

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

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May 3, 1988

Dr. Joseph W. Angelovic
Acting Regional Director
National Marine Fisheries Service
Southeast Regional Office
9450 Koger Boulevard
St. Petersburg, Florida 33702

CC.MAY08*003741

Dear Joe:

At their joint meeting on April 27, 1988, the Gulf and South Atlantic Fishery Management Councils adopted recommendations for levels of total allowable catch (TAC) and recreational bag limits for king and Spanish mackerels.

All TACs proposed are within the ABC ranges and are well below the upper limit recommended by the Councils' Stock Assessment Panel. The Councils' Scientific and Statistical Committees have endorsed the panel's report as being the best available data.

The Councils also recommend bag limits which, based on catches in the 1987-1988 season and revision of TACs, may be expected to maintain a recreational fishery throughout the 1988-1989 fishing year and be acceptable to adjacent states.

The recommendations are as follows:

Atlantic king mackerel (ABC = 5.5 - 10.7 M)

TAC = 7.0 M

Recreational allocation = 4.40 M

Commercial Allocation = 2.60 M

Recreational Bag Limit: 2 fish per person per trip off Florida, and
3 off other South Atlantic states

Gulf king mackerel (ABC = 0.5 - 4.3 M)

TAC = 3.4 M

Recreational allocation = 2.31 M

Commercial allocation = 1.09 M

Eastern zone = 0.75 M

Western zone = 0.34 M

Recreational Bag Limit: no change (3 fish per person per trip excluding captain and crew, or two for all persons, whichever is greater, on charter boats; and, two fish per person per trip on other boats)

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Atlantic Spanish Mackerel (ABC = 1.3 - 5.5 M)

TAC = 4.0 M
Recreational allocation = 0.96 M
Commercial allocation = 3.04 M
Recreational bag limit: no change (4 fish per person per trip off Florida,
and 10 fish per person per trip off other South
Atlantic states)

Gulf Spanish Mackerel (ABC = 1.9 - 7.1 M)

TAC = 5.0 M
Recreational allocation = 2.15 M
Commercial allocation = 2.85 M
Recreational bag limit: 4 fish per person per trip off Florida, and 10 fish
per person per trip off other Gulf states

The report of the Councils' Stock Assessment Panel is attached for your information. It provides the rationale for the various ABC ranges.

The Councils also convened and received recommendations from their advisory panels. The recommendations to the Councils are as follows:

	<u>South Atlantic Advisory Panel</u>		<u>Gulf Advisory Panel</u>	
	TAC	Bag	TAC	Bag
Atlantic King	10.7	4	3.6	3 charter, 2 private
Gulf King	3.2	2	6.5	-
Atlantic Spanish	5.5	10	4.8	4
Gulf Spanish	5.0	3	5.0	5

The Councils heard testimony from recreational and commercial fishermen as well as charterboat operators at a public hearing. Recreational fishermen urged that bag limits be set so there would be no closure on filling a quota. Charterboat operators agree but felt that a bag limit of less than two king mackerel would not be worthwhile. The Organized Fishermen of Florida suggested bag limits not be below 2 king mackerel or 4 Spanish mackerel.

The Councils noted that presently only Florida has Spanish mackerel bag limits compatible with the federal regulations, though Alabama has recently implemented a 10-fish bag limit. Some state officials, other than Florida and Texas, indicated that politically their agency would not be able to implement a Spanish mackerel bag limit of less than 10 fish as had been the case last year when the EEZ limit was 3 fish for the Gulf.

This issue of political acceptability is particularly important in states such as Georgia and Louisiana where the legislature must set the bag limits. Persons supporting the differential bag limits indicated that increased TACs for Spanish mackerel (100 percent in the Gulf and 29 percent in the Atlantic groups) should provide sufficient allocation to extend the fishing through a greater portion if not for the full fishing year.

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Another reason cited in support of the differential bag limits included concern by some members from other states that Florida fishermen took a disproportionate share of the resource (87 percent in the Gulf in the 1986-1987 season) due to its longer, more accessible coast line, and overwintering of the fish in Florida; whereas, off some other states the fish were available for a shorter time and were found further offshore, necessitating longer trips.

The bag limit adopted by the Councils on the Atlantic group Spanish mackerel remains unchanged, but is increased on the Gulf group because of the large increase in TAC.

The TAC for Gulf king mackerel as proposed represents a 45 percent increase thus providing for an extension of recreational fishing well beyond its December closure date in 1987. The same bag limit is recommended because it is acceptable to anglers and charterboat operators and has been adopted by the states of Florida, Alabama, Mississippi, and Texas.

The Stock Assessment Panel has advised that harvest levels of Atlantic king mackerel are close to the upper limit of production for that group; therefore, the Councils have reduced the TAC to 7.0 M. The bag limit for the EEZ off Florida, where a majority of the catch is taken, is to be reduced by 33 percent to accommodate the TAC reduction, and will result in the same limit Florida has implemented for its waters on both Gulf and Atlantic coasts.

While the Councils would prefer to set bag limits for which there is no doubt the recreational allocation would be distributed throughout the fishing year, other factors such as availability of fish and total fishing effort will continue to affect the catch creating a degree of uncertainty for any level set. The levels that are recommended are intended to distribute the catch over a longer period (if not the whole season) at levels acceptable to the fishermen in the geographical areas affected. Reversion of bag limits to zero when the quotas are filled will continue to protect the stock in Federal waters. Cooperative enforcement of EEZ bag limits and compatible bag limits or seasonal closures in state waters where a large fraction of the stock occurs are desirable but dependent on the acceptability of the regulations to the constituency of states affected. The Councils are attempting to provide reasonable and acceptable regulations for cooperative management of the stocks throughout their range.

Sincerely,



Terrance R. Leary
Fishery Biologist

TRL:mmmb

Enclosure

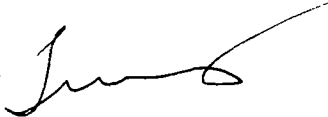
cc: Gulf Council
Bob Mahood

GULF OF MEXICO FISHERY MANAGEMENT COUNCIL

Lincoln Center, Suite 881 • 5401 W. Kennedy Blvd.
Tampa, Florida 33609-2486 • 813/228-2815

May 13, 1988

MEMORANDUM

TO: Gulf Council
FROM: Terrance R. Leary 
SUBJECT: RIR and Regulations for Mackerel Preseason Adjustment

Enclosed for your information are the Regulatory Impact Review and Draft Regulations to implement the new TACs and bag limits for king and Spanish mackerels. Council staff prepared the RIR, and NMFS did the regs.

TRL:mjw

Enclosure

cc: Bob Mahood
Staff

REGULATORY IMPACT REVIEW
of
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

Prepared by
Gulf of Mexico Fishery Management Council
and
National Marine Fisheries Service

May 1988

INTRODUCTION

Executive Order 12291 "Federal Regulations" establishes guidelines for promulgating new regulations and reviewing existing regulations. Under these guidelines each agency, to the extent permitted by law, is expected to comply with the following requirements: (1) administrative decisions shall be based on adequate information concerning the need for and consequences of proposed government action; (2) regulatory action shall not be undertaken unless the potential benefit to society for the regulation outweighs the potential costs to society; (3) regulatory objectives shall be chosen to maximize the net benefits to society; (4) among alternative approaches to any given regulatory objective, the alternative involving the least net cost to society shall be chosen; and (5) agencies shall set regulatory priorities with the aim of maximizing the aggregate net benefit to society, taking into account the condition of the particular industries affected by regulations, the condition of the national economy, and other regulatory actions contemplated for the future.

In compliance with Executive Order 12291, the Department of Commerce (DOC) and the National Oceanic and Atmospheric Administration (NOAA) have determined that this proposed notice action for changes in the total allowable catch, allocations and bag limits for king and Spanish mackerel reflect important DOC/NOAA policy concerns and are the object of considerable public interest. In such a case, DOC/NOAA require the preparation of a Regulatory Impact Review (RIR). The RIR provides a comprehensive review of the level and incidence of impact associated with the proposed or final regulatory actions. The analysis also provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve problems. The purpose of the analysis is to ensure that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

COASTAL MIGRATORY PELAGICS PLAN

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 and implemented in July, 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 overfished migratory groups. Emergency rules were implemented for the first 180 days of 1987 to reduce the catch of Spanish mackerel. The emergency rule and its extension provided for an interim reduction of commercial catch

and bag limits to prevent excessive fishing prior to implementation of Amendment 2 in the summer of 1987.

Amendment 2 did provide acceptable biological catch (ABC), TAC, allocations, and recreational and commercial allocations for Spanish mackerel migratory groups. Specific bag limits were established by notice action after the 1987 stock assessment report was received.

PROBLEMS BEING ADDRESSED

1. King Mackerel in the Atlantic are being Harvested Near Upper Limit of Production

The stock assessment panel, appointed by the Councils under Amendment 1 of the FMP, noted in their April, 1988, meeting report that a decrease in the spawning stock biomass of Atlantic king mackerel may have occurred since 1984 and fishing mortality rates appear to be at or above rates of full exploitation. Recent examination of biological evidence resulted in a recalculation of the Acceptable Biological Catch (ABC) that is somewhat lower than the previous ABC. The 1988-89 ABC is calculated to be 5.5 to 10.7 million pounds as opposed to the 1987-88 ABC of 6.9 - 15.4 million pounds. Note: ABC is not a decision, but merely a statement of catch levels which will not reduce future catches below acceptable levels or which will allow stocks to rebuild (in the case of an overfished stock).

2. New Recruits into the Atlantic and Gulf Spanish Mackerel Stocks Need Protection to Allow for an Increase in the Spawning Stock Biomass

There is evidence of some increase in recruitment in most recent years. The stock assessment panel felt there was potential for the increased recruitment to contribute to recovery of the spawning biomass as well as increased catch levels. However, conservative fishing mortality rates are still needed as there is considerable uncertainty in the strength of the newest year classes. Female Spanish mackerel may begin spawning at age 1, and age 2 females make a significant contribution to the spawning potential of the stock.

3. Florida Commercial and Recreational Fishermen Currently take an Unfair Portion of the Gulf of Mexico Spanish Mackerel Stock

Fishermen on the Florida Gulf coast historically have taken a disproportionate share of the resource (87 percent in the Gulf in the 1986-1987 season) due to the longer, more accessible coastline and overwintering of the fish in Florida. Off other Gulf states the fish were available for a shorter period of time and were found further offshore, necessitating longer trips.

OBJECTIVES

1. To reduce the catch in the Atlantic group stock of king mackerel.
2. To protect new recruits in the Atlantic and Gulf stocks of Spanish mackerel so they can add to the spawning biomass and thereby allow for larger catches in the future.
3. To allow proportionately less of an increase in recreational catch for Florida vs other Gulf states in the fishery for the Gulf group of Spanish mackerel and thereby create a more equitable allocation of the recreational portion of the catch.

DESCRIPTION OF THE COMMERCIAL AND RECREATIONAL KING AND SPANISH MACKEREL FISHERIES

King and Spanish mackerel are important to both recreational and commercial fishermen in the Gulf of Mexico and South Atlantic waters. Following is a brief description of the conditions in both of these fisheries. A more complete description exists in the Coastal Migratory Pelagics FMP. Table 1 presents a summary of the performance of the fishery in the 1987-1988 fishing year.

Recreational anglers are estimated to have caught 0.88 million king mackerel (7.45 million pounds) and 4.62 million Spanish mackerel (6.29 million pounds) in the 1986 fishing year (ending March 31 or June 30, 1987, depending on the stock). The majority of the recreationally caught king mackerel were taken by charter and private boat anglers with a small percentage being caught from man-made structures. Recreational catches of Spanish mackerel were more evenly distributed between charter boat, private boat and man-made structures than were king mackerel catches. In the 1987-1988 fishing year, recreational quotas were exceeded for all but the Atlantic group of king mackerel. The bag limits for Gulf king mackerel and Atlantic and Gulf Spanish mackerel were reduced to zero less than six months into the respective fishing years (see Table 1).

Commercial landings of king and Spanish mackerel by U.S. fishermen during the 1986 fishing year were reported at 3.96 million pounds (0.41 million fish) and 4.63 million pounds (2.7 million fish), respectively. King mackerel are caught mostly with gill nets and hooks and lines, but purse seines and drift nets, which is a newly developing fishery off the east coast of Florida, are also used for this species. Spanish mackerel are caught almost exclusively with gill nets and over 85 percent of the commercial fishery occurs in Florida. Preliminary estimates place the number of active gill net vessels in Florida at 47 in 1985 and 33 in 1986. The estimates for hook and line vessels in Florida are 250 for 1985 and 200 for 1986. In the 1987-1988 fishing year, commercial quotas of Gulf king mackerel were met in the eastern Gulf after 7 months of fishing and in the western Gulf after 4.5 months of fishing. The commercial quota for the Gulf group of Spanish mackerel was met after 7 months of fishing while the Atlantic group quota was met after 9 months of fishing (see Table 1.)

METHODOLOGY AND FRAMEWORK FOR ANALYSIS

The alternatives considered are described below and the allocations are summarized in Table 2. For this Notice Action the choice of TAC cannot exceed the upper ranges of ABC as estimated by the stock assessment panel and summarized in Table 2. There would be no relevance in 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 or benefits in terms of foregone or additional catch as compared to 1987-88 allocations. The analysis provides for separate evaluation of expected impacts on the commercial and recreational sectors and addresses the likely distribution of these impacts. Long-term economic effects of stock recovery of alternative TAC's are estimated in Amendment Two. Although the data to compare long term effects of various possible TAC levels within ABC are not available, the expected direction and possible magnitude of economic impacts are discussed. Effects of closures related to allocations are evaluated where appropriate. The attempts at analysis revealed the need to have data available in a timely fashion. Some thought needs to be given to situations where preparers of RIR's are asked to evaluate changes

from current management before the current fishing year has expired. Finally, the work produced by economists can be significantly enhanced if economic issues can be addressed before or at least during the decision process rather than after the preferred and alternative actions become final.

IMPACTS OF PROPOSED AND ALTERNATIVE ACTIONS

Gulf Group King Mackerel

The stock assessment panel concluded that the U.S. Gulf resource appeared to have responded toward recovery somewhat. An ABC range of 0.5 - 4.3 million pounds has been established. 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. Although spawning stock biomass has increased a small amount and the fishing mortality rate is at or just below the target rate, recruitment has remained stable at low levels with no large year class entering the fishery to accelerate recovery. As provided in Amendment Two, the TAC may not be set higher than the upper range of ABC. Fixed allocations are 32 percent commercial and 68 percent recreational. The commercial allocation is divided 69 percent eastern zone and 31 percent western zone.

Preferred Alternative: Set TAC at 3.4 M*

This TAC reflects the Councils' recognition of the limited recovery evidenced by the Gulf stock and the contribution this can make to an increased harvest along with a continuing concern about recovery of the stock. The recreational bag limit remains unchanged but will revert to zero when the recreational allocation is reached.

Commercial allocation	1.09 M
Recreational allocation	2.31 M
Bag limit = 2 fish/person/trip private, 3 fish/ person/trip charter (excluding captain and crew) or 2 fish/person/trip (including captain and crew)	

The commercial allocation of the proposed TAC for the Gulf group of king mackerel is 390,000 pounds greater than the previous TAC allocation. The commercial allocation is 290,000 pounds less than the maximum possible under the revised ABC. Thus the exvessel value of the short-term gain to the commercial sector over the 1987-1988 TAC is approximately \$390,000, based on comparative values in Poffenberger (p. 44), but \$290,000 less than the maximum possible under the revised ABC.

In 1987-1988 there were 819 commercial king mackerel permits issued for the Gulf (M. Justen, NMFS, personal communication). If a like number is issued in 1988-1989 and the gain is shared equally among license-holders, the gain would be approximately \$476 per license-holder. A more likely scenario is that the bulk of the gain would accrue to 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 craft that may catch substantial quantities of king mackerel, and it has no information on directed mackerel fisheries by vessel in areas of the Gulf other than Florida. An upper limit to the average vessel gain can be calculated to be \$11,800 per vessel by ascribing the entire \$390,000 increase to the 33 vessels in the NMFS count.

* Millions of pounds

The benefit to be gained from selecting this level of TAC as opposed to the upper end of the ABC range is an enhanced probability of continued recovery of the Gulf stock of king mackerel. Data are not available to quantify this expected benefit. However, the gain in allowable catch this year as compared to last is evidence of the wisdom of employing a conservative approach to setting TAC so as to hasten stock recovery.

The recreational allocation of the proposed TAC for the Gulf group of king mackerel is 810,000 pounds greater than the 1987-88 allocation, and 610,000 pounds less than the maximum possible under the revised ABC. Data do not exist to estimate the value of this potential increase in catch. However, a minimum estimate of the number of additional person-trips that could be afforded by the 810,000 pound quota increase can be made by assuming that each person-trip takes two fish (the effective bag limit) weighing approximately 8.5 pounds each. Thus the increase in quota would allow an additional 48,000 successful person-trips.

If this TAC actually results in an increase in the retained catch of king mackerel by recreational fishermen, there will be a gain in value to the recreational sector. There are very few data on which to estimate the value 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 one could attempt to calculate the marginal gains to the recreational sector and compare these to similar gains in the commercial sector from an increase in TAC. While theoretically plausible, given a number of restrictive assumptions, such a procedure is not practical due to violation of the required assumptions. Poffenberger (p.59) reporting on contractor work for the SEFC in the Panama City-Destin area on king mackerel charter fishing, notes that the average loss per charter boat angler associated with a reduction of king mackerel allocation 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 range of marginal commercial 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 lack of studies which would provide supportable valuation of fish to the recreational fishing sector, it is not fruitful or prudent to calculate dollar gains to the recreational fishery based on exvessel price as a proxy.

Rejected Alternative: Set TAC at 4.3 M, the upper range of ABC

Commercial allocation	1.38 M
Recreational allocation	2.92 M
Bag limit = 2 fish private, 3 fish charter	

This alternative provides the maximum short term returns. However, the stock assessment group's non-quantitative estimate was that the probability of stock recovery would be minimized by choosing this level of TAC. Thus the expected long-term benefits are expected to be less under this alternative but cannot be calculated. ..

Rejected Alternative: Set TAC at 0.5 M, the low range of ABC.

Commercial allocation	0.16 M
Recreational allocation	0.34 M

Rejected Alternative: Leave TAC at 2.2 M, the 1987-1988 Level.

Commercial allocation	0.70 M
Recreational allocation	1.50 M

Either of these alternatives represent short term losses as compared to the preferred alternative. Further reductions in short-term catches will increase the probability of recovery of the stocks within the time frame specified by the Council. However, there is no evidence that the increases in long-term benefits will more than offset the expected short-term costs. This hypothesis should be tested by making the relevant calculations when the data become available.

Atlantic Group King Mackerel

The assessment panel has noted a rapid expansion of this fishery since 1979. Catches were high and variable from 1980 to 1985 but declined in 1986 and 1987. Spawning biomass appears to have decreased since 1984. Fishing mortality rates appear to be at or above full exploitation. Significant increases in the fishing rate would likely result in losses of yield. TAC is now set at 9.68 million pounds in ABC range of 6.9 to 15.4 M. For the 1988-1989 season the assessment panel recommends an ABC range of 5.5 to 10.7 million pounds, a reduction of 1.4 to 4.4 million pounds and a narrower range than before reflecting uncertainties in the stock assessment process and possible declines in abundance. The fixed allocation ratio is 62.9 percent recreational and 37.1 percent commercial.

Preferred Alternative: Set TAC at 7.0 M

Commercial allocation	2.60 M
Recreational allocation	4.40 M
Bag Limit = 2 fish per person per trip off Florida; 3 fish per person per trip off Georgia, South Carolina, and North Carolina (reverts to zero if the allocation is reached)	

The commercial allocation under the proposed TAC is 0.99 million pounds less than in 1987-1988, representing a potential short-term loss from the 1987-1988 TAC level of \$990,000. Commercial landings in the 1986-1987 fishing year were 2.8 million pounds (1987-1988 data were incomplete), only slightly above the proposed TAC. Thus the expected short-term loss is approximately \$200,000 to the commercial vessels fishing on the Atlantic king mackerel stock. In 1987-1988, there were 1,193 vessels licensed to fish on Atlantic king mackerel. If a like number were to be licensed in 1988-1989 and all licensees shared equally in the loss, the average reduction in expected revenue per vessel would be \$168.

The recreational allocation is 1.69 million pounds less than the 1987-1988 allocation and 0.5 million pounds less than the 1986-1987 catch (1987-1988 data were incomplete). Recreational catch has trended downward since 1983, reflecting a similar trend in commercial landings. At an average fish size of 7.12 pounds in 1987-1988 for Atlantic king mackerel, the 0.5 million pound reduction from earlier catch levels represents a loss of about 70,000 fish. This would have supported about 23,000 fully successful (i.e., limit taken) person-trips under a three-fish bag limit or 35,000 person trips under a two-fish bag limit. As with recreationally caught Gulf king mackerel, data do not exist to calculate the value of this loss in expected catch.

The recreational bag limit off Florida would be reduced from three fish to two fish, remaining at three fish off the other states. There are no data to directly estimate the value of this reduction for anglers off Florida although the work reported by Poffenberger indicates that the value of the loss could be about \$2 per trip. The net effect of the differential bag limits will likely be to reallocate fish from anglers off Florida to anglers off other states if the relative proportions of trips taken remains the same between areas. The lower bag limit off Florida is designed to allow fishing to continue throughout the season while remaining within the overall allocation. The fishery off the northern states occurs primarily in the summer while the Florida fishery continues year-round. If the recreational allocation is reached and bag limits reduced to zero, the reallocation of fish from Florida anglers will have been increased. Since Florida has set a two-fish bag limit in state waters, the two-fish limit in the EEZ will have a positive effect in terms of facilitating enforcement of state law.

Rejected Alternative: Set TAC at 10.7 M, the upper range of ABC

Commercial allocation	3.97 M
Recreational allocation	6.73 M
Bag limit = 3 fish per person per trip	

Rejected Alternative: Set TAC at 9.68 M, the 1987-1988 level

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

These alternatives provide the maximum short term returns. However, the stock assessment groups non-quantitative estimate was that a TAC set at or near the top of the ABC range would minimize the probability of stock recovery. Thus the expected long-term benefits of choosing the maximum TAC level or the 1987-1988 level are expected to be less than under the preferred alternative, but cannot be calculated.

Rejected Alternative: Set TAC at 5.5 M, the lower range of ABC

Commercial Allocation	2.04 M
Recreational allocation	3.46 M
Bag limit = 3 fish per person per trip	

This alternative represents a short-term loss compared to the preferred alternative. Further reductions in short-term catches would increase the probability of recovery of the stocks within the time frame specified by the Council. However, there is no evidence that the increases in long-term benefits would more than offset the expected short-term costs.

Gulf Group Spanish Mackerel

The stock assessment panel found evidence of some increase in recruitment and spawning stock biomass in the most recent years. The panel felt there was potential for the increased recruitment to continue to contribute to recovery of the spawning biomass while allowing some increase in yield. Recommended ABC range is 1.9 to 7.1 M. Allocations are 57 percent commercial and 43 percent recreational.

Preferred Alternative: Set TAC at 5.0 M

Commercial allocation	2.85M
Recreational allocation	2.15M
Bag limit = 4 fish per person per trip off Florida, and 10 fish per person per trip off other Gulf states (reverts to zero if the allocation is reached)	

The commercial allocation of the proposed TAC for the Gulf group of Spanish mackerel is 1.43 million pounds above the 1987-88 TAC (i.e., double). At a \$0.30 per pound average exvessel price, the commercial allocation is worth \$429,000 more than the 1987-1988 allocation. There is no information on the actual number of participants in the commercial fishery who will share this gain. An upper limit to the average vessel gain can be calculated as for Gulf group king mackerel by dividing the total gain among the 33 Florida west coast hook and line and gill net vessels. The upper limit of the gain is about \$13,000 for the average vessel. The NMFS vessel count as reported in Poffenberger does not include unregistered craft that may catch substantial quantities of Spanish mackerel, and it has no information on vessels engaged in directed Spanish mackerel fisheries in areas of the Gulf other than Florida.

The recreational allocation of the proposed TAC for the Gulf group of Spanish mackerel is 1.07 million pounds greater than the 1987-88 allocation or approximately double. The per angler or per trip increase in catch cannot be estimated as the angler and trip populations are unknown. To the extent that this projected increase in TAC implies an increase in the retained catch of Gulf group Spanish mackerel by recreational fishermen, there will be an increase in value to the recreational sector.

The 1987-1988 recreational allocation was taken after 5.5 months of fishing with a three-fish per person per trip bag limit. Doubling the allocation while maintaining the bag limit should have extended the effective fishing season. The Gulf group Spanish mackerel fishery tends to occur in the summer except for south Florida where it occurs more evenly throughout the year. In the 1985-1987 fishing years, data from the eastern and northern Gulf show that 58 percent of the successful angler trips (trips in which Spanish mackerel were caught) on private boats occurred off Florida and 42 percent off the northern Gulf states (comparable data for Texas were unavailable). The major effect of the bag limit proposed in the preferred alternative is likely to be a reallocation of catch from fishermen off Florida to anglers off the other Gulf states. This will result in the first instance from the difference in retained catch per angler trip and secondly as a result of a closure affecting more of the longer fishing season in Florida than elsewhere. If the allocation is reached before the end of the fishing year, there is likely to be a loss in economic value associated with no retention of fish. This is likely to be higher in south Florida than elsewhere due to fishing patterns. This loss as well as any loss associated with reallocation of fish from Florida anglers due to differential bag limits may be offset in part by the increase in trip value associated with a 10-fish bag limit in the other Gulf states.

Rejected Alternative: Set TAC at 7.1 M, upper ABC range.

Commercial allocation	4.05 M
Recreational allocation	3.05 M
Bag limit = 3 fish per person per trip (reverts to zero if allocation is reached)	

Compared with the preferred alternative, this alternative would provide short-term gains to both commercial and recreational fisheries. The increased ABC reflects increased recruitment of fish which have not yet reached spawning age. Removing these fish before they enter the spawning stock would lead to a reduced rate of recovery for the stock. A reduced rate of recovery implies future economic losses.

Rejected Alternative: Set TAC at 2.5 M, 1987-1988 TAC level

Commercial allocation	1.42 M
Recreational allocation	1.08 M
Bag limit = 3 fish per person per trip	
(reverts to zero if allocation is reached)	

Rejected Alternative: Set TAC at 1.9 M, low ABC range.

Commercial allocation	1.08 M
Recreational allocation	0.82 M
Bag limit = 3 fish per person per trip	
(reverts to zero if allocation is reached)	

Both of these alternatives would yield short-term losses compared to the preferred alternative. They would, however, yield a somewhat higher probability of spawning stock recovery and longer term gain. The stock assessment panel notes that Spanish mackerel have a relatively short life span, being largely gone from the fishery by five or six years of age. The opportunity for rapid recovery of the spawning stock exists when a good year class appears and is protected. The panel concluded that the apparent improvement in recent recruitment would allow recovery to proceed yet allow some increase in yields. Setting TAC at the lower end of the ABC range, thus sacrificing short-term benefits for an unknown improvement in long-term gains could result in overall loss. Unfortunately, data are not available to calculate this trade off in quantitative value terms.

Atlantic Group Spanish Mackerel

The report of the stock assessment panel notes an historical decline in spawning biomass in the Atlantic but that recruitment may be up for this stock. The ABC range for this group is recommended to be 1.3 to 5.5 million pounds. The allocation is 76 percent commercial and 24 percent recreational.

The 1987-1988 commercial allocation was taken within nine months of the beginning of the fishing year. Over 85 percent of the commercial fishery occurs in Florida and 90 percent of the landings were taken there within one month of the appearance of the fish. The recreational fishery had taken 213 percent of its allocation through nine months of the fishing year. The EEZ bag limit reverted to zero 5.5 months into the fishing year.

Preferred Alternative: Set TAC at 4.0 M

Commercial allocation	3.04 M
Recreational allocation	0.96 M
Bag limit = 4 fish per person per trip off	
Florida, 10 other states (reverts to zero	
if allocation is reached)	

The commercial allocation of the proposed TAC is 680,000 pounds higher than the 1987-88 allocation representing an increase worth \$204,000 to the commercial fishery.

The recreational allocation from the proposed TAC is 220,000 pounds greater than in the 1987-1988 allocation. Given the bag limits and average weight during the 1987-1988 season (1.25 pounds yielding an increase of 176,000 fish) this amount will support an additional 44,000 fully successful angler trips off Florida; 17,600 angler trips off North Carolina, South Carolina, and Georgia; or some intermediate number representing a combination of trips in the two areas. The value of these additional trips is unknown.

Rejected Alternative: Set TAC at 5.5 M, upper range of ABC

Commercial allocation	4.18 M
Recreational allocation	1.32 M
Bag limit = 4 fish per person per trip	
off Florida, 10 other states (reverts to zero if allocation is reached).	

Since TAC would be set at the upper limit of ABC under this alternative, there would be no short-term loss from foregone catches by either the recreational or commercial fisheries. However, the probability of stock recovery within the given time frame would be reduced by some unknown amount, and long-term benefits would be reduced proportionately.

Rejected Alternative: Set TAC at 3.1 M, 1987-1988 TAC level

Commercial allocation	2.36 M
Recreational allocation	0.74 M
Bag limit = 4 fish per person per day off	
Florida, 10 other states (reverts to zero if allocation is reached)	

Rejected Alternative: Set TAC at 1.3 M, lower range of ABC

Commercial allocation	0.99 M
Recreational allocation	0.31 M
Bag limit - 4 fish per person per day	
off Florida, 10 other states (reverts to zero if allocation is reached)	

Both of these alternatives provide for less short-run economic gain than the preferred alternative but carry higher probabilities of stock recovery within the specified time frame and thus higher long-term benefits as compared to the preferred alternative. Data do not exist to estimate whether the net present values of the yield streams from these alternatives would be greater than that from the preferred alternative.

Government Costs of Regulation

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

Prepare and implement action	\$300,000
Research	None additional required
Statistics	None additional required
Enforcement	None additional required

SUMMARY AND NET EXPECTED IMPACT OF PROPOSED ACTION

The notice action being addressed constitutes changes in management for four distinctive groups of king and Spanish mackerel. In essence, four independent actions are being considered and there is no justification to attempt a net benefit statement for all four actions considered as a unit. Therefore, this summary proceeds on the basis of the four groups of mackerels being considered as distinct fisheries.

The major emphasis of the summary (actually four summaries) is on the expected economic impact of the preferred alternatives. Where meaningful, net benefits of preferred alternatives are compared to net benefits from one or more of the rejected alternatives. As may be apparent in the summary statement, the alternatives preferred by the management councils are not always necessarily the preferred alternatives from an economic viewpoint.

Readers are reminded that the analysis generally uses the current set of regulations as baseline. The impacts from proposed new alternatives are usually compared to the current situation as opposed to the historical situation without management. Therefore, in the majority of cases, the discussions concern increased (or decreased) benefits or losses at the margin.

Gulf Group King Mackerel

The preferred alternative (set TAC at 3.4 million pounds with no change in bag limits) results in short-term gains while remaining near a middle-level probability of continued stock recovery and thus attainment of long-term gains. Commercial and recreational fisheries are affected in similar ways. The projected short-term commercial gain is 390,000 pounds valued at about \$390,000. Recreational catch is increased by 810,000 pounds and the resulting gain in value was not calculated. Although the data to make long-term increased benefits calculations are not available (a recurring case throughout all analyses), the favorable biological implications from this alternative would probably translate into similarly favorable long-term economic benefits for recreational and commercial fishermen.

Atlantic Group King Mackerel

The preferred alternative (set TAC at 7.0 million pounds with revised bag limits of two fish per person per trip off Florida, three fish off other states) is 2.69 million pounds below the 1987-1988 TAC. However, landings from the Atlantic king mackerel stock have not reached that level in recent years, probably due to reduced availability of the resource. Landings in the 1986-1987 fishing year were about 0.7 million pounds greater than the proposed TAC. Data for 1987-1988 were incomplete but registered approximately 6.0 million pounds after seven months of the fishing season when most of the fish are caught. The projected short-term commercial loss from the 1986-1987 catch levels is \$200,000. The reduction in recreational catch could mean a loss of 23,000 to 35,000 fully successful angler-trips (i.e. trips taking the limit of Atlantic king mackerel). As for Gulf king mackerel, data are not available to calculate long-term increased benefits. The revised bag limit is expected to reallocate fish from Florida anglers to other states and result in a slightly lower value per trip in Florida than in other areas.

Gulf Group Spanish Mackerel

The recommended TAC is 5.0 million pounds with a revised limit of four fish per person per trip off Florida and 10 off other states. In terms of the change from status quo, the new TAC provides for an increased commercial catch of 1.43 million pounds over the current season. This catch will have an exvessel value of about \$429,000. Similarly, there can be an increase of up to 107,000 pounds (no value estimate provided) in catch by recreational anglers which could be taken by 7,000 to 16,000 fully successful angler trips, depending on bag limit where trips occur. This increase in allowable catch is due in part to the conservative approach taken in setting the 1987-1988 TAC to protect the increase in incoming year classes.

The differential bag limit of 10 fish for states other than Florida and 4 fish for Florida is expected to achieve a significant reallocation of the Gulf Spanish mackerel stock. The mechanism chosen to achieve this result implies a zero bag limit off Florida during some part of the active fishing season. This is expected to have a negative, but not quantified, economic impact. The impact will be offset somewhat since the rules prohibit only the keeping, but not the catching of fish. There is also a very critical assumption, namely that states will set zero bag limits in their fisheries when the EEZ closes. If Florida does not elect to set a zero bag limit in state waters, then overfishing can be expected with attendant long-term losses.

Atlantic Group Spanish Mackerel

The preferred alternative sets TAC at 4.0 million pounds with no change in bag limits. This value is near the midpoint of ABC and thus appears to maintain a reasonable probability of continued stock recovery while allowing slightly increased levels of fishing. The exvessel value of the allowable increase in commercial catch is \$204,000. The allowable increase in recreational catch would suggest between 17,000 and 44,000 additional fully successful angler trips.

Government Costs

Government costs for preparing and implementing this action are estimated at \$300,000. There are expected to be no additional costs from data collection, research or law enforcement from this action.

Table 1. Mackerel Quotas, Bag Limits, Catches, and Closures for the 1987-1988 Fishing Year.

	MILLIONS OF POUNDS		TAC	ALLOCATIONS	QUOTA	BAG LIMITS (per person, per trip)	SEASON BEGAN	REPORTED CATCHES	PERCENT OF QUOTA	REPORTED THROUGH	DATE CLOSED	PERCENT OF TAC
	ABC											
KING MACKEREL												
MSY - 26.2 mil lb												
Atlantic Migratory Group	6.9	15.4	9.68									67%
Atlantic Recreational				62.8%	6,090,000	3	4/1/87	4,137,464	68%	12/31/87	OPEN	
Atlantic Commercial				37.1%	3,590,000		4/1/87	2,330,000	65%	3/25/88	OPEN	
Gulf Migratory Group	0.6	2.7	2.2									117%
Gulf Recreational				68%	1,500,000	2 Private 2 or 3 Charter	7/1/87	1,924,357	128%	12/31/87	12/16/87	
Gulf Commercial				32%	480,000		7/1/87	412,000	86%	1/28/88	12/29/87	
Eastern Zone				68%								
Western Zone				31%	220,000		7/1/87	231,700	105%	11/13/87	11/2/87	
SPANISH MACKEREL												
MSY - 18.0 mil lb												
Atlantic Migratory Group	1.7	3.1	3.1									133%
Atlantic Recreational				24%	740,000	4 FL 10 NC, SC & GA	4/1/87	1,506,170	216%	12/31/87	9/19/87	
Atlantic Commercial				76%	2,360,000		4/1/87	2,515,300	107%	12/28/87	12/28/88	
Gulf Migratory Group	1.9	4.0	2.5									115%
Gulf Recreational				43%	1,080,000	3	7/1/87	1,435,592	133%	12/31/87	12/16/87	
Gulf Commercial				57%	1,420,000		7/1/87	1,439,000	101%	2/1/88	2/2/88	

Table 2

SUMMARY OF ALTERNATIVE MACKEREL ALLOCATIONS
(Millions of Pounds)
FOR THE 1988-1989 FISHING YEAR

U.S. KING MACKEREL		ALTERNATIVE			
		1*	2	3	4
Gulf King Mackerel (ABC Range: 0.5-4.3; 1987-88 TAC: 2.2)					
Fishing Year: July 1-June 30					
TAC		3.40	4.30	0.50	2.20
Recreational	68%	2.31	2.92	0.34	1.50
Commercial	32%	1.09	1.38	0.16	0.70
Eastern Zone quota	69%	0.75	0.95	0.11	0.50
Western Zone quota	31%	0.34	0.43	0.05	0.20
Atlantic King Mackerel (ABC Range: 5.5-10.7; 1987-88 TAC: 9.68)					
Fishing Year: April 1-March 31					
TAC		7.00	10.70	5.50	9.68
Recreational	62.9%	4.40	6.73	3.46	6.09
Commercial	37.1%	2.60	3.97	2.04	3.59
U.S. SPANISH MACKEREL					
Gulf Spanish Mackerel (ABC Range: 1.9-7.1; 1987-88 TAC: 2.5)					
Fishing Year: July 1-June 30					
TAC		5.00	7.10**	1.90**	2.50**
Recreational	43%	2.15	3.05	0.82	1.08
Commercial	57%	2.85	4.05	1.08	1.42
Atlantic Spanish Mackerel (ABC Range: 1.3-5.5; 1987-88 TAC: 3.1)					
Fishing Year: April 1-March 31					
TAC		4.00	5.50	1.30	3.10
Recreational	24%	0.96	1.32	0.31	0.74
Commercial	76%	3.04	4.18	0.99	2.36

* 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.
- Anonymous, 1988. Report of the mackerel stock assessment panel meeting of April 6-8, 1988, in Miami, Florida. Gulf of Mexico Fishery Management Council, Tampa, Florida. April, 1988.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 642

[Docket No.]

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

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

ACTION: Notice of preliminary change in total allowable
catch and bag limits for king and Spanish mackerel.

SUMMARY: The Secretary of Commerce issues a notice of
preliminary change in the total allowable catch (TAC),
allocations, and quotas for the Atlantic and Gulf migratory
groups of king and Spanish mackerel and in the bag limits
for Atlantic group king mackerel and Gulf group Spanish
mackerel in accordance with the framework procedure of the
Fishery Management Plan for the Coastal Migratory Pelagic
Resources (FMP). This notice proposes (1) for Gulf
migratory group king mackerel, increases in TAC,
allocations, and quotas; (2) for Atlantic migratory group
king mackerel, reductions in TAC, allocations, and the bag
limit applicable to the southern area (exclusive economic
zone (EEZ) off Florida); (3) for Gulf migratory group
Spanish mackerel, increases in TAC, allocations, and bag
limits; and (4) for Atlantic migratory group Spanish

mackerel, increases in TAC and allocations. The intended effects are to protect the mackerels while still allowing catch by the important recreational and commercial fisheries that are dependent on these species.

DATE: Written comments must be received on or before [Insert date 15 days after date of publication in the FEDERAL REGISTER].

ADDRESS: Comments may be mailed to Mark F. Godcharles, Southeast Region, National Marine Fisheries Service, 9450 Koger Boulevard, St. Petersburg, FL 33702.

FOR FURTHER INFORMATION CONTACT: Mark F. Godcharles, 813-893-3722.

SUPPLEMENTARY INFORMATION: The mackerel fisheries are regulated under the FMP, which was prepared jointly by the Gulf of Mexico and South Atlantic Fishery Management Councils (Councils), and its implementing regulations at 50 CFR Part 642. Amendment 1 to the FMP was implemented September 22, 1985 (50 FR 34843, August 28, 1985). Amendment 2 was implemented June 30, 1987 (52 FR 23836, June 25, 1987).

In accordance with §642.27, the Councils appointed an assessment group (Group) to assess on an annual basis the condition of each stock of king and Spanish mackerel in the management unit, to report its findings, and to make recommendations to the Councils. Based on their 1988 report and recommendations, advice from the Mackerel Advisory Panel and the Scientific and Statistical Committee, and public

input, the Councils recommended to the Regional Director, Southeast Region, NMFS, changes to TACs, allocations, quotas, and bag limits.

Specifically, the Councils recommended that, effective with the fishing year beginning July 1, 1988, annual TACs be set at 3.4 million pounds (m. lbs.) for Gulf migratory group king mackerel and 5.0 m. lbs. for Gulf migratory group Spanish mackerel. The Councils further recommended that, effective for the fishing year which began April 1, 1988, annual TACs be set at 7.0 m. lbs. for Atlantic migratory group king mackerel and 4.0 m. lbs. for Atlantic migratory group Spanish mackerel. All TACs are within the range of acceptable biological catch determined by the Group.

In accordance with the provisions of the FMP, the recreational and commercial fisheries are each allocated a fixed percentage of each TAC and the Gulf king mackerel commercial allocation is divided into quotas for eastern and western zones. Under the fixed percentages and the proposed TACs, allocations and quotas would be as follows:

	(m. lbs.)
Gulf King Mackerel - TAC	3.4
Recreational allocation (68%)	2.31
Commercial allocation (32%)	1.09
Eastern zone (69%)	0.75
Western zone (31%)	0.34
Gulf Spanish Mackerel - TAC	5.0

Recreational allocation (43%)	2.15
Commercial allocation (57%)	2.85
Atlantic King Mackerel - TAC	7.0
Recreational allocation (62.9%)	4.40
Commercial allocation (37.1%)	2.60
Atlantic Spanish Mackerel - TAC	4.0
Recreational allocation (24%)	0.96
Commercial allocation (76%)	3.04

The recreational fishery is regulated by both allocations and bag limits. The Councils recommended no changes in the bag limits applicable to Gulf group king mackerel and Atlantic group Spanish mackerel. For Atlantic group king mackerel, the Councils recommended no change in the three fish bag limit in the northern area (EEZ off North Carolina, South Carolina, and Georgia), but recommended a reduction in the bag limit in the southern area (EEZ off Florida) to two fish per person per trip. For Gulf group Spanish mackerel, the Councils recommended increases in the bag limits in the eastern area (EEZ off Florida) to four fish per person per trip and in the western area (EEZ off Alabama, Mississippi, Louisiana, and Texas) to ten fish per person per trip.

The recommended reduction of the bag limit from three to two Atlantic group king mackerel in the southern area is intended to decrease recreational catch in response to the lower TAC and maintain a recreational harvest throughout the

season. A substantial portion of the allocation is historically taken in this high population area where generally favorable fishing conditions allow increased fishing effort. The two-fish bag limit is also consistent with Florida regulations. The recovering stock of Spanish mackerel in the Gulf allows an increase in the TAC and allocations. A bag limit increase to four fish is recommended in the eastern area where 87 percent of the recreational allocation was taken during the 1986-1987 fishing year. This bag limit is consistent with Florida's regulations. A bag limit increase to 10 fish is recommended in the western area where fishing effort and availability of fish are lower and is compatible with recently implemented regulations in Alabama.

The Regional Director preliminarily concurs that the Councils' recommendations are necessary to protect the stocks and prevent overfishing and that they are consistent with the goals and objectives of the FMP, the national standards, and other applicable law. Accordingly, the Council's recommended changes are published.

Other Matters

This action is authorized by 50 CFR 642.27, and complies with E.O. 12291.

List of Subjects in 50 CFR Part 642

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated:

Part 642 - Coastal Migratory Pelagic Resources of the Gulf
of Mexico and South Atlantic

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

1. The authority citation for Part 642 continues to
read as follows:

Authority: 16 U.S.C. 1801 et seq.

2. In §642.21, numerical allocations and quotas are
removed and numerical allocations and quotas are added in
their place in the following paragraphs:

	Removed	Added
(a)(1), introductory text	0.7	1.09
(a)(1)(i)	0.48	0.75
(a)(1)(ii)	0.22	0.34
(a)(2), first sentence	3.59	2.60
(b)(1)	1.5	2.31
(b)(2)	6.09	4.40
(c)(1)	1.42	2.85
(c)(2)	2.36	3.04
(d)(1)	1.08	2.15

3. In §642.28, paragraphs (a)(2) and (3) are revised, paragraph (a)(4)(iii) is removed, and a new paragraph (a)(5) is added to read as follows:

§642.28 Bag and possession limits.

(a) * * *

(2) King mackerel Atlantic migratory group.

(i) Possessing two king mackerel per person per trip from the southern area.

(ii) Possessing three king mackerel per person per trip from the northern area.

(3) Spanish mackerel Gulf migratory group.

(i) Possessing four Spanish mackerel per person per trip from the eastern area.

(ii) Possessing ten Spanish mackerel per person per trip from the western area.

* * * * *

(5) Areas.

(i) For the purposes of paragraphs (a)(2) and (4) of this section, the boundary between the northern and southern areas is a line extending directly east from the Georgia/Florida boundary (30°42'45.6"N. latitude) to the outer limit of the EEZ.

(ii) For the purposes of paragraph (a)(3) of this section, the boundary between the eastern and western areas *(- identical with the eastern and western zones in the commercial fishery)* is a line extending directly south from the Alabama/Florida

boundary (87°31'06"W. longitude) to the outer limit of the
EEZ.

* * * * *