GULF OF MEXICO FISHERY MANAGEMENT COUNCIL
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May 29, 1992

00MAY92*004384

Dr. Andrew J. Kemmerer
Regional Director
National Marine Fisheries Service
9450 Koger Boulevard
St. Petersburg, Florida 33702

Dear Andy:

In preparation for considering preseason adjustments for catches in the coastal migratory pelagics fishery, the Gulf and South Atlantic Councils convened their joint Stock Assessment Panel, their Scientific and Statistical Committees, and Advisory Panels (reports attached). The Councils, meeting separately, recommend the following catch limits and adjustments to be implemented under the framework procedure for the 1992-1993 fishing season.

1. For Atlantic group king mackerel the South Atlantic Council recommends a Total Allowable Catch (TAC) of 10.5 million pounds. This is the same TAC as set for the 1991-1992 season and is within the bounds of ABC (8.6 million pounds-12.0 million pounds with the most likely point of ABC at 10.0 million pounds) recommended by the Stock Assessment Panel. Utilizing the formula prescribed for allocation in the FMP, the allocations would be:

   - Atlantic Group Mackerel TAC = 10.5 million pounds
   - Commercial Allocation (37.1 percent) = 3.90 million pounds
   - Recreational Allocation (62.9 percent) = 6.6 million pounds / 7.91 pounds = 834K fish
   - Bag Limit for Southern area (Florida) = Florida bag limit not to exceed 5 fish per person per day
   - Bag Limit for Northern area (Georgia - New York) = 5 fish per person per day

2. For the Gulf group king mackerel the Gulf Council recommends a TAC of 7.8 million pounds and a range of ABC of 4.0 to 10.7 million pounds.

   The Stock Assessment Panel in its report had recommended a most likely estimate of ABC to be 4.5 million pounds in a range of 3.6 to 6.1 million pounds. At the upper level of 6.1 million pounds there would be a 50 percent chance of exceeding the fishing mortality rate target in the 1992-1993 fishing year specified by the Councils for stock recovery.

   The Council requested results of another procedure used by the panel in previous years to calculate ABC and to characterize the risk of exceeding the Council's target fishing mortality rate. This method was considered and rejected this year by the panel, and the results were not included in their report; however, upon request of the Council, the estimates were supplied to the Council. The estimates using that method gave a most likely value of ABC as 5.1 million pounds with a 16 percent chance that a TAC of 4.0 million pounds would exceed the Council's fishing mortality rate target and an 84 percent chance that a TAC of 10.7 million pounds would exceed the target.

   On advice of the General Counsel, it was determined that the Council has the responsibility to determine the risk factor associated with determining the range of ABC.

Noting that the panel's report points out that from 5 to 25 percent of the winter fish taken from the mixing zone in Southeast Florida may actually be Gulf group fish while the entire catch is counted as that group, the Council opted to use the alternative procedure and for a TAC of 7.8 million pounds which represents a risk level of more than 50 but less than 84 percent that they will exceed their target. The Council also opted to define the upper end of the range of ABC (10.7 million pounds) as the point where there would be an 84 percent chance of exceeding their fishing mortality rate target, the level that was used by the panel to define the upper end of the ABC range in the last three prior years. The TAC also falls below the 84 percent risk level of the procedure utilized by the panel in its report. Using the formula prescribed for allocation in the FMP, the allocations would be:

- Gulf Group King Mackerel TAC = 7.8 million pounds
- Commercial Allocation (32 percent) = 2.5 million pounds
  - Eastern Zone (69 percent) = 1.73 million pounds
  - Western Zone (31 percent) = 0.77 million pounds
- Recreational Allocation (68 percent) = 5.3 million pounds / 7.42 pounds = 715K fish
- Bag Limit = 2 fish per person per day

3. For Atlantic group Spanish mackerel the South Atlantic Council recommends a TAC for 1992-1993 of 7.0 million pounds which is unchanged from the 1991-1992 fishing year. The most likely number for ABC is 6.0 to 7.0 million pounds in a range of 4.9 to 7.9 million pounds with a 50 percent chance of exceeding the upper level recommended by the panel. The FMP formula for allocation would yield:

- Atlantic Group Spanish Mackerel TAC = 7.0 million pounds
- Commercial Allocation (50 percent) = 3.5 million pounds
- Recreational Allocation (50 percent) = 3.5 million pounds / 1.38 pounds = 2.536 million fish
- Bag Limit for Northern area (Georgia - New York) = 10 fish per person per day
- Bag Limit for Southern area (Florida) = Florida bag limit not to exceed 10 fish per person per day

4. For Gulf group Spanish mackerel the Gulf Council recommends a 1992-1993 TAC of 8.6 million pounds, unchanged from the 1991-1992 TAC. The most likely point of ABC is 8.0 million pounds. The upper range of ABC with a 50 percent chance of exceeding it is 9.8 million pounds. The FMP allocation formula yields:

- Gulf group Spanish Mackerel TAC = 8.6 million pounds
- Commercial Allocation (57 percent) = 4.9 million pounds
- Recreational Allocation (43 percent) = 3.7 million pounds / 1.13 pounds = 3.274 million fish
- Bag Limit = State limit not to exceed 10 fish per person per day

5. The Gulf Council also recommend adjustment of the MSY for cobia from 1.0 million pounds to 2.2 million pounds as recommended by the Stock Assessment Panel. The current MSY is a crude estimate based only on commercial landings. The combined U.S. recreational and commercial landings have remained stabile for greater than a generation period at about 2.2 million pounds. The South Atlantic Council took no formal action.

The Councils respectfully request implementation of these recommendations as seasonal framework adjustments.

Sincerely,

Gilmer HR

H. Gilmer Nix
Chairman, Gulf Council

Susan HR

Susan Shipman
Chairman, South Atlantic Council

Enclosures: 1992 Report of the Stock Assessment Panel
Effects of Some Alternative Bag Limits
Report of the Socioeconomic Panel
Summary of the Gulf SSC Recommendations
Summary of the South Atlantic SSC Recommendations
Summary of the Gulf AP Recommendations
Summary of the South Atlantic AP Recommendations
Regulatory Impact Review

cc: Gulf Council, with Regulatory Impact Review
Bob Mahood, with Regulatory Impact Review
Stock Assessment Panel, with Regulatory Impact Review
Bill Lindall, with Regulatory Impact Review
Staff, with Regulatory Impact Review

HGN:SS:TRL:kjs

REGULATORY IMPACT REVIEW

of

1992/1993 FISHING YEAR

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 1992

This is a publication of the Gulf of Mexico and South Atlantic Fishery Management Councils pursuant to National Oceanic and Atmospheric Administration Award Nos. NA17FC0041 and NA17FC0042.

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 (TAC), 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 impacts 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, 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. Amendment 2 was submitted on April 1, 1987 and implemented in July, 1987. Amendment 3 was submitted on March 14, 1989 and approved measures were implemented on August 14, 1989; disapproved measures were resubmitted on January 15, 1990 and implemented on April 13, 1990. Amendment 4 was submitted on May 22, 1989 and was implemented on October 19,1989. Amendment 5 was submitted on March 19, 1990 and implemented August 20, 1990.

The FMP manages king and Spanish mackerel off coastal states in the Atlantic south of the New York/Connecticut border and throughout the U.S. Gulf of Mexico. Cobia is managed off southeastern states from the Virginia/North Carolina border to the U.S./Mexico border. The remaining coastal migratory pelagic fishes (cero, dolphin, little tunny, and in the Gulf only, bluefish) are not currently managed. 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 acceptable biological catch (ABC), total allowable catch (TAC), and bag limits for king and Spanish mackerels, both of which have within them one or more overfished migratory groups.

PROBLEMS BEING ADDRESSED

1. Gulf King Mackerel and Gulf Spanish Mackerels Are Overfished

The 1992 report of the mackerel Stock Assessment Panel states that until the risk of recruitment overfishing is no longer a concern, both Gulf groups of king and Spanish mackerel should be considered overfished. The criterion for any of the four mackerel groups (Gulf king and Spanish mackerel and Atlantic king and Spanish mackerel) to be considered overfished is when the estimated spawning potential ratio (SPR) is less than 30 percent relative to maximum SPR potential. Current SPR estimates for the Atlantic groups of king and Spanish mackerel are above the 30 percent criterion, and are therefore considered not overfished. In previous years, the Atlantic group of Spanish mackerel had been considered overfished. For the Gulf groups, the current SPR estimates are 19 percent and 29 percent for king and Spanish mackerel, respectively. Both Gulf stocks experienced a relatively substantial improvement in SPR levels over the period of the last year. Last year, the estimated SPRs for the Gulf stocks were 22 percent for Spanish mackerel and 12 percent for king mackerel. Although Gulf Spanish mackerel is very close to the target SPR, the Stock Assessment Panel still considered it overfished due to the perceived risk of recruitment overfishing.

2. New Recruits into the Gulf Spanish and King 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 latest (1990) estimates of recruitment of age 0 fish reflect the highest estimates since 1979 for both Gulf groups of king and Spanish mackerel. 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. Female king mackerel are sexually mature at age 4.

OBJECTIVES

1. To restore the spawning stock biomass of Gulf Spanish and king mackerel.

2. To protect new recruits in the mackerel fishery so they can add to the spawning biomass and thereby allow for larger catches in the future.

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. The following provides a brief description of the conditions in both of these fisheries. A more complete description exists in the Coastal Migratory Pelagics Fishery Management Plan (FMP). Quotas, allocations, and catches are tabulated at the end of this document.

Recreational anglers are estimated to have caught 4.15 (3.00)[1] million pounds (MP) of Atlantic and 3.91 (4.94) MP of Gulf king mackerel in the 1991/1992 fishing year (ending March 31 or June 30, 1992, depending on the stock). Anglers also took 1.37 (1.78) MP of Atlantic and 2.0 (1.97) MP of Gulf Spanish mackerel. 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 1991/1992 fishing year, the recreational quota was reached for only the Gulf group of king mackerel which closed on January 13, 1992. This condition parallels the previous year's performance when only the Gulf king mackerel recreational quota was exceeded. The last three years' recreational catches present as a stark contrast to those of the 1988-1989 season when all, but the Gulf Spanish mackerel, recreational quotas were exceeded and the fishery closed before the normal end of the fishing season.

Commercial landings of Atlantic and U.S. Gulf king mackerel were 2.42 (2.34) and 1.84 (1.65) MP, respectively, for the 1991/1992 fishing season. Spanish mackerel commercial landings for the Atlantic and U.S. Gulf groups were 4.02 (3.46) and 1.80 (2.00) MP, respectively. King mackerel were caught mostly with hooks and lines (about 80 percent) and gill nets (about 16 percent). The use of purse seines and drift nets has been prohibited for the overfished mackerel species, namely, Gulf king and Spanish mackerel and Atlantic Spanish mackerel. Since Atlantic Spanish mackerel is no longer considered overfished, the use of purse seine may be reconsidered in the future. However, in re-evaluating the use of purse seines in this fishery, the Council will need to determine if stock recovery is at such a level as to produce MSY and that traditional fishermen are not taking their allocation. The Atlantic group of king mackerel may be harvested with purse seine, but not with drift nets, although no purse seine catches were taken in the last three fishing years. Spanish mackerel were caught almost exclusively with gill nets and in the 1990/1991 fishing year over 72 percent of the commercial fishery occurred in Florida. In the 1991/1992 season, there were 3,069 mackerel permits issued of which 1,623 were for commercial harvest, 938 for charter boats, and 549 for both commercial and charter purposes. Most commercial permits were issued to hook and line vessels for all groups of mackerel (Raulerson, 1991). Similar to the 1990/1991 fishing year, the 1991/1992 commercial quotas for Gulf king and Atlantic Spanish mackerel were taken before the normal end of the fishing season. The commercial fishery for Gulf Spanish and Atlantic king mackerel remained open throughout the season. The commercial quota for the Gulf king mackerel was met in the Western Zone four months after the season opened (Oct. 29, 1991). It took about six months after the season began before the commercial quota for the Eastern Zone was met (Jan. 31, 1992). Similar closures occurred the previous year for these species. In the 1988/1989 fishing season, the commercial fishing season for Gulf king mackerel was about 2 months longer in the Eastern Zone but a few weeks shorter in the Western Zone. Commercial fishery for the Atlantic Spanish mackerel closed about eight months after the season began (Dec. 17, 1991), with large catches being made shortly after the Florida season began in December 1991. The fishing season for this segment of the fishery is about one month shorter than that of the previous year's. For the past three fishing years, the commercial quotas for Atlantic king and Gulf Spanish mackerel were not met, with these segments of the fishery remaining open throughout the fishing year (ending March 31 for Atlantic king and June 30 for Gulf Spanish mackerel). Reports had it then that fishermen in the Florida

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[1]Number in parenthesis is the corresponding catch for the immediately preceding fishing year.

Keys prosecuting Gulf Spanish mackerel refused to continue fishing sometime during the second half of the 1989/1990 fishing season because of low dockside prices for this stock group. However, some limited fishing resumed until the season ended when price agreements between harvesters and fish houses were concluded. No incidence of that nature has been reported for the 1990/1991 fishing season. Reports have it, though, that for the 1990/1991 season, fish were not schooled and moved to deeper waters, and thus made it difficult to catch them in large amounts. As of May 11, 1992, the commercial sector filled only about 71 percent of its 1991/1992 quota allocation. None of the past reasons for not filling the commercial quota has been reported for the 1991/1992 fishing season. It may be noted that in the 1988/1989 fishing season, the Gulf Spanish mackerel commercial fishery closed about three months before the normal end of the season (April 7, 1989).

METHODOLOGY AND FRAMEWORK FOR ANALYSIS

The alternatives considered are described below. For this Notice Action the choice of TAC cannot exceed the upper ranges of ABC as estimated by the Stock Assessment Panel. 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 present values of net yield streams over time associated with the different alternatives would be compared in evaluating impacts. Net yield streams in the present context mean producer and consumer surpluses in both the commercial and recreational sectors of the mackerel fishery. Unfortunately, estimates of the yield streams and their associated probabilities are not available. The approach taken in analyzing alternative TACs and allocations is to describe and/or quantify the changes in short-term benefits in terms of changes in ex-vessel values for the commercial sector with qualitative discussions on changes in fishing costs, changes in consumer surplus to the recreational anglers, and changes in profits to the charter boats (Raulerson, 1991). The baseline scenario consists of the respective commercial and recreational quotas/bag limits for the 1991/1992 fishing season. The most likely ABC value estimated by the Stock Assessment Panel was the focal point in Council deliberations leading to the setting of TAC for the 1992/1993 fishing season. On this account, the most likely value, if not the TAC chosen, is regarded as the rejected alternative. Although the 1991/1992 TACs are also viable alternatives, they are taken as basis for determining the impacts of the chosen TACs, and are thus implicitly incorporated in the analysis of impacts. 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.

IMPACTS OF PROPOSED AND ALTERNATIVE ACTIONS

Gulf Group King Mackerel

There are some differences in this year's estimation of ABC ranges relative to that of the previous years. In the 1990 and 1991 stock assessments, the Stock Assessment Panel (Panel) employed a "Delta" method procedure to estimate the most likely ABC. The ABC range was established by bounding the most likely estimate by the 16th and 84th percentiles of a lognormal distribution. In the 1991 assessment, an alternative method, a Monte Carlo simulation, was also conducted to estimate the most likely ABC for the king mackerel stocks. Upon examination of results, the Panel observed that the range of ABC's for the Gulf and Atlantic king mackerels were close to the lognormal approximation, and so decided to continue using the Delta method in determining the most likely ABC estimate with the 16th and 84th percentile bounds. For the current year, the Panel experimented with both methods to estimate the most likely ABC's. The Panel concluded that the Monte Carlo method allowed for better characterization of the uncertainty in recent levels of recruitment, and decided to use estimates generated through this technique. However, the Panel also felt that continued use of the lognormal model was still an appropriate approximation, if Monte Carlo experiments have not been done and/or recent recruitment levels are not indexed. The Panel also discussed at length the probability levels that would be most appropriate to characterize the range of ABC. In establishing ABC ranges, by defining upper and lower bounds about the most likely estimate, the Panel maintained the 16 percent "probability level" for the lower bound but adopted a 50 percent "probability level" for the upper bound. In effect, the Panel has chosen a lower risk factor in determining the upper limit of the ABC range for this year's stock assessment.

The Panel concluded that the U.S. Gulf resource appeared to have continued to respond toward recovery. In its report, the Panel recommended an ABC range of 3.6 MP - 6.1 MP, with the most likely estimate of 4.5 MP. These estimates were generated using the Monte Carlo method with 16 percent and 50 percent probability levels for defining the lower and upper limits, respectively. The Panel also estimated an ABC range of 4.0 MP - 10.7 MP, with the most likely estimate of 5.1 MP, using the Delta method. The lower and upper limits of this ABC range correspond, respectively, to the 16th and 84th percentile of the lognormal distribution. In the process of selecting a TAC for the 1992/1993 season, the General Counsel advised the Council that it has the responsibility of deciding on the risk factors in determining the ABC range. Cognizant of the attendant risk factor, the Council opted to use the latter ABC range estimated by the Panel. The Council chose a TAC within such range. Allocations between user groups remain at 32 percent commercial and 68 percent recreational. The commercial allocation is sub-divided into 69 percent eastern zone and 31 percent western zone.

1. <u>Preferred Alternative</u>: **Set TAC at 7.8 MP.**

Commercial allocation	2.50 MP
Eastern Zone	1.73 MP
Western Zone	0.77 MP
Recreational allocation	3.91 MP = 0.574 M fish
Bag limit =	2 fish person per day (reverts to zero in EEZ when allocation is filled).

The TAC for Gulf king mackerel has been gradually increased over the last six years, and yet the fishery closed before the normal end of the fishing year. In all those years, the TAC has been exceeded partly because of open fishery in some Gulf states when fishing in the EEZ was closed. For the 1986/1987 through 1990/1991 fishing years, total catch amounted to an average of 143 percent of TAC. Preliminary data for the 1991/1992 season showed that a little over 100 percent of the TAC was taken. In four of the last six years, total catches also exceeded the upper limit of the estimated ABC ranges. It appears though that in the immediate past year, the upper limit of the ABC range was not exceeded. The fish stock, nonetheless, has shown signs of recovery with SPR increasing over the past few years as noted in the report of the Stock Assessment Panel. For example, the current SPR estimate is 19 percent, which is a 58 percent increase from the past year's SPR level of about 12 percent.

The proposed TAC falls within the Council's recommended ABC but reflects higher risk than the upper limit of ABC recommended by the Panel that the true ABC will be exceeded. The Council, however, has almost consistently chosen a TAC (higher than the estimated most likely ABC) reflecting a risk factor greater than 50 percent but less than 84 percent of exceeding the Council's target fishing mortality. The proposed TAC may be deemed to reflect a higher probability of retarding the recovery of the stock. Analysis of potential net benefit trade-off over time is essential in this respect, but the information to conduct such analysis is not available. Thus, the following determination of impacts consider only the short-term consequences of the proposed TAC and associated commercial/recreational allocation.

The proposed TAC is 2.05 MP above the preceding year's TAC, and thus would enable the different user groups to experience higher benefits. The distribution of benefits is not expected to be substantially altered, since the percentage allocation among user groups remain the same. However, if Amendment 6 to the Coastal Pelagics FMP is approved, with a possible implementation date of November 1992, the distributional impacts between commercial and recreational sectors will substantially change. With Amendment 6, the recreational bag limit will not revert to zero when the quota is filled. The distributional impacts within the recreational sector is expected to be only slightly altered by the elimination of the differential bag limits for charter boats. The current bag limit for charter boats is 2 fish per person per day when including captain and crew or 3 fish per person per day when excluding captain and crew, except Florida charter boats which are subject to the daily bag limit of 2 fish per person.

The commercial fishery has experienced early closures in the last seven years. Over this period the fishing season closed 4 to 5 months in the Western Zone and 5 to 6 months in the Eastern Zone after the start of the fishing year despite a yearly increase in quota. Last year's commercial quota was filled and the fishery closed September 29, 1991 and January 30, 1992 in the Western and Eastern Zone, respectively. The proposed TAC means an increase in commercial quota of 0.66 MP, or 36 percent, from last year's quota. This increase is not expected to substantially lengthen the season. Ex-vessel demand for king mackerel has been estimated to be price inflexible; that is, price decreases less than proportional to increases in harvest (Prochaska, 1978). Relative to the baseline, the proposed TAC and associated commercial quota would generate an additional $0.7 million of ex-vessel revenues to the commercial sector. Fishing costs are not expected to materially increase. It is also expected that new entrants or re-entrants into the commercial fishery will not be a major concern. Profitability of those currently in the fishery may then slightly increase as a result of the increased quota. The impacts on processors and consumers cannot be quantified, but are expected to be positive due a decrease in price as harvest increases.

The fact that the recreational quota was fully taken is a strong indication of a high recreational demand for king mackerel. Milon (1991) related the importance of king mackerel as a keeper in determining the recreational demand for the species, an additional fish caught translates to an increase in recreational benefits. Caught and released fish also improves the fishing experience of anglers (Milon, 1991). The proposed TAC means an increase in recreational allocation of 1.39 MP (= 0.19 M fish), or 36 percent, from last year's quota. Despite this relatively large increase in quota, the recreational fishery is expected to experience some closure. A bag limit analysis done on Gulf king mackerel showed that with a 2 fish bag limit the recreational catch would amount to about 5.34 MP assuming no increase in recreational effort (Powers and Parrack, 1992). Raulerson (1992) indicated that the direction of change of major factors affecting effort points to an increase in fishing effort for the Gulf king mackerel fishery. The entire increase in recreational allocation may then be considered as an effective increase in recreational catch. Since the bag limit is maintained at 2 fish per person per day, the increase in benefit to the recreational anglers will arise from more successful fishing trips. Additional benefits, in terms of consumer surplus, amounting to $1.35 million would be realized by the recreational anglers. The increase in recreational quota, even if the bag limits remain the same, would also increase the number of trips taken by anglers through charter boats. These increased trips would generate additional profits to the charter boats amounting to $0.12 million.

2. **Rejected Alternative: Set TAC at 6.1 MP**

This TAC reflects a 50 percent risk level that the true ABC is below this level as estimated by the Panel using the Monte Carlo technique. Relative to the proposed TAC, this alternative promotes lesser probability that the stock recovery will be impeded. In terms of short-run impacts, this alternative differs from the preferred one only in terms of magnitudes of effects. Percent allocation among user groups and recreational bag limits are identical to those of the preferred option. At this TAC level, allocation would be:

Commercial allocation	1.95 MP
Eastern Zone	1.35 MP
Western Zone	0.60 MP
Recreational allocation	4.15 MP = 0.559 M fish
Bag limit =	2 fish person per day (reverts to zero in EEZ when allocation is filled)

This TAC is 1.70 MP, or 22 percent, lower than the proposed TAC. However, it is 0.35 MP, or 6 percent, higher than last year's TAC. As with the proposed TAC, this quota is expected to be fully taken in the current fishing season. Commercial closure and bag reversion to zero would be earlier in the season relative to the proposed TAC. The distributional impacts of this TAC would not substantially differ from those of the proposed alternative. Relative to last season's TAC, this option would generate additional $0.114 million of ex-vessel revenues to the commercial sector, $0.17 million of consumer surplus to the recreational anglers, and $0.02 million of profits to the charter boat industry.

Under current FMP provisions, the recreational bag limit reverts to zero in the EEZ when the quota is filled. Once Amendment 6 passes and is implemented, bag limits would not revert to zero. The NMFS Regional Director (RD), however, has the option to change the Council's proposed bag limit if it is determined that the quota will be exceeded. A bag limit analysis (Powers and Parrack, 1992) showed that a TAC of 6.1 MP will be exceeded by a bag limit of 2 fish per person per day. Given that condition, the bag limit will drop to at most 1 fish per person per day in order that the quota will not be exceeded. Under this scenario, the recreational sector will be adversely impacted even more than as outlined above.

Atlantic Group King Mackerel

The stock assessment report states that there appears to be an adequate spawning biomass present for the Atlantic king mackerel. There appears to be significant amounts of recruitment coming into the fishery, but again high fishing mortality rates could reduce the size of these year classes. This stock is not currently considered to be overfished because the fishing mortality rate does not presently appear to be exceeding F_{30}, and the spawning stock biomass does not appear to be low enough to affect recruitment. Employing the Monte Carlo technique to characterize uncertainty, the Stock Assessment Panel estimated a most likely ABC of 10.0 MP over the range of 8.6 MP to 12.0 MP. The Panel allowed for a 50 percent chance of the ABC being less than 12.0 MP and a 16 percent chance of it being less than 8.6 MP. The fixed allocation ratio remains at 62.9 percent recreational and 37.1 percent commercial.

1. **Preferred Alternative: Set TAC at 10.5 MP.**

Commercial allocation	3.90 MP
Recreational allocation	6.60 MP = 0.834 M fish
Bag Limit =	5 fish per person per day throughout the range, except in Florida which should conform to that state's bag limit but not to exceed 5 fish per person per day

This TAC is within the ABC range and slightly above the most likely value that allows a fishing mortality rate that is consistent with maintaining the stock at a healthy level. This TAC is the same as the previous year's. Also, the allocation by user groups remains the same. Relative to status quo (i.e., 1991/1992 TAC), this choice of TAC is therefore not expected to have any positive or negative impacts on fishery participants.

Except for the 1988/1989 fishing season, neither the commercial nor the recreational allocation has been filled, and for the last three consecutive fishing years no closure of either sector ever occurred. In the 1988/1989 fishing season, the total catch from both sectors amounted to about 7.5 MP, and this amount has never been exceeded in more recent years. The inclusion of the Mid-Atlantic Council's area of jurisdiction for mackerel management has not materially affected the both commercial and recreational catches vis-a-vis their respective allocation. In addition, last year's increase in bag limit to 5 fish per person per day did not result in the recreational sector filling its quota. The potential re-allocation (mentioned in the previous RIR) that could occur if there was a commercial quota under-run and recreational quota over-run as a result of the increase in bag limits did not materialize. For the current year, the choice of TAC and corresponding allocations are expected to have minimal impacts on both the commercial and recreational sectors.

2. **Rejected Alternative: Set TAC at 10.0 MP, the most likely estimate of ABC**

The only difference between this alternative and the preferred one is the magnitude of TAC. Percentage allocation among user groups and recreational bag limits are identical to those of the preferred option. At this TAC level, allocation would be:

Commercial allocation	3.71 MP
Recreational allocation	6.29 MP = 0.795 M fish
Bag Limit =	5 fish per person per day throughout the range, except in Florida which should conform to that state's bag limit but not to exceed 5 fish per person per day

This alternative provides the highest likelihood of realizing a fishing mortality rate of F_{30}. This quota is 0.5 MP, or 5 percent, less than the proposed and last year's TAC. Combined commercial and recreational catches totaled about 5.3 MP and 6.6 MP, respectively, in the 1990/1991 and 1991/1992 fishing years. Very likely about the same catch level would be taken in the current year. Thus this alternative choice of TAC is not expected to result in negative impacts on both commercial and recreational sectors.

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 if the Councils protected new recruits. Employing the Monte Carlo technique to characterize uncertainty, the Stock Assessment Panel estimated a most likely ABC of 8.0 MP over the range of 5.1 MP to 9.8 MP. The Panel allowed for a 50 percent chance of the ABC being less than 9.8 MP and a 16 percent chance of it being less than 5.1 MP. The fixed allocation ratio remains at 43 percent recreational and 57 percent commercial.

1. **Preferred Alternative: Set TAC at 8.6 MP, the most likely estimate of ABC**

Commercial allocation	4.9 MP
Recreational allocation	3.7 MP = 3.274 M fish
Bag limit =	State limit not to exceed 10 fish per person per day (reverts to zero in EEZ when allocation is filled)

This TAC is within the ABC range and slightly above the most likely value that allows a fishing mortality rate that is consistent with maintaining the stock at a healthy level. This TAC is the same as the previous year's. Also, the percentage allocation by user groups remains the same. Relative to status quo (i.e., 1991/1992 TAC), this choice of TAC does not have any impact on fishery participants. Considering, however, that there is an increase in bag limits, some increase in benefits to the recreational sector will arise. Again, it may be noted that if Amendment 6 gets implemented, there will be no reversion to zero bag limit when the quota is filled.

In the past three years, the commercial allocation has not been filled. In terms of actual landings, however, last year's commercial catch (3.5 MP) was the highest in three years. In fact, last year's landings were about 76 percent higher than those of the prior year. Low landings in the 1989/1990 and 1991/1992 fishing years were partly attributed to depressed ex-vessel prices and widely dispersed fish. Preliminary data for calendar year 1991 showed ex-vessel prices averaged about 42 cents a pound which is about similar to those of the two prior years. Thus there appears to be no perceptible improvement in the ex-vessel market for Gulf Spanish mackerel. It may be noted, however, that only about 71 percent of last year's commercial quota was filled. Unless a very unlikely situation occurs this year whereby the economics of the fishery significantly improves, the commercial allocation is unlikely to be filled.

Only about 55 percent of the recreational allocation was filled last year although actual catches were the highest in the last three years. Last year's recreational catch (2.018 MP) was about 18 percent more than that of the prior year. The proposed increase in bag limit will affect only anglers in Texas and Florida since the bag limits off of other states are already 10 fish per person per day. There will be a projected increase in benefits to both anglers and the for-hire sector in Texas and Florida once these states raise their respective bag limits. It cannot be determined whether the recreational allocation will be actually filled by such an increase in bag limits. However, since Florida has historically registered the most recreational catches of Gulf Spanish mackerel, it is likely that there will occur a substantial increase in recreational catch provided Florida raises its bag limit. It appears though that no closure will occur in the current fishing year, since for such closure to occur, the combined Texas and Florida catches should increase by about 1.68 MP relative to the past year's catch. Given such condition, the possible implementation of Amendment 6 by November 1992 is not expected to affect the bag limits as proposed here.

2. **Rejected Alternative: Set TAC at 8.0 MP, the most likely estimate of ABC**

Commercial allocation	4.56 MP
Recreational allocation	3.44 MP = 3.04 M fish
Bag limit =	State limit not to exceed 10 fish per person per day (reverts to zero in EEZ when allocation is filled)

This TAC is within the ABC range and is the most likely value that allows a fishing mortality rate that is consistent with maintaining the stock at a healthy level. This TAC is 0.6 MP, or 7.5 percent, less than the proposed and last year's TAC. Although in principle this alternative would result in reduction in benefits, the commercial sector is unlikely to be affected due to historically low catches of this sector. There is only a very slight possibility that the recreational sector will be negatively affected by this alternative. The proposed increase in bag limits which will affect anglers and for-hire vessels in Texas and Florida is expected to result in substantial increase in recreational catch provided these states raise their respective bag limits. For this alternative TAC to negatively impact the recreational sector, catches should exceed 1.08 MP relative to last year's recreational catches. This possibility appears to be quite remote. Thus the effects of this alternative on the recreational sector may be expected to be almost similar to those of the proposed alternative. Although Amendment 6 will introduce some possibly alter the impacts on the recreational fishery as just described. However, it is still difficult to determine at this stage if the implementation of this amendment will affect the bag limits under this alternative.

Atlantic Group Spanish Mackerel

The report of the Stock Assessment Panel notes increases in spawning biomass which are expected to speed the stock toward recovery. The year class strengths of zero-year old in 1988 and 1989 appear to be larger for previous years of the data (except 1989), and these year classes are now entering the spawning biomass and fishery at this time. The ABC range for this group is estimated to be 4.9 MP to 7.9 MP with the most likely value estimated at 6.0 MP to 7.0 MP. The allocation formula adopted in 1989 under Amendment 4 called for greater share to the recreational sector for any TAC increase until a TAC of 6.6 MP is reached after which the recreational and commercial shares are equalized. The proposed TAC for this year, which is the same as that of last year, allows the equalization of the two shares; thus the proposed allocation is 50 percent commercial and 50 percent recreational. It may also be noted that for the current year this migratory group is no longer considered overfished.

1. **Preferred Alternative: Set TAC at 7.0 M, the most likely estimate of ABC**

Commercial allocation	3.5 MP
Recreational allocation	3.5 MP = 2.536 M fish
Bag Limit =	10 fish per person per day throughout the range, except in Florida which should conform to that state's bag limit but not to exceed 10 fish per person per day

The preferred TAC is the most likely ABC, and therefore allows fishing mortality to be at a rate consistent with maintaining the stock at a healthy level. Relative to status quo (i.e., 1991/1992 TAC), this alternative does not have any impact on fishery participants.

For the last five fishing seasons, the commercial fishery closed about 9 to 10 months after it opened. The 1991/1992 commercial allocation was filled and the fishery closed on December 17, 1991. In the previous fishing year, the commercial fishery closed on January 26, 1991. During the 1989/1990 fishing year over 80 percent of the commercial fishery occurred in Florida and 72 percent of the landings were taken there within one month of the appearance of the fish. Florida's share of the 1990/1991 commercial harvest, however, decreased to 60 percent (down 0.68 MP) due to inclusion of Mid-Atlantic catches (0.551 MP, mainly in Virginia: 0.49 MP) in the quota monitoring program, and also to a 0.25 MP increase in the North Carolina catch. The proposed commercial quota is the same as that of the previous year. Noting quota overruns in this fishery for the last three years, the proposed commercial allocation will be likely filled. Thus, even if the stock is no longer considered overfished, the high likelihood that traditional hook and line fishermen can fill the quota obviates the possibility of the Councils re-evaluating the use of purse seines in the fishery.

The recreational fishery did not fish out its allocation in the past four fishing seasons. In the 1989/1990 fishing season, only about half of the quota was filled. Part of the explanation comes from the fact that there was a large increase in recreational allocation for the 1989-1990 season. Another possible reason is the lagged reaction of anglers to quota overruns and controversial fishery closure in the previous year (1988/1990). This is partly borne out by the fact the total recreational catch in the 1989/1990 fishing season was only about 62 percent of that of the 1988/1989 season. Positive reaction of anglers to management actions picked up in the 1990/1991 fishing season when about 96 percent of recreational quota was taken. However, the 1990/1991 recreational quota was 0.9 MP less than its 1989/1990 level although actual catch was about 65 percent more than that of the previous year. In the 1991/1992 fishing year the recreational allocation was a substantially increased and was about 88 percent more than that of the previous year. Recreational catch about leveled for this year, and was less than 50 percent of the recreational quota. If Florida raises its bag limits, there will be a strong possibility of a surge in recreational catch, and this could result in increased benefits to private anglers and for-hire sector. Despite however such possibility, it is still very unlikely that the recreational quota as currently proposed for the 1992/1993 fishing year will be filled.

Maximum Sustainable Yield for Cobia

Preliminary estimate from the Coastal Pelagic Management Plan set the Maximum Sustainable Yield (MSY) for cobia at 1 MP. Upon the recommendation of the Stock Assessment Panel, the **Council recommends to change the cobia MSY to 2.2 MP**. The original MSY estimate was based on historical commercial landings and did not account for catches of the recreational sector, since data were not available at that time. The report of the Stock Assessment Panel notes that landings of cobia by both the commercial and recreational sector have stabilized at about 2.2 MP for greater than a generation period. Recreational catches are found to be more variable than commercial catches. The Panel concluded that the original MSY estimate might have been low since a stable catch above MSY is unlikely. Since catches are stable, no change from the current bag limit for cobia is recommended.

This recommendation does not have immediate impact on either the recreational or commercial sectors of the fishery. The recognition by the scientific panel that MSY for cobia is at the recommended level implies that the long-term benefits from the fishery will not be impaired by current and past levels of catch.

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	$30,000
Research	None additional required
Statistics	None additional required
Enforcement	None additional required

SUMMARY AND EXPECTED NET IMPACT OF PROPOSED ACTION

The notice action being addressed constitutes changes in management for four distinctive groups of king and Spanish mackerel. These changes are considered as four independent actions, 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 is on the expected economic impact of the preferred alternatives. It may be noted that for each fishery the alternatives considered are generally the preferred alternative, mainly the most likely value of ABC, and implicitly the previous year's quotas.

Gulf Group King Mackerel

The preferred alternative (set TAC at 7.8 MP with no change in bag limits) establishes a TAC higher than that of the previous season, and is expected to generate additional benefits of $0.7 million in ex-vessel revenues, $1.35 million in consumer surplus, and $0.12 million in charter boat profits. The impacts on the recreational sector may possibly change if Amendment 6 gets implemented. The distributional effects of the preferred alternative on various user groups would be similar to those of the previous year's TAC. The preferred alternative would also generate higher benefits than the rejected alternative, primarily because the former has a higher TAC.

Atlantic Group King Mackerel

Relative to the status quo, the preferred alternative does not have any impact on fishery participants. Commercial and recreational quotas under the preferred alternative are unlikely to be filled. The rejected alternative in this case would mean negative impacts on fishery participants since TAC under this alternative is lower than that of last year.

Gulf Group Spanish Mackerel

The recommended TAC is 8.6 MP, which is the same as that for last year, does not entail any impacts on fishery participants. In principle, the distributional impacts of this alternative will not be different from those of last year, mainly because the percentage allocation between the commercial and recreational sectors remain the same and also because the respective allocations are unlikely to be filled. However, it may be noted that the commercial sector has the capacity to fill the quota if and when market and environmental conditions are favorable. Although the recreational quota is also unlikely to be filled, a potential increase in recreational catch, and hence on recreational benefits, arises if Florida and Texas raise their respective bag limits.

Atlantic Group Spanish Mackerel

The preferred alternative sets TAC at 7.0 MP, which is the as that of last year and is also the most likely ABC estimate. With the expectation that the commercial quota will be filled, the possibility of purse seines being permitted in the fishery (due to the stock being now formally declared as not overfished, appears to be remote. The recreational quota is not expected to be fully taken. However, an increase in catch over that of last year is a strong possibility if Florida raises its bag limit.

Government Costs

Government costs for preparing and implementing this action are estimated at $30,000. There are expected to be no additional costs from data collection, research or law enforcement from this action.

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GULF GROUP KING MACKEREL
1991/92 PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, (NMFS/SEFC/MRFSS/FDNR).
Whole Weight In Pounds (KG91-92; 05/11/92;NMFS/FSER21:MFG)

WESTERN ZONE

1991/92 COMMERCIAL (QUOTA 1.84M)

MONTH	TX	LA	MS	AL	Total	Cum. Total	% Quota (0.57M)
July 91	416	126,436	278		127,130	127,130	22
August		261,073	682	17	261,772	388,902	68
September		191,406		36	191,442	580,344	102
Closed 9/29/91							
October		1,957			1,957	582,301	102
November					0	582,301	102
December					0	582,301	102
January 92					0	582,301	102
February					0	582,301	102
March					0	582,301	102
April					0	582,301	102
May					0	582,301	102
June					0	582,301	102
Total	416	580,872	960	53	582,301		
% West Zone		100%	0%	0%			
% Gulfwide		32%	0%	0%	32%		
Catch after closure:							
Pounds:		0	0	0	0		

1991/92 RECREATIONAL (QUOTA 3.91M)

MONTH	TX	LA	MS	AL	Total	Cum. Total	% Quota (3.91M)
Jul/Aug 91		28,285	22,681	69,007	119,973	119,973	3
Sep/Oct		9,403	158,976	141,759	310,138	430,111	11
Nov/Dec					0	430,111	11
Jan 92					0	430,111	11
Feb					0	430,111	11
Closed Jan. 13, 1992							0
Mar/Apr					0	430,111	11
May/Jun					0	430,111	11
Total	0	37,688	181,657	210,766	430,111		
% West Zone		9%	42%	49%			
% Gulfwide		1%	5%	5%	11%		
Catch after closure:							
Pounds:		0	0	0	0		

1991/92 COMBINED COMMERCIAL AND RECREATIONAL (TAC 5.75M)

	TX	LA	MS	AL	Total	% TAC (5.75M)
COM TOT	416	580,872	960	53	582,301	10
REC TOT	0	37,688	181,657	210,766	430,111	7
GRAN TOT	416	618,560	182,617	210,819	1,012,412	18
% West Zone	0%	61%	18%	21%		
% Gulfwide		11%	3%	4%	18%	

EASTERN ZONE

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (1.27M)
July 91	11,791		11,791	11,791	1
August	13,304		13,304	25,095	2
September	38,102		38,102	63,197	5
October	21,635		21,635	84,832	7
November	39,379	73,664	113,043	197,875	16
December	149,201	287,851	437,052	634,927	50
January 92	492,952	103,109	596,061	1,288,246	101
Closed 01/31/92					
February	21,366	657	22,023	1,310,269	103
March	6,218	296	6,514	1,316,783	104
April			0	1,316,783	104
May			0	1,316,783	104
June			0	1,316,783	104
Total	793,948	465,577	1,259,525		
% East Zone	63%	37%			
% Gulfwide	43%	25%	68%		
Catch after closure:					
	27,584	953	28,537		

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (3.91M)
Jul/Aug 91	1,366,390		1,366,390	1,366,390	35
Sep/Oct	1,000,116		1,000,116	2,366,506	61
Nov/Dec	14,974	470,888	485,862	2,852,368	73
Jan 92	107,298	59,644	166,942	3,019,310	77
Feb	168,242	295,276	463,518	3,482,828	89
Closed Jan. 13, 1992					
Mar/Apr			0	3,482,828	89
May/Jun			0	3,482,828	89
Total	2,657,020	825,808	3,482,828		
% East Zone	76%	24%			
% Gulfwide	68%	21%	89%		
Catch after closure:					
	275,540	354,920	630,460		

	FLORIDA West	FLORIDA East	Total	% TAC (5.75M)
COM TOT	793,948	465,577	1,259,525	22
REC TOT	2,657,020	825,808	3,482,828	61
GRAN TOT	3,450,968	1,291,385	4,742,353	82
% East Zone	73%	27%		
% Gulfwide	60%	22	82%	

GULFWIDE

Total	Cum. Total	% Quota (1.84M)
138,921	138,921	8
275,076	413,997	22
229,544	643,541	35
23,592	667,133	36
113,043	780,176	42
437,052	1,217,228	66
596,061	1,813,289	99
22,023	1,835,312	100
6,514	1,841,826	100
0	1,841,826	100
0	1,841,826	100
0	1,841,826	100
1,841,826		

Catch after closure:
28,537

Head-Boat	Total	Cum. Total	% Quota (3.91M)
	1,486,363	1,486,363	38
	1,310,254	2,796,617	72
	485,862	3,282,479	84
	166,942	3,449,421	88
	463,518	3,912,939	100
	0	3,912,939	100
	0	3,912,939	100
	3,912,939		

Catch after closure:
630,460

Head-Boat	Total	% TAC (5.75M)
	1,841,826	32
	3,912,939	68
	5,754,765	100

(ABC = 4.0 - 7.0M)(4.9)

GULF GROUP KING MACKEREL
1990/91 PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS (...S/SEFC/NMFSS/FDNR).
Whole Weight In Pounds (KG90-91; 05/21/92;NMFS/FSR011:MFG)

1990/91 COMMERCIAL (QUOTA 1.36M)

WESTERN ZONE

MONTH	TX	LA	MS	AL	Total	Cum. Total	% Quota (0.42M)
July 90	272	170,123	1,083	471	171,949	171,949	41
August	1,050	166,900	218		168,168	340,117	81
September		145,950	104		146,054	486,171	116
October		141,053			141,053	627,224	149
Closed 10/18/90							
November					0	627,224	149
December		10,702			10,702	637,926	152
January 91					0	637,926	152
February					0	637,926	152
March					0	637,926	152
April		305			305	638,231	152
May		342			342	638,573	152
June		670			670	639,243	152
Total	1,322	636,045	1,405	471	639,243		
% West Zone	0%	99%	0%	0%			
% Gulfwide	0%	39%	0%	0%	39%		
Catch after closure:							
Pounds:	0	12,019	0	0	12,019		

EASTERN ZONE

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (0.94M)
July 90	2,040		2,040	2,040	0
August	4,872		4,872	6,912	1
September	8,595		8,595	15,507	2
October	10,270		10,270	25,777	3
November	18,992	235,129	254,121	279,898	30
December	137,640	453,203	590,843	870,741	93
January 91	105,352	3,712	109,064	979,805	104
Closed 01/04/91					
February	6,207	829	7,036	986,841	105
March	4,239	1,180	5,419	992,260	106
April	1,248		1,248	993,508	106
May	312		312	993,820	106
June	871		871	994,691	106
Total	300,638	694,053	994,691		
% East Zone	30%	70%			
% Gulfwide	18%	42%	61%		
Catch after closure:					
	12,877	2,009	14,886		

GULFWIDE

Total	Cum. Total	% Quota (1.36M)
173,989	173,989	13
173,040	347,029	26
154,649	501,678	37
151,323	653,001	48
254,121	907,122	67
601,545	1,508,667	111
109,064	1,617,731	119
7,036	1,624,767	119
5,419	1,630,186	120
1,553	1,631,739	120
654	1,632,393	120
1,541	1,633,934	120
1,633,934		

Catch after closure:
26,905

1990/91 RECREATIONAL (QUOTA 2.89M) (stock assessment data)

WESTERN ZONE

MONTH	TX	LA	MS/AL		Total	Cum. Total	% Quota (2.89M)
Jul 90	141,932	475	131,097		273,504	273,504	9
Aug	161,144	241	131,097		292,482	565,986	20
Sep	16,695	877	168,847		186,419	752,405	26
Oct	16,695	877	168,847		186,419	938,824	32
Nov					0	938,824	32
Dec					0	938,824	32
Closed Dec. 20, 1990							
Jan 91					0	938,824	32
Feb					0	938,824	32
Mar	5,830				5,830	944,654	33
Apr	5,830				5,830	950,484	33
May	7,561		6,569		14,130	964,614	33
Jun	8,318		6,569		14,887	979,501	34
Total	364,005	2,470	613,026		979,501		
% West Zone	37%	0%	63%				
% Gulfwide	7%	0%	12%		20%		
Catch after closure:							
Pounds:	27,539	0	13,138	0	40,677		

EASTERN ZONE

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (2.89M)
Jul 90	213,463		213,463	213,463	7
Aug	213,236		213,236	426,699	15
Sep	499,037		499,037	925,736	32
Oct	499,037		499,037	1,424,773	49
Nov	128,839	269,771	398,610	1,823,383	63
Dec	128,764	280,223	408,987	2,232,370	77
Closed Dec. 20, 1990					
Jan 91	415,604	37,876	453,480	2,685,850	93
Feb	415,604	37,490	453,094	3,138,944	109
Mar	96,153	85,351	181,504	3,320,448	115
Apr	96,153		96,153	3,416,601	118
May	274,176		274,176	3,690,777	128
Jun	274,505		274,505	3,965,282	137
Total	3,254,571	710,711	3,965,282		
% East Zone	82%	18%			
% Gulfwide	66%	14%	80%		
Catch after closure:					
	1,572,195	160,717	1,732,912		

GULFWIDE

Total	Cum. Total	% Quota (2.89M)
486,967	486,967	17
505,718	992,685	34
685,456	1,678,141	58
685,456	2,363,597	82
398,610	2,762,207	96
408,987	3,171,194	110
453,480	3,624,674	125
453,094	4,077,768	141
187,334	4,265,102	148
101,983	4,367,085	151
288,306	4,655,391	161
289,392	4,944,783	171
4,944,783		

Catch after closure:
1,773,589

1990/91 COMBINED COMMERCIAL AND RECREATIONAL (TAC 4.25M)

WESTERN ZONE

	TX	LA	MS/AL	Total	% TAC (4.25M)
COM TOT	1,322	636,045	1,876	639,243	15
REC TOT	364,005	2,470	613,026	979,501	23
GRAN TOT	365,327	638,515	614,902	1,618,744	38
% West Zone	23%	39%	38%		
% Gulfwide	6%	10%	9%	25%	

EASTERN ZONE

	FLORIDA West	FLORIDA East	Total	% TAC (4.25M)
COM TOT	300,638	694,053	994,691	23
REC TOT	3,254,571	710,711	3,965,282	93
GRAN TOT	3,555,209	1,404,764	4,959,973	117
% East Zone	72%	28%		
% Gulfwide	54%	21%	75%	

GULFWIDE

Head-Boat	Total	% TAC (4.25M)
	1,633,934	38
	4,944,783	116
	6,578,717	155

(ABC : 3.2 - 5.4M)

GULF GROUP KING MACKEREL
1989/90 PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, (NMFS/SEFC/MRFSS/FDNR).
Whole Weight In Pounds (KG89-90; 05/20/92;NMFS/FSERS21:MFG)

WESTERN ZONE — EASTERN ZONE — GULFWIDE

1989/90 COMMERCIAL (QUOTA 1.36M)

WESTERN ZONE

MONTH	TX	LA	MS	AL	Total	Cum. Total	% Quota (0.42M)
July 89	1,245	79,518	905	911	82,579	82,579	20
August	91	132,377	1,123		133,591	216,170	51
September	127	140,434	390	510	141,461	357,631	85
October	19	187,415	65		187,499	545,130	130
Closed 10/25/89							
November		111,089	158		111,247	656,377	156
December					0	656,377	156
January 90					0	656,377	156
February		1,017			1,017	657,394	157
March					0	657,394	157
April					0	657,394	157
May					0	657,394	157
June		64	43		107	657,501	157
Total	1,482	651,914	2,684	1,421	657,501		
% West Zone	0%	99%	0%	0%			
% Gulfwide	0%	36%	0%	0%	36%		
After closure catch:							
Pounds:	4	140,444	214	0	140,661		

EASTERN ZONE

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (0.94M)
July 89	2,973	571	3,544	3,544	0
August	1,471		1,471	5,015	1
September	5,109	31	5,140	10,155	1
October	23,405		23,405	33,560	4
November	22,971	122,500	145,471	179,031	19
December	111,009	182,340	293,349	472,380	50
January 90	603,762	60,519	664,281	1,136,661	121
Closed 01/09/90					
February	28,747	635	29,382	1,166,043	124
March	5,251	836	6,087	1,172,130	125
April	1,387		1,387	1,173,517	125
May	2,760		2,760	1,176,277	125
June	458		458	1,176,735	125
Total	809,303	367,432	1,176,735		
% East Zone	69%	31%			
% Gulfwide	44%	20%	64%		
After closure catch:					
Pounds:	38,603	1,471	40,074		

GULFWIDE

	Total	Cum. Total	% Quota (1.36M)
	86,123	86,123	6
	135,062	221,185	16
	146,601	367,786	27
	210,904	578,690	43
	256,718	835,408	61
	293,349	1,128,757	83
	664,281	1,793,038	132
	30,399	1,823,437	134
	6,087	1,829,524	135
	1,387	1,830,911	135
	2,760	1,833,671	135
	565	1,834,236	135
	1,834,236		
After closure catch:			
Pounds:	180,735		

1989/90 RECREATIONAL (QUOTA 2.89M)(stock assessment data)

WESTERN ZONE

MONTH	TX	LA	MS/AL	Total	Cum. Total	% Quota (2.89M)
Jul 89	110,796	13,482	67,093	191,371	191,371	7
Aug	121,500	13,264	67,093	201,857	393,228	14
Sep	31,407	10,143	53,772	95,322	488,550	17
Oct	31,407	10,143	53,772	95,322	583,872	20
Nov			10,260	10,260	594,132	21
Dec			10,260	10,260	604,392	21
Jan 90				0	604,392	21
Feb				0	604,392	21
Mar	2,683	221	2,412	5,316	609,708	21
Apr	4,377	221	2,412	7,010	616,718	21
May	24,576		11,391	35,967	652,685	23
Jun	31,526	375	11,391	43,292	695,977	24
Closed 5/21/90						
Total	358,272	47,849	289,856	695,977		
% West Zone	51%	7%	42%			
% Gulfwide	11%	1%	9%	21%		

EASTERN ZONE

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (2.89M)
Jul 89	71,184		71,184	71,184	2
Aug	70,364		70,364	141,548	5
Sep	314,060		314,060	455,608	16
Oct	313,972		313,972	769,580	27
Nov	119,304	102,901	222,205	991,785	34
Dec	119,430	106,470	225,900	1,217,685	42
Jan 90	15,722	117,484	133,206	1,350,891	47
Feb	16,251	112,279	128,530	1,479,421	51
Mar	205,057	118,078	323,135	1,802,556	62
Apr	204,721		204,721	2,007,277	69
May	304,819		304,819	2,312,096	80
Jun	304,888		304,888	2,616,984	91
Closed 5/21/90					
Total	2,059,772	557,212	2,616,984		
% East Zone	79%	21%			
% Gulfwide	62%	17%	79%		

GULFWIDE

	Total	Cum. Total	% Quota (2.89M)
	262,555	262,555	9
	272,221	534,776	19
	409,382	944,158	33
	409,294	1,353,452	47
	232,465	1,585,917	55
	236,160	1,822,077	63
	133,206	1,955,283	68
	128,530	2,083,813	72
	328,451	2,412,264	83
	211,731	2,623,995	91
	340,786	2,964,781	103
	348,180	3,312,961	115
	3,312,961		

1989/90 COMBINED COMMERCIAL AND RECREATIONAL (TAC 4.25M)

WESTERN ZONE

	TX	LA	MS/AL	Total	% TAC (4.25M)
COM TOT	1,482	651,914	4,105	657,501	15
REC TOT	358,272	47,849	289,856	695,977	16
GRAN TOT	359,754	699,763	293,961	1,353,478	32
% West Zone		52%	22%		
% Gulfwide		14%	6%	26%	

EASTERN ZONE

	FLORIDA West	FLORIDA East	Total	% TAC (4.25M)
COM TOT	809,303	367,432	1,176,735	28
REC TOT	2,059,772	557,212	2,616,984	62
GRAN TOT	2,869,075	924,644	3,793,719	89
% East Zone	76%	24%		
% Gulfwide	56%		74%	

GULFWIDE

	Total	% TAC (4.25M)
	1,834,236	43
	3,312,961	78
	5,147,197	121

(ABC = 2.7 - 5.8M)

GULF GROUP KING MACKEREL

1988/89 PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, SEFC/MRFSS/FDNR).
Whole Weight in Pounds (KG88-89;05/20/92:MFG).

WESTERN ZONE — 1988/89 COMMERCIAL (QUOTA 1.09M)

MONTH	TX	LA	MS	AL	Total	Cum. Total	% Quota (0.34M)
July 88	388	105,240	1,206	1,844	108,678	108,678	32
August	4,058	60,635	856	917	66,466	175,144	52
September	173	20,577	108	304	21,162	196,306	58
October	105	49,416	1,152	914	51,587	247,893	73
November		155,065	875	543	156,483	404,376	119
December		51,437			51,437	455,813	134
Closed 12/3/88							
January 89		939			939	456,752	134
February		111			111	456,863	134
March					0	456,863	134
April					0	456,863	134
May					0	456,863	134
June			265	57	322	457,185	134
Total	4,724	443,420	4,462	4,579	457,185		
% West Zone	1%	97%	1%	1%			
% Gulfwide	0%	32%	0%	0%	33%		
After Closure Catch Pounds:	0	1,050	265	57	1,372		

EASTERN ZONE — COMMERCIAL

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% of Quota (0.75M)
July 88	4,527		4,527	4,527	1
August	1,758		1,758	6,285	1
September	2,845		2,845	9,130	1
October	9,290		9,290	18,420	2
November	4,807	108,441	113,248	131,668	18
December	458,408	306,989	765,397	897,065	120
Closed 12/31/88					
January 89	8,995	5,721	14,716	911,781	122
February	2,432	305	2,737	914,518	122
March	6,176	339	6,515	921,033	123
April	2,018		2,018	923,051	123
May	859	3,199	4,058	927,109	124
June	646		646	927,755	124
Total	502,761	424,994	927,755		
% East Zone	54%	46%			
% Gulfwide	36%	31%	67%		
After Closure Catch Pounds:	21,126	9,564	30,690		

GULFWIDE — COMMERCIAL

Total	Cum. Total	% of Quota (1.09M)
113,205	113,205	10
68,224	181,429	17
24,007	205,436	19
60,877	266,313	24
269,731	536,044	49
816,834	1,352,878	124
15,655	1,368,533	126
2,848	1,371,381	126
6,515	1,377,896	126
2,018	1,379,914	127
4,058	1,383,972	127
968	1,384,940	127
1,384,940		

After Closure Catch Pounds 32,062

1988/89 RECREATIONAL (QUOTA 2.31M) (stock assessment data)

MONTH	TX	LA	MS/AL	Total	Cum. Total	% Quota (2.31M)
July 88	105,093	129,838	287,225	522,156	522,156	23
August	106,044	14,536	15,119	135,699	657,855	28
September	3,678	1,761	94,474	99,913	757,768	33
October	3,678	1,761	28,169	33,608	791,376	34
November				0	791,376	34
December				0	791,376	34
Closed 12/17/88						
Jan 89				0	791,376	34
Feb				0	791,376	34
Mar	287		2,248	2,535	793,911	34
Apr	2,072		2,248	4,320	798,231	35
May	13,337		13,742	27,079	825,310	36
Jun	25,590		13,742	39,332	864,642	37
Total	259,779	147,896	456,967	864,642		
% West Zone	31%	18%	55%			
% Gulfwide	6%	4%	11%	22%		
After Closure Catch Pounds:	15,696	0	18,238	33,934		

MONTH	FLORIDA West	FLORIDA East	Total	Cum. Total	% Quota (2.31M)
July 88	368,942		368,942	368,942	16
August	249,230		249,230	618,172	27
September	407,807		407,807	1,025,979	44
October	860,589		860,589	1,886,568	82
November		311,477	311,477	2,198,045	95
December	8,528	321,477	330,005	2,528,050	109
Closed 12/17/88					
Jan 89	26,503	5,707	32,210	2,560,260	111
Feb	26,503	7,640	34,143	2,594,403	112
Mar	21,114	121,036	142,150	2,736,553	118
Apr	21,114		21,114	2,757,667	119
May	256,711		256,711	3,014,378	130
Jun	257,709		257,709	3,272,087	142
Total	2,504,750	767,337	3,272,087		
% East Zone	81%	25%			
% Gulfwide	62%	19%	81%		
After Closure Catch Pounds:	351,945	134,383	486,328		

Total	Cum. Total	% Quot (2.31M)
891,098	891,098	39
384,929	1,276,027	55
507,720	1,783,747	77
894,197	2,677,944	116
311,477	2,989,421	129
330,005	3,319,426	144
32,210	3,351,636	145
34,143	3,385,779	147
144,685	3,530,464	153
25,434	3,555,898	154
283,790	3,839,688	166
297,041	4,136,729	179
0	4,136,729	

After Closure Catch Pounds 520,262

1988/89 COMBINED COMMERCIAL AND RECREATIONAL (TAC 3.40M)

	TX	LA	MS/AL	Total	% TAC (3.40M)
COM TOT	4,724	443,420	9,041	457,185	13
REC TOT	259,779	147,896	456,967	864,642	25
GRAN TOT	264,503	591,316	466,008	1,321,827	39
% West Zone	20%	45%	35%		
% Gulfwide	5%	11%	8%	24%	

	FLORIDA West	FLORIDA East	Total	% TAC (3.40M)
COM TOT	502,761	424,994	927,755	27
REC TOT	2,504,750	767,337	3,272,087	96
GRAN TOT	3,007,511	1,192,331	4,199,842	124
% East Zone	72%	28%		
% Gulfwide	54%	22%	76%	

Total	% TAC (3.40M)
1,384,940	41
4,136,729	122
5,521,669	162

(ABC = 0.5 - 4.3M)

GULF GROUP SPANISH MACKEREL
(1991/92) PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS (NMFS/SEFC/NDF33.FOR9)
Whole Weight In Pounds. (SMG91-92:05/11/92)

1991/92 COMMERCIAL (QUOTA 4.90M)

MONTH	WESTERN ZONE TX	LA	MS	AL	Total	Cum. Total	% of Quota (4.90M)	MONTH	FLORIDA West Coast	Cum. Total	% of Quota (4.90M)	GULFWIDE Total	Cum. Total	%
April 91					0	0	0	April 91	246,488	246,488	5	246,488	[illegible]	5
May		2,928	728	1,981	5,637	5,637	0	May	20,172	266,660	5	25,809	271,297	6
June		4,667	165	1,322	6,154	11,791	0	June	38,703	304,363	6	44,057	315,354	6
July		2,342	377	12,278	15,597	27,388	1	July 89	24,234	328,597	7	39,831	355,385	7
August	18	6,508	1,001	23,565	31,092	58,480	1	August	33,895	362,492	7	64,987	420,372	9
September		11,750	798	12,329	24,887	83,367	2	September	204,428	566,912	12	229,307	650,279	13
October		3,148	2,107	1,853	7,108	90,475	2	October	279,698	846,610	17	286,806	937,085	19
November		1,105		1,507	2,612	93,087	2	November	156,366	1,002,976	20	158,978	1,096,063	22
December		175		60	235	93,322	2	December	1,194,516	2,197,492	45	1,194,751	2,290,814	47
January 92				16	16	93,338	2	January 92	813,309	3,010,801	62	813,325	3,110,139	63
February					0	93,338	2	February	279,749	3,290,550	67	279,749	3,389,888	69
March					0	93,338	2	March	95,220	3,391,770	69	95,220	3,485,108	71
Total	18	33,225	5,174	54,921	93,338			Total	3,391,770			3,485,108		
% West	0.0	35.6	5.5	58.8				% East						
% Gulf	0.0	1.0	0.1	1.6	2.7			% Gulf	97.3					

1991/92 RECREATIONAL (QUOTA 3.70M)

MONTH	WESTERN ZONE TX	LA	MS	AL	Total	Cum. Total	% of Quota (3.70M)	MONTH	FLORIDA West	Cum. Total	% of Quota (3.70M)	Head-Boat	GULFWIDE Total	Cum. Total	% of Quota (3.70M)
Apr 91			273	7,610	7,883	7,883	0	Apr 91	231,406	231,406	6		239,289	239,288	6
May/Jun		15,177	10,068	26,390	51,633	59,516	2	May/Jun	371,956	603,362	16		423,589	662,877	18
Jul/Aug		125,862	25,597	144,547	296,106	355,322	10	Jul/Aug	243,619	846,981	23		539,725	1,202,602	33
Sep/Oct		27,498	60,189	54,194	141,873	497,195	13	Sep/Oct	434,593	1,281,574	35		576,466	1,779,068	48
Nov/Dec				33,402	33,402	530,597	14	Nov/Dec	110,387	1,391,961	38		143,789	1,922,357	52
Jan 92					0	530,897	14	Jan 92	48,192	1,440,153	39		48,192	1,971,049	53
Feb					0	530,897	14	Feb	47,303	1,487,456	40		47,303	2,018,352	55
Mar					0	530,897	14	Mar		1,440,153	39		0	2,018,352	[illegible]
Total	0	168,529	96,125	266,243	530,897			Total	1,487,456			0	2,018,352		
% West	0.0	31.7	18.1	50.1				% East							
% Gulf	0.0	8.3	4.8	13.2	26.3			% Gulf	73.7						

1991/92 COMBINED COMMERCIAL AND RECREATIONAL (TAC 8.60M)

	WESTERN ZONE TX	LA	MS	AL	Total	% of TAC (8.60M)		FLORIDA West	% of TAC (8.60M)	Head-Boat	GULFWIDE Total	% of TAC (8.60M)
COM TOT	18	33,225	5,174	54,921	93,338	1	COM TOT	3,391,770	39	0	3,485,108	41
REC TOT	0	168,529	96,125	266,243	530,897	6	REC TOT	1,487,456	17	0	2,018,352	23
GRAN TOT	18	201,754	101,299	321,164	624,235	7	GRAN TOT	4,879,226	57	0	5,503,460	64
% West	0.0	32.3	16.2	51.4			% East				(ABC = 7.1 - 12.2M)(8.6)	

GULF GROUP SPANISH MACKEREL
(1990/91) PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, (NMFS/SEFC/MRFSS/TPWD).
Whole Weight In Pounds. (SMG90-91;05/08/92)

1990/91 COMMERCIAL (QUOTA 2.99M)

MONTH	WESTERN ZONE TX	LA	MS	AL	Total	Cum. Total	% of Quota (2.99M)	MONTH	FLORIDA West Coast	Cum. Total	% of Quota (2.99M)	GULFWIDE Total	Cum. Total	% of Quota (2.99M)
April 90		1,348	9,941	46,004	57,293	57,293	2	April 90	217,854	217,854	7	275,147	275,147	9
May		76	135	897	1,108	58,401	2	May	38,557	256,411	9	39,665	314,812	11
June		42		4	46	58,447	2	June	18,872	275,283	9	19,918	334,730	11
July		249	580	4,000	4,829	63,276	2	July 89	21,823	298,106	10	26,652	361,382	12
August		409	20,823	220	21,452	84,728	3	August	29,525	327,631	11	50,377	412,359	14
September		2,057	779	759	3,595	88,323	3	September	89,839	417,470	14	93,434	505,793	17
October	65	4,683	311	372	5,431	93,754	3	October	123,330	540,800	18	128,761	634,554	21
November		3,647	162	103	3,912	97,556	3	November	182,232	723,032	24	186,144	820,698	27
December		407			407	98,073	3	December	234,761	957,793	32	235,158	1,055,366	35
January 91		3			3	98,076	3	January 91	720,845	1,678,638	56	720,848	1,776,714	59
February		5			5	98,081	3	February	88,875	1,767,513	59	88,880	1,865,594	62
March		168	1,071	1,065	2,304	100,385	3	March	147,903	1,915,416	64	150,207	2,015,801	67
Total	65	13,094	33,802	53,424	100,385			Total	1,915,416			2,015,801		
% West	0.1	13.0	33.7	53.2										
% Gulf	0.0	0.6	1.7	2.7	5.0			% Gulf	95.0					

1990/91 RECREATIONAL (QUOTA 2.26M) (1992 STOCK ASSESSMENT DATA)

MONTH	WESTERN ZONE TX	LA	MS/AL		Total	Cum. Total	% of Quota (2.26M)	MONTH	FLORIDA West	Cum. Total	% of Quota (2.26M)	GULFWIDE Total	Cum. Total	% of Quota (2.26M)
April 90		[illegible]	[illegible]		[illegible]	[illegible]	1	April 90	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]
May	298	1,511	9,307		11,116	42,417	2	May	124,772	261,149	12	135,888	303,566	13
June	298	1,474	9,307		11,079	53,496	2	June	124,798	385,947	17	135,877	439,443	19
July	3,731	23,969	68,806		96,506	150,002	7	July 89	85,499	471,446	21	182,005	621,448	27
August	3,722	23,969	68,806		96,497	246,499	11	August	85,529	556,975	25	182,026	803,474	36
September	6,447	28,635	49,070		84,152	330,651	15	September	144,858	701,833	31	229,010	1,032,484	46
October	6,447	28,635	49,070		84,152	414,803	18	October	144,847	846,680	37	228,999	1,261,483	56
November	542	1,180	123		1,845	416,648	18	November	95,262	941,942	42	97,107	1,358,590	60
December	542	1,180	123		1,845	418,493	19	December	95,301	1,037,243	46	97,146	1,455,736	64
January 91			150		150	418,643	19	January 91	30,811	1,068,054	47	30,961	1,486,697	66
February			150		150	418,793	19	February	30,811	1,098,865	49	30,961	1,517,658	67
March	104		6,245		6,349	425,142	19	March	186,172	1,285,037	57	192,521	1,710,179	76
Total	22,131	110,598	292,421	0	425,142			Total	1,285,037			1,710,179		
% West	5.2	26.0	68.8	0.0										
% Gulf	1.3	6.5	17.1	0.0	24.9			% Gulf	75.1					

1990/91 COMBINED COMMERCIAL AND RECREATIONAL (TAC 5.25M)

	WESTERN ZONE TX	LA	MS/AL		Total	% of TAC (5.25M)		FLORIDA West	% of TAC (5.25M)	GULFWIDE Total	% of TAC (5.25M)
COM TOT	65	13,094	87,226		100,385	2	COM TOT	1,915,416	36	2,015,801	38
REC TOT	[illegible]	[illegible]	[illegible]		[illegible]	8	REC TOT	1,285,037	24	1,710,179	33
GRAN TOT	22,196	123,694	379,647		525,527	10	GRAN TOT	3,200,453	61	3,725,980 (ABC = 3.9 - 7.4M)	71
% West	4.2	23.5	72.2	0.0			% East				

GULF GROUP SPANISH MACKEREL
(1988/89) PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, (NMFS/SEFC/MRFSS/FDNR).
Whole Weight In Pounds. (SMG88-89;05/28/92)

1988/89 COMMERCIAL (QUOTA 2.85M)

MONTH	TX	WESTERN LA	ZONE MS	AL	Total	Cum. Total	% of Quota (2.85M)	MONTH	FLORIDA West Coast	Cum. Total	% of Quota (2.85M)	GULFWIDE Total	Cum. Total	% of Quota (2.85M)
July 88		492	200	725	1,417	1,417	0	July 88	5,153	5,153	0	6,570	6,570	0
August		168	566	947	1,681	3,098	0	August	6,273	11,426	0	7,954	14,524	1
September		3,432	207	308	3,997	7,095	0	September	10,818	22,244	1	14,815	29,339	1
October		9,101	134	1,799	11,034	18,129	1	October	104,460	126,704	4	115,494	144,833	5
November		4,178		261	4,439	22,568	1	November	127,662	254,366	9	132,101	276,934	10
December		1,461			1,461	24,029	1	December	469,736	724,102	25	471,197	748,131	26
January 89		63			63	24,092	1	January 89	1,763,827	2,487,929	87	1,763,890	2,512,021	88
February			19	50	69	24,161	1	February	501,972	2,989,901	105	502,041	3,014,062	106
March		160	116	611	887	25,048	1	March	172,036	3,161,937	111	172,923	3,186,985	112
April		454	22,753	22,770	45,977	71,025	2	April	91,178	3,253,115	114	137,155	3,324,140	117
Closed 04/07/89								Closed 04/07/89						
May		30	6,966	2,438	9,334	80,359	3	May	15,959	3,269,074	115	25,293	3,349,433	118
June		7		159	166	80,525	3	June	6,167	3,275,241	115	6,333	3,355,766	118
Total	0	19,596	30,861	30,068	80,525			Total	3,275,241			3,355,766		
% West	0.0	24.3	38.3	37.3				% East						
% Gulf	0.0	0.6	0.9	0.9	2.4			% Gulf	97.6					
After Closure Catch Pounds:	0	385	24,310	20,054	44,749				67,715			112,484		

1988/89 RECREATIONAL (QUOTA 2.15M)

MONTH	TX	WESTERN LA	ZONE MS/AL		Total	Cum. Total	% of Quota (2.15M)	MONTH	FLORIDA West	Cum. Total	% of Quota (2.15M)	GULFWIDE Total	Cum. Total	% of Quota (2.15M)
July 88	12,045	47,190	23,962		83,197	83,197	4	July 88	87,686	87,686	4	170,883	170,883	8
August	12,045	14,637	16,919		43,601	126,798	6	August	175,501	263,187	12	222,102	392,985	18
September	309	1,662	51,949		53,911	180,709	8	September	61,242	327,429	15	115,153	508,138	24
October	309	2,343	10,421		13,073	193,782	9	October	114,523	441,952	21	127,596	635,734	30
November		131			131	193,913	9	November	37,004	478,956	22	37,135	672,869	31
December			511		511	194,424	9	December	11,635	490,591	23	12,146	685,015	32
January 89					0	194,424	9	January 89	22,963	513,554	24	22,963	707,978	33
February					0	194,424	9	February	22,963	536,517	25	22,963	730,941	34
March		903	2,197		3,100	197,524	9	March	57,362	593,879	28	60,462	791,403	37
April		937	2,197		3,134	200,658	9	April	57,362	651,241	30	60,496	851,899	40
May		1,831	3,328		5,157	205,815	10	May	70,577	721,818	34	75,734	927,633	43
June		1,797	3,328		5,123	210,938	10	June	70,847	792,665	37	75,970	1,003,603	47
Total	24,708	71,431	114,799	0	210,938			Total	792,665			1,003,603		
% West	11.7	33.9	54.4	0.0										
% Gulf	2.5	7.1	11.4	0.0	21.0			% Gulf	79.0					

1988/89 COMBINED COMMERCIAL AND RECREATIONAL (TAC 5.00M)

	TX	WESTERN LA	ZONE MS	AL	Total	% of TAC (5.00M)		FLORIDA West	% of TAC (5.00M)	Head-Boat	GULFWIDE Total	% of TAC (5.00M)
COM TOT	0	19,596	30,861	30,068	80,525	2	COM TOT	3,275,241	66	0	3,355,766	67
REC TOT	24,708	71,431	114,799	0	210,938	4	REC TOT	792,665	16	0	1,003,603	20
GRAN TOT	24,708	91,027	145,660	30,068	291,463	6	GRAN TOT	4,067,906	81	0	4,359,369	87
% West	8.5	31.2	50.0	10.3			% East				(ABC = 1.9 - 7.1M)	
% Gulf	0.6	2.1	3.3	0.7	6.7		% Gulf	93.3				

GULF GROUP SPANISH MACKEREL
(1989/90) PRELIMINARY COMMERCIAL AND RECREATIONAL LANDINGS, (NMFS,SEFC/MRFSS/TPWD).
Whole Weight In Pounds. (SMG89-90:05/28/92)

1989/90 COMMERCIAL (QUOTA 2.99M)

	WESTERN	ZONE										GULFWIDE		
MONTH	TX	LA	MS	AL	Total	Cum. Total	% of Quota (2.99M)	MONTH	FLORIDA West Coast	Cum. Total	% of Quota (2.99M)	Total	Cum. Total	% of Quota (2.99M)
July 89		583	2,678	35	3,302	3,302	0	July 89	11,457	11,457	0	14,759	14,759	0
August		1,398	1,452	1,110	3,960	7,262	0	August	32,299	43,756	1	36,259	51,018	2
September		6,016	873	2,930	9,819	17,081	1	September	37,696	81,452	3	47,515	98,533	[illegible]
October		7,675	3,077	1,237	11,989	29,070	1	October	89,087	170,539	6	101,076	199,603	7
November		7,203	420	1,938	9,561	38,631	1	November	138,055	308,594	10	147,616	347,225	12
December		156		67	223	38,854	1	December	165,315	473,909	16	165,538	512,763	17
January 90		12			12	38,866	1	January 90	646,357	1,120,266	37	646,369	1,159,132	39
February		44	6		50	38,916	1	February	502,308	1,622,574	54	502,358	1,661,490	56
March		270	1,501	20,737	22,508	61,424	2	March	278,525	1,901,099	64	301,033	1,962,523	66
April		1,348	9,941	46,004	57,293	118,717	4	April	217,854	2,118,953	71	275,147	2,237,670	[illegible]
May		78	135	897	1,108	119,825	4	May	38,557	2,157,510	72	39,665	2,277,335	[illegible]
June		42		4	46	119,871	4	June	19,872	2,177,382	73	19,918	2,297,253	[illegible]
Total	0	24,829	20,383	74,359	119,871			Total	2,177,382			2,297,253		
% West	0.0	20.7	16.8	62.5										
% Gulf	0.0	1.1	0.9	3.3	5.2			% Gulf	94.8					

1989/90 RECREATIONAL (QUOTA 2.26M)

	WESTERN	ZONE						FLORIDA				GULFWIDE		
MONTH	TX	LA	MS/AL	Total	Cum. Total	% of Quota (2.26M)	MONTH	West	Cum. Total	% of Quota (2.26M)	Head-Boat	Total	Cum. Total	% of Quota (2.26M)
July 89	1,968	26,924	71,326	100,218	100,218	4	July 89	187,166	187,166	8		287,384	287,384	13
August	2,000	26,924	71,326	100,250	200,468	9	August	187,187	374,353	17		287,437	574,821	25
September	3,649	24,709	40,969	69,327	269,795	12	September	129,725	504,078	22		199,052	773,873	34
October	3,649	24,709	40,969	69,327	339,122	15	October	129,705	633,783	28		199,032	972,905	43
November	13	16,854	11,525	28,392	367,514	16	November	51,232	685,015	30		79,624	1,052,523	47
December	13	16,854	11,525	28,392	395,906	18	December	51,265	736,280	33		79,657	1,132,186	50
January 90				0	395,906	18	January 90	24,114	760,394	34		24,114	1,156,300	51
February				0	395,906	18	February	24,179	784,573	35		24,179	1,180,479	52
March			31,264	31,264	427,170	19	March	136,452	921,025	41		167,716	1,348,195	60
April		37	31,264	31,301	458,471	20	April	136,377	1,057,402	47		167,678	1,515,873	67
May	298	1,511	9,307	11,116	469,587	21	May	124,772	1,182,174	52		135,888	1,651,761	73
June	298	1,474	9,307	11,079	480,666	21	June	124,798	1,306,972	58		135,877	1,787,638	79
Total	11,388	139,996	328,782	480,666			Total	1,306,972			0	1,787,638		
% West	2.5	29.1	68.4				% East							
% Gulf	0.7	7.8	18.4	26.9			% Gulf	73.1						

1989/90 COMBINED COMMERCIAL AND RECREATIONAL (TAC 5.25M)

	WESTERN	ZONE					FLORIDA			GULFWIDE	
	TX	LA	MS/AL	Total	% of TAC (5.25M)		West	% of TAC (5.25M)	Head-Boat	Total	% of TAC (5.25M)
COM TOT	0	24,829	95,042	119,871	2	COM TOT	2,177,382	41	0	2,297,253	44
REC TOT	11,388	139,996	328,782	480,666	9	REC TOT	1,306,972	25	0	1,787,638	34
GRAN TOT	11,388	164,825	423,824	600,537	11	GRAN TOT	3,484,354	66	0	4,084,891 (ABC = 4.9 - 6.5M)	78
% West	2.0	27.4	70.6			% East					