
4 FISH FOR FLORIDA AND 10 FISH FOR OTHER ATLANTIC STATES

<u>85/86</u>	<u>Catch</u>	<u>25% Reduction</u>	<u>Cumulative</u>
April	17,000	12,750	12,750
May/June	127,000	95,250	108,000
July/August	751,000	563,250	671,250
September/October	122,000	91,500	762,750
November/December	2,000	1,500	764,250
January/February	41,000	30,750	795,000
March	5,500	4,130	799,130

Table 4

PROJECTED RECREATIONAL CATCH IN POUNDS  
OF GULF SPANISH MACKEREL WITH A BAG LIMIT OF FOUR FISH

<u>1985/86</u>	<u>Catch</u>	<u>34% Reduction</u>	<u>Cumulative Projection</u>
July/August	591,000	390,060	390,040
September/October	140,000	92,400	482,460
November/December	149,000	98,340	580,800
January/February	1,000	660	581,460
March/April	386,000	254,760	836,220
May/June	813,000	536,580	1,372,800



Table 5

SUMMARY OF ALTERNATIVE MACKEREL ALLOCATIONS  
(Millions of Pounds)  
FOR THE 1987-1988 FISHING YEARS

U.S. KING MACKEREL		ALTERNATIVE			
		1*	2	3	4
Gulf King Mackerel (ABC Range: 0.6 - 2.7)					
TAC		2.20	2.70	0.60	1.20
Recreational	68%	1.50	1.84	0.41	0.82
Commercial	32%	0.70	0.86	0.19	0.38
Eastern Zone	69%	0.50	0.59	0.13	0.26
Western Zone	31%	0.20	0.27	0.06	0.12
Atlantic King Mackerel (ABC RANGE: 6.9 - 15.4)					
TAC		9.68	15.40	6.90	11.00
Recreational	62.9%	6.09	9.69	4.34	6.92
Commercial	37.1%	3.59	5.71	2.56	4.08
U.S. SPANISH MACKEREL					
Gulf Spanish Mackerel (ABC Range: 1.9 - 4.0)					
TAC		2.50	4.00	1.90	3.00
Recreational	43%	1.08	1.72	0.82	1.29
Commercial	57%	1.42	2.28	1.08	1.71
Atlantic Spanish Mackerel (ABC Range: 1.7 - 3.1)					
TAC		3.10	3.10**	1.70	2.50
Recreational	24%	0.74	0.74	0.41	0.60
Commercial	76%	2.36	2.36	1.29	1.90

\* Preferred alternative

\*\* Bag limit varies from first alternative

## REFERENCES

- Bannerot, S. P. 1987 Effect of potential bag limits on recreational catch of king and Spanish mackerel in the Gulf of Mexico and South Atlantic regions of the southeastern United States. Unpublished manuscript. South Atlantic Fishery Management Council, Charleston, South Carolina.
- Poffenberger, John R. 1987 An Economic Assessment of the Fisheries for King and Spanish Mackerel. National Marine Fisheries Service, Southeast Fisheries Center, Economics and Statistics Office, 75 Virginia Beach Drive, Miami, Florida 33149. March, 1987.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR PART 642

[Docket No.     ]

Coastal Migratory Pelagic Resources of the Gulf of Mexico and the South Atlantic

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Notice of preliminary change in total allowable catch and bag limits for the Gulf migratory group of king mackerel and Atlantic and Gulf group Spanish mackerel.

SUMMARY: The Secretary of Commerce issues a notice of preliminary changes in the total allowable catch (TAC) and bag limits for the Gulf migratory group of king mackerel and Atlantic and Gulf group Spanish mackerel in accordance with the framework procedure under Amendments 1 and 2 to the Fishery Management Plan for the Coastal Migratory pelagic Resources of the Gulf of Mexico and the South Atlantic. This notice proposes (1) reductions in TAC and allocations for Gulf migratory group king mackerel and Atlantic and Gulf group Spanish mackerels based on recent catch data; and (2) setting bag limits for recreational fishermen. The intended effects are to protect the mackerels and still allow a catch by the important recreational and commercial fisheries that are dependent on these species and ensure that the recreational allocation is not exceeded.

DATES: Comments must be received on or before (insert date 15 days after date of publication in Federal Register).

ADDRESSES: Comments should be sent to William R. Turner, Southeast Region, National Marine Fisheries Service, 9450 Koger Boulevard, St. Petersburg, Florida 33702.

FOR FURTHER INFORMATION CONTACT: William R. Turner, 813-893-3722.

SUPPLEMENTAL INFORMATION: The mackerel fisheries are regulated under the Fishery Management Plan for the Coastal Migratory Pelagic Resources of the Gulf of Mexico and the South Atlantic (FMP) and its final regulations (50 CFR Part 642). An amendment to the FMP (Amendment 1) was prepared jointly by the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils) and implemented September 22, 1985 (50 FR 34843, August 28, 1985). Amendment 2 was submitted on April 7, 1987.

In Amendment 2 the Councils recommended TACs of 2.9 and 9.68 million pounds for Gulf and Atlantic king mackerel and 1.8 and 2.9 million pounds respectively for Gulf and Atlantic group Spanish mackerel. Amendments 1 and 2 provide for allocations for recreational and commercial fishermen.

In conformance with stock assessment procedures in the amended FMP and implementing regulations, the Councils convened the Stock Assessment Panel, reviewed its report, and made recommendations to the Regional Director for changes in the TAC, quotas, and bag limits.

The Councils recommended, under the authority at §642.27, that effective with the fishing year July 1, 1987, through June 30, 1988, TAC be set at 2.2 million pounds for Gulf king mackerel and 2.5 million pounds for Gulf Spanish mackerel per fishing year. Effective with the fishing year April 1, 1987 through March 31, 1988, the councils recommend a TAC of 3.1 million pounds per fishing year for Atlantic group Spanish mackerel. The Atlantic king mackerel TAC remains unchanged at 9.68 million pounds. All TACs are within the range of acceptable biological catch (ABC) provided by the Stock Assessment panel.

In accordance with the provisions of the FMP the TACs are to be allocated to users and by area by prescribed formula. The recreational fishery and the commercial fishery are each allocated a percentage of the TAC. The Gulf king mackerel commercial allocation

is subdivided into quotas for eastern and western zones. The commercial fisheries will be regulated by quotas under §642.28(a) and (c).

**Gulf King Mackerel**

TAC		2.2 million pounds
Recreational	68%	1.5
Commercial	32%	0.7
Eastern Zone	69%	0.5
Western Zone	31%	0.2

**Atlantic King Mackerel (no change)**

TAC		9.68
Recreational	62.9%	6.09
Commercial	37.1%	3.59

**Gulf Spanish Mackerel**

TAC		2.50
Recreational	43%	1.08
Commercial	57%	1.42

**Atlantic Spanish Mackerel**

TAC		3.10
Recreational	24%	0.74
Commercial	76%	2.36

The recreational fishery will be regulated by a quota under §642.21(d) and bag limits under §642.28. When the quota is reached or projected to be reached for a group, the bag limit will be reduced to zero (0) by notice action in the Federal Register. Prior to publication of such notice action the Regional Director will consult with the Councils and advise them of the data on which the reduction of the bag limit to zero (0) is based.

The recreational bag limit for Gulf group king mackerel specified in §642.28(a)(1) will remain unchanged because of the expected reduction in availability of fish and total

effort. Bag limits at the opening of the season will remain at three king mackerel per person per trip for anglers, excluding captain and crew, or two king mackerel per person per trip including the captain and crew, whichever is the greater for persons fishing on charter boats. For persons fishing from other recreational vessels the bag limit will remain at two king mackerel per person per trip. The recreational bag limit for Atlantic king mackerel remains unchanged at three fish per person per trip.

The recreational bag limit for the EEZ specified in §642.21(d) for Spanish mackerel is to be three fish per person per trip for the Gulf group and for the Atlantic group is to be four fish off Florida and 10 fish off North Carolina, South Carolina, and Georgia.

The variable bag limit for Atlantic Spanish mackerel provides residents of those three northernmost states an opportunity to take a thinly distributed, seasonal fishery. The percentage of estimated reduction of catch off Florida and off the other states is the same, 25 percent.

#### Other Matters

This action is taken under the authority of 50 CFR 642.27 and is taken in compliance with Executive Order 12291. This action is covered by supplemental regulatory impact review and supplemental regulatory flexibility analysis which concluded that the authorizing regulations could have a significant economic impact on a substantial number of small entities.

This rule contains no collection of information requirements subject to the Paperwork Reduction Act.

#### List of Subjects in 50 CFR 642

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated:

For reasons set forth in the preamble, 50 CFR Part 642 is proposed to be revised as follows:

PART 642 - COASTAL MIGRATORY PELAGIC RESOURCES OF THE GULF OF MEXICO AND THE SOUTH ATLANTIC

1. The Authority citation for Part 642 continues to read as follows: Authority: 16 U.S.C. 1801 et seq.

2. Section 642.21 is amended by revising paragraphs (a)(1), (c), and (d) as follows:

§642.21 Quotas

(a) Commercial quotas for king mackerel.

(1) The commercial allocation for the Gulf migratory group of king mackerel is 0.7 million pounds per fishing year. This allocation is divided into quotas as follows:

(i) 0.5 million pounds for the eastern allocation zone; and (ii) 0.2 million pounds for the western allocation zone.

\* \* \* \* \*

(c) Commercial quotas for Spanish mackerel.

(1) The commercial quota for the Gulf migratory group of Spanish mackerel is 1.42 million pounds per fishing year.

(2) The commercial quota for the Atlantic migratory group of Spanish mackerel is 2.36 million pounds per fishing year.

(d) Recreational allocations for Spanish mackerel.

(1) The recreational allocation for the Gulf migratory group of Spanish mackerel is 1.08 million pounds per fishing year.

(2) The recreational allocation for the Atlantic migratory group of Spanish

mackerel is 0.74 million pounds per fishing year.

\* \* \* \* \*

3. Section 642.28 is amended by revising paragraph 3 and adding a new paragraph 4 as follows:

\* \* \* \* \*

(3) Spanish mackerel Gulf migratory group. Possessing three Spanish mackerel per person per trip.

(4) Spanish mackerel Atlantic migratory group.

(i) Possessing four spanish mackerel per person per trip in the EEZ off Florida.

(ii) Possessing 10 Spanish mackerel per trip in the EEZ off North Carolina, South Carolina, and Georgia.

\* \* \* \* \*