

**AMENDMENT 16B
TO THE
FISHERY MANAGEMENT PLAN
FOR THE REEF FISH RESOURCES OF
THE GULF OF MEXICO**

**(Includes Regulatory Impact Review, Initial Regulatory Flexibility Analysis,
and Environmental Assessment)**



January, 1999

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This is a publication of the Gulf of Mexico Fishery Management Council pursuant to National Oceanic and Atmospheric Administration Award No. NA97FC0010.

Abbreviations Used in This Document

ABC	Acceptable Biological Catch		Service
AP	Advisory Panel	NOAA	National Oceanic and Atmospheric Administration
BRD	Bycatch Reduction Device	OY	Optimum Yield
Council	Gulf of Mexico Fishery Management Council	RA	Regional Administrator
EEZ	Exclusive Economic Zone	RFA	Regulatory Flexibility Act
ESA	Endangered Species Act	RFSAP	Reef Fish Stock Assessment Panel
F	Fishing Mortality Rate (measured as an instantaneous rate)	RIR	Regulatory Impact Review
FL	Fork Length	SEFSC	Southeast Fisheries Science Center of NMFS
FMFC	Florida Marine Fisheries Commission	SEP	Socioeconomic Panel
FMP	Fishery Management Plan	SERO	Southeast Regional Office, NMFS
GMFMC	Gulf of Mexico Fishery Management Council	SMZ	Special Management Zone
IRFA	Initial Regulatory Flexibility Act	SPR	Spawning Potential Ratio
ITQ	Individual Transferable Quota	SSBR	Spawning Stock Biomass Per Recruit
MRFSS	Marine Recreational Fisheries Statistics Survey	TAC	Total Allowable Catch
NMFS	National Marine Fisheries	TL	Total Length
		VPA	Virtual Population Analysis

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1.0 INTRODUCTION

At the Gulf of Mexico Fishery Management Council (Council) meeting held March 9-13, 1998 in Duck Key, Florida, the Council was scheduled to take final action on Reef Fish Amendment 16. Due to time constraints and a power failure during the meeting, only Section 6.0 (Fish Trap Phase Out) was acted upon at that meeting. The portion of the amendment containing the Council's decisions for Section 6 was separated from the other issues in the amendment and submitted to the National Marine Fisheries Service (NMFS) as Reef Fish Amendment 16A. The remaining issues were placed into this amendment, Reef Fish Amendment 16B, for final action at the Council's May meeting in San Destin, Florida.

This amendment is concerned with the following Issues and alternatives:

- **Minor Amberjack Management Measures (section 7)**
This section contains alternatives to protect juvenile greater amberjack that are sometimes misidentified as a minor amberjack species.
- **Species Listed as Not in the Management Unit (section 8)**
This section contains alternatives to simplify the Reef Fish Fishery Management Plan (FMP) by eliminating the category of fishes that are in the fishery but not in the management unit.
- **Florida Compatible Size Limits (section 9)**
- **Florida Compatible Bag Limits (section 10)**
These sections contain alternatives to adopt size and bag limits for several reef fish species in federal waters that are compatible with Florida's limits for consistency of regulation and improved enforceability.
- **Speckled Hind and Warsaw Grouper (section 11)**
This section contains alternatives to increase conservation of speckled hind and Warsaw grouper, in response to these species having recently been added to the NMFS list of Candidate Species for possible listing as threatened or endangered under the Endangered Species Act.

2.0 HISTORY OF MANAGEMENT

2.1 Management Activities Other Than Regulatory Amendments

The Reef Fish Fishery Management Plan (FMP) was implemented in November 1984. The regulations, designed to rebuild declining reef fish stocks, included: (1) prohibitions on the use of fish traps, roller trawls, and powerhead-equipped spear guns within an inshore stressed area; (2) a minimum size limit of 13 inches total length (TL) for red snapper with the exceptions that for-hire boats were exempted until 1987 and each angler could keep 5 undersize fish; and, (3) data reporting requirements.

The NMFS has collected commercial landings data since the early 1950's, recreational harvest data since 1979, and in 1984 initiated a dockside interview program to collect more detailed data on commercial harvest. The first red snapper assessment in 1988 indicated that red snapper was significantly overfished and that reductions in fishing mortality rates (F) of as much as 60 to 70 percent were necessary to rebuild red snapper to a recommended 20 percent spawning potential ratio (SPR - See Section 5 below). The 1988 assessment also identified shrimp trawl bycatch as a significant source of mortality.

Amendment 1 to the Reef Fish Fishery Management Plan, implemented in 1990, set as a primary objective of the FMP the stabilization of long-term population levels of all reef fish species by establishing a survival rate of biomass into the stock of spawning age to achieve at least 20 percent spawning stock biomass per recruit (SSBR), relative to the SSBR that would occur with no fishing. It set a red snapper 7-fish recreational bag limit and 3.1 million pound commercial quota that together were to reduce fishing mortality by 20 percent and begin a rebuilding program for the stock. This amendment also established a 5-fish recreational bag limit and 11.0 million pound commercial quota¹ for groupers, with the commercial quota divided into a 9.2 million pound shallow-water quota and a 1.8 million pound deep-water quota. A framework procedure for specification of total allowable catch (TAC) was created to allow for annual management changes, and a target date for achieving the 20 percent SSBR goal was set at January 1, 2000. This amendment also established a longline and buoy gear boundary inshore of which the directed harvest of reef fish with longlines and buoy gear was prohibited, and the retention of reef fish captured incidentally in other longline operations (e.g. shark) was limited to the recreational bag limit. Subsequent changes to the longline/buoy boundary could be made through the framework procedure for specification of TAC.

Amendment 2, implemented in 1990, prohibited the harvest of jewfish to provide complete protection for this species in federal waters in response to indications that the population abundance throughout its range was greatly depressed. This amendment was initially implemented by emergency rule.

In November, 1990, NMFS announced that anyone entering the commercial reef fish fishery in the Gulf of Mexico and South Atlantic after a control date of November 1, 1989 may not be assured of future access to the reef fish fishery if a management regime is developed and implemented that limits the number of participants in the fishery. The purpose of this announcement was to establish a public awareness of potential eligibility criteria for future access to the reef fish resource, and does not prevent any other date for eligibility or other method for controlling fishing effort from being proposed and implemented.

At the direction of the Council, the Reef Fish Scientific Assessment Panel met in March 1990 and reviewed the 1990 NMFS Red Snapper Stock Assessment. The recommendation of the panel at that time was to close the directed fishery because the allowable biological catch (ABC) was being harvested as bycatch of the shrimp trawl fishery. No viable alternatives were identified that would achieve the 20 percent SPR goal by the year 2000 without closure of the directed fishery; because no means existed for reducing trawl bycatch. As a result, **Amendment 3**, implemented in July 1991, provided additional flexibility in the annual framework procedure for specifying TAC by allowing the target date for rebuilding an overfished stock to be changed depending on changes in scientific advice, except that the rebuilding period cannot exceed 1.5 times the generation time of the species under consideration. It revised the FMP's primary objective, definitions of optimum yield and overfishing and framework procedure for TAC by replacing the 20 percent SSBR target with 20 percent spawning potential ratio

¹ These values have been subsequently modified to correct for revisions adopted in the gutted to whole weight ratio. Historically, the conversion ratio used was 1.18, subsequently, the ratio has been corrected and 1.05 is used. This results in these values being 9.8, 8.2 and 1.6 million pounds respectively, for total, shallow-water and deep-water grouper quotas (e.g., $11.0 \div 1.18 \times 1.05 = 9.8$). There is no impact on the commercial fishery from the revision as fish have always been reported in gutted weight and that data is transformed to whole weight for NMFS records.

(SPR). The amendment also transferred speckled hind from the shallow-water grouper quota category to the deep-water grouper quota category and established a new target year for recovery of the red snapper stock to the 20 percent SPR goal of 2007.

The 1992 commercial red snapper fishery opened on January 1 and closed after just 53 days when a derby fishery developed and the quota was quickly filled. An emergency rule, implemented in 1992 by NMFS at the request of the Council, reopened the red snapper fishery from April 3, 1992 through May 14, 1992 with a 1,000 pound trip limit. This rule was implemented to alleviate economic and social upheavals that occurred as a result of the 1992 red snapper commercial quota being rapidly filled. Although this emergency rule resulted in a quota overrun of approximately 600,000 pounds, analysis by NMFS biologists determined that this one time overrun would not prevent the red snapper stock from attaining its target 20 percent SPR.

Amendment 4, implemented in May 1992, established a moratorium on the issuance of new reef fish permits for a maximum period of three years. The moratorium was created to moderate short-term future increases in fishing effort and to attempt to stabilize fishing mortality while the Council considers a more comprehensive effort limitation program. It allows the transfer of permits between vessels owned by the permittee or between individuals when the permitted vessel is transferred. Amendment 4 also changed the time of the year that TAC is specified from April to August and included additional species in the reef fish management unit.

Amendment 5, implemented in February 1994, established restrictions on the use of fish traps in the Gulf of Mexico exclusive economic zone (EEZ); implemented a three year moratorium on the use of fish traps by creating a fish trap endorsement and issuing the endorsement only to fishermen who had submitted logbook records of reef fish landings from fish traps between January 1, 1991 and November 19, 1992; created a special management zone (SMZ) with gear restrictions off the Alabama coast; created a framework procedure for establishing future SMZ's; required that all finfish except for oceanic migratory species be landed with head and fins attached; established a schedule to gradually raise the minimum size limit for red snapper to 16 inches over a period of five years; and closed the region of Riley's Hump (near Dry Tortugas, Florida) to all fishing during May and June to protect mutton snapper spawning aggregations.

An Emergency Rule effective December 30, 1992 created a red snapper endorsement to the reef fish permit for the start of the 1993 season. The endorsement was issued to owners or operators of federally permitted reef fish vessels who had annual landings of at least 5,000 pounds of red snapper in two of the three years from 1990 through 1992. For the duration of the emergency rule, while the commercial red snapper fishery was open, permitted vessels with red snapper endorsements were allowed a 2,000 pound possession limit of red snapper, and permitted vessels without the endorsement were allowed 200 pounds. This emergency action was initially effective for 90 days, and was extended for an additional 90 days with the concurrence of NMFS and the Council. A related emergency rule delayed the opening of the 1993 commercial red snapper season until February 16 to allow time for NMFS to process and issue the endorsements.

Amendment 6, implemented in June, 1993, extended the provisions of the emergency rule for red snapper endorsements for the remainder of 1993 and 1994, unless replaced sooner by a comprehensive

effort limitation program. In addition, it allowed the trip limits for qualifying and non-qualifying permitted vessels to be changed under the framework procedure for specification of TAC.

Amendment 7, implemented in February 1994, established reef fish dealer permitting and record keeping requirements; allowed transfer of fish trap permits and endorsements between immediate family members during the fish trap permit moratorium; and allowed transfer of other reef fish permits or endorsements in the event of the death or disability of the person who was the qualifier for the permit or endorsement. A proposed provision of this amendment that would have required permitted vessels to sell harvested reef fish only to permitted dealers was disapproved by the Secretary of Commerce and was not implemented.

Amendment 8, which proposed establishment of a red snapper Individual Transferable Quota (ITQ) system, was approved by NMFS and final rules were published in the Federal Register on November 29, 1995. This amendment provided for an initial allocation of percentage shares of the commercial red snapper quota to vessel owners and historical operators based on fishermen's historical participation in the fishery during the years 1990-1992. It also set a four year period for harvest under the ITQ system, during which time the Council and NMFS would monitor and evaluate the program and decide whether to extend, terminate or modify it. Amendment 8 also established a special appeals board, created by the Council, to consider requests from persons who contest their initial allocations of shares or determination of historical captains. The appeals board was originally scheduled to meet during January 1996, and the ITQ system itself was to become operational in April 1996. However, the federal government shutdown of December 1995- January 1996 forced an indefinite postponement of the appeals board meetings, and concerns about Congressional funding of the ITQ system made it inadvisable for the ITQ system to become operational, pending Congressional action. In October 1996, Congress, through re-authorization of the Magnuson-Stevens Act, repealed the red snapper ITQ system and prohibited Councils from submitting, or NMFS from approving and implementing, any new individual fishing quota program before October 1, 2000.

Amendment 9, implemented in July 1994, provided for collection of red snapper landings and eligibility data from commercial fishermen for the years 1990 through 1992. The purpose of this data collection was to evaluate the initial impacts of the limited access measures being considered under Amendment 8 and to identify fishermen who may qualify for initial participation under a limited access system. This amendment also extended the reef fish permit moratorium and red snapper endorsement system through December 31, 1995, in order to continue the existing interim management regime until longer term measures could be implemented. The Council received the results of the data collection in November 1994, at which time consideration of Amendment 8 resumed.

Withdrawn **Amendment 10** would have extended the validity of additional fish trap endorsements for the duration of the fish trap moratorium that was implemented under Amendment 5. These additional endorsements were to have been issued under an emergency rule, requested in March 1994, to alleviate economic hardships after the Council heard from fishermen who entered the fish trap fishery after the November 19, 1992 cutoff date and stated that they were unaware of the impending moratorium. The Council rejected the proposed amendment in May 1994 after NMFS stated that it had notified fishermen of the pending moratorium and fish trap endorsement criteria during the time between Council final action and NMFS implementation if they asked about fish trap rules or if they requested application

materials and NMFS was aware that it was for purposes of entering the fish trap fishery. The Council also considered arguments that the change in qualifying criteria circumvented the intent of the fish trap moratorium to halt expansion of the fish trap fishery at the November 19, 1992 level. After the Council rejected Amendment 10, NMFS subsequently rejected the emergency request.

Amendment 11 was partially approved by NMFS and implemented in January 1996. Approved provisions included (1) limit sale of Gulf reef fish by permitted vessels to permitted reef fish dealers; (2) require that permitted reef fish dealers purchase reef fish caught in Gulf federal waters only from permitted vessels; (3) allow transfer of reef fish permits and fish trap endorsements in the event of death or disability; (4) implement a new reef fish permit moratorium for no more than 5 years or until December 31, 2000, while the Council considers limited access for the reef fish fishery; (5) allow permit transfers to other persons with vessels by vessel owners (not operators) who qualified for their reef fish permit; and (6) allow a one time transfer of existing fish trap endorsements to permitted reef fish vessels whose owners have landed reef fish from fish traps in federal waters, as reported on logbooks received by the Science and Research Director of NMFS from November 20, 1992 through February 6, 1994. NMFS disapproved a proposal to redefine Optimum Yield (OY) from 20 percent SPR (the same level as overfishing) to an SPR corresponding to a fishing mortality rate of $F_{0.1}$ until an alternative operational definition that optimizes ecological, economic, and social benefits to the Nation could be developed. In April 1997, the Council resubmitted the OY definition with a new proposal to redefine OY as 30 percent SPR. The re-submission document was disapproved by NMFS in April 1998, when NMFS determined that an OY target of 30 percent SPR would risk overfishing of 15 species that change sex and are believed, by NMFS, to be less resilient to overfishing as they mature. A new OY target is currently being developed as part of the Council's Generic Amendment to implement new provisions of the Sustainable Fisheries Act of 1996.

Following the Congressional repeal of the red snapper ITQ system in Amendment 8, an emergency interim action was published in the *Federal Register* on January 2, 1996 to extend the red snapper endorsement system for 90 days. That emergency action was superseded by another emergency action, published in the *Federal Register* on February 29, 1996, that extended the red snapper endorsement system through May 29, 1996, and subsequently, by agreement of NMFS and the Council, for an additional 90 days until August 27, 1996.

Amendment 12, submitted in December 1995 and implemented in January 1997, reduced the greater amberjack bag limit from 3 fish to 1 fish per person, and created an aggregate bag limit of 20 reef fish for all reef fish species not having a bag limit. The NMFS disapproved a proposed provision, for the commercial sector, to cancel the automatic red snapper size limit increases to 15 inches TL in 1996 and 16 inches TL in 1998; NMFS also disapproved, for the recreational sector, a proposal to include lesser amberjack and banded rudderfish along with greater amberjack in an aggregate 1-fish bag limit and 28-inch fork length (FL) minimum size limit.

Amendment 13, implemented in September 1996, further extended the red snapper endorsement system through the remainder of 1996 and, if necessary, through 1997, in order to give the Council time to develop a permanent limited access system that was in compliance with the new provisions of the Magnuson-Stevens Act.

In late 1996 the Reef Fish Stock Assessment Panel (RFSAP) reviewed a new stock assessment on vermilion snapper and concluded that the vermilion snapper fishery in the Gulf of Mexico, while not currently overfished, was showing typical signs of overfishing. Given that SPR was decreasing at current fishing rates and that the proposed optimum yield level is 30 percent SPR, the RFSAP recommended that fishing mortality be reduced to a rate corresponding to $F_{30\% SPR}$, or $F = 0.32$. The RFSAP did not have sufficient information to assess the impact of closed seasons or other measures, but suggested that a 10-inch TL minimum size limit would be an effective intermediate measure until a new stock assessment and additional analysis could be completed. In March 1997, the Council requested that NMFS increase the minimum size limit from 8 inches TL to 10 inches TL under the new interim measures provision of the Magnuson-Stevens Act, while a permanent increase to 10 inches TL was developed through Amendment 15.

Amendment 14, implemented in March and April, 1997, provided for a 10 year phase-out for the fish trap fishery; allowed transfer of fish trap endorsements for the first two years and thereafter only upon death or disability of the endorsement holder, to another vessel owned by the same entity, or to any of the 56 individuals who were fishing traps after November 19, 1992 and were excluded by the moratorium; and prohibited the use of fish traps west of Cape San Blas, Florida. The amendment also provided the Regional Administrator (RA) of NMFS with authority to reopen a fishery prematurely closed before the allocation was reached and modified the provisions for transfer of commercial reef fish vessel permits.

Amendment 15, implemented in January 1998, established of a permanent two-tier red snapper license limitation system to replace the temporary red snapper endorsement system. Under the new system, Class 1 licenses and initial 2,000 pound trip limits were issued to red snapper endorsement holders as of March 1, 1997, and Class 2 licenses and initial 200 pound trip limits were issued to other holders of reef fish permits as of March 1, 1997 who had any landings of red snapper between January 1, 1990 and March 1, 1997. Vessels with neither a Class 1 or Class 2 red snapper license were prohibited from commercial harvest of red snapper. Licences were made fully transferable. The commercial red snapper season was split in two, with two thirds of the quota allocated to a February 1 opening and the remaining quota to a September 1 opening; the commercial fishery would open from noon of the first day to noon of the fifteenth day of each month during the commercial season. Amendment 15 also prohibited harvest of reef fish from traps other than permitted reef fish traps, stone crab traps, or spiny lobster traps; permanently increased the vermilion snapper size limit from 8 inches TL to 10 inches TL; removed all species of sea basses, grunts and porgies from the Reef Fish FMP; closed the commercial greater amberjack fishery Gulfwide during the months of March, April and May; and removed sand perch and dwarf sand perch from the recreational 20-reef fish aggregate bag limit.

Amendment 16A, submitted to NMFS in June 1998 and currently under review, proposed prohibiting the use of fish traps south of 25.05 degrees north latitude after February 7, 2001 rather than February 7, 2007. In the remaining areas where fish traps are allowed, the status quo 10-year phase-out would be maintained. The amendment also proposed allowing spiny lobster and stone crab vessels with reef fish permits to retain reef fish, but it would prohibit the possession of reef fish displaying the condition of "trap rash" aboard any vessel except for vessels possessing a valid fish trap endorsement. In addition, the amendment proposed additional reporting requirements for fish trap vessels, and called for NMFS to design a vessel monitoring system for fish trap vessels, to be approved by the Council prior to implementation.

2.2 Regulatory Amendments

A March 1991 regulatory amendment reduced the red snapper TAC from 5.0 million pounds to 4.0 million pounds, allocated with a commercial quota of 2.04 million pounds and a 7-fish recreational daily bag limit (1.96 million pound recreational allocation) beginning in 1991. This amendment also contained a proposal by the Council to effect a 50 percent reduction of red snapper bycatch in 1994 by the offshore EEZ shrimp trawler fleet, to occur through the mandatory use of finfish excluder devices on shrimp trawls, reductions in fishing effort, area or season closures of the shrimp fishery, or a combination of these actions. This combination of measures was projected to achieve a 20 percent SPR by the year 2007. The 2.04 million pound quota was reached on August 24, 1991, and the red snapper fishery was closed to further commercial harvest in the EEZ for the remainder of the year. In 1992, the commercial red snapper quota remained at 2.04 million pounds. However, extremely heavy fishing effort and harvest rates, commonly referred to as a “derby fishery”, ensued. The quota was filled in just 53 days, and the commercial red snapper fishery was closed on February 22, 1992.

A July 1991 regulatory amendment provided a one-time increase in the 1991 quota for shallow-water groupers from 9.2 million pounds to 9.9² million pounds. This action was taken to provide the commercial fishery an opportunity to harvest 0.7 million pounds that went unharvested in 1990 due to an early closure of the fishery. NMFS had projected the 9.2 million pound quota to be reached on November 7, 1990, but subsequent data showed that the actual harvest was 8.5 million pounds.

A November 1991 regulatory amendment raised the 1992 commercial quota for shallow-water groupers from 8.2 million pounds to 9.8 million pounds, after a red grouper stock assessment indicated that the red grouper SPR was substantially above the Council's minimum target of 20 percent, and the Council concluded that the increased quota would not materially impinge on the long-term viability of at least the red grouper stock.

An October 1992 regulatory amendment raised the 1993 red snapper TAC from 4.0 million pounds to 6.0 million pounds, allocated with a commercial quota of 3.06 million pounds and a recreational allocation of 2.94 million pounds (to be implemented by a 7-fish recreational daily bag limit). The amendment also changed the target year to achieve a 20 percent red snapper SPR from 2007 to 2009, based on the FMP provision that the rebuilding period may be for a time span not exceeding 1.5 times the potential generation time of the stock and an estimated red snapper generation time of 13 years (Goodyear 1992).

A withdrawn 1993 regulatory amendment would have moved the longline and buoy gear restricted area boundary off central and south-central Florida inshore from the 20 fathom isobath to the 15 fathom isobath for a one-year period beginning January 1, 1994. It was withdrawn at industry's request by the Council in January 1994 amid concerns that it would lead to a quota closure and a concern by the NMFS Southeast Fisheries Science Center (SEFSC) that there were inadequate experimental controls to properly evaluate the impact of the action.

² The corrected 1991 quota, using the revised conversion factor, was 8.8 million pounds. The corrected 1990 actual harvest was 7.6 million pounds.

An October 1993 regulatory amendment set the opening date of the 1994 commercial red snapper fishery as February 10, 1994, and restricted commercial vessels to landing no more than one trip limit per day. The purpose of this amendment was to facilitate enforcement of the trip limits, minimize fishing during hazardous winter weather, and ensure that the commercial red snapper fishery is open during Lent, when there is increased demand for seafood. The red snapper TAC was retained at the 1993 level of 6 million pounds, with a 3.06 million pound commercial quota and 2.94 million pound recreational allocation. The shallow-water grouper regulations were also evaluated but no change was made. The shallow-water grouper TAC, which previously had only been specified as a commercial quota, was specified as a total harvest of 15.1 million pounds (with 9.8 million pounds allocated to the commercial quota) and 20-inch TL minimum size limit for gag, red, Nassau, yellowfin and black grouper.

An October 1994 regulatory amendment retained the 6 million pound red snapper TAC and commercial trip limits and set the opening date of the 1995 commercial red snapper fishery as February 24, 1995. However, because the recreational sector exceeded its 2.94 million pound red snapper allocation each year since 1992, this regulatory amendment reduced the daily bag limit from 7 fish to 5 fish, and increased the minimum size limit for recreational fishing from 14 inches to 15 inches a year ahead of the scheduled automatic increase.

A rejected December 1994 regulatory amendment would have reduced the minimum size limit for red grouper from 20 inches TL to 18 TL inches in response to complaints from the commercial sector that regulations were too restrictive to allow them to harvest their quota of shallow-water grouper. The NMFS rejected the proposed action because of concern that it would result in the recreational sector exceeding its allocation. In March 1995 a revised regulatory amendment was submitted to NMFS that would reduce the red grouper minimum size limit to 18 inches TL for only the commercial sector. That regulatory amendment was rejected by NMFS because newly discovered biases in the growth rate data collected in recent years that resulted in uncertainty about the current status of the red grouper stock. Further analysis by NMFS biologists and the RFSAP reduced that uncertainty to the point where the status of red grouper stocks was determined to be most likely at or above 27 percent SPR, well above the overfishing threshold. In September 1995 a second revised regulatory amendment was submitted to NMFS to reduce the commercial red grouper minimum size limit to 18 inches TL. This second revision was rejected by NMFS because they felt it would create user conflicts, produce long-term economic losses to commercial fishermen, allow the harvest of juvenile fish, and potentially lead to the commercial quota being filled early and create a derby fishery.

A regulatory amendment to set the 1996 red snapper TAC, dated December 1995, raised the red snapper TAC from 6 million pounds to 9.12 million pounds, with 4.65 million pounds allocated to the commercial sector and 4.47 million pounds allocated to the recreational sector. Recreational minimum size and bag limits remained at 5 fish and 15 inches TL respectively. The recovery target date to achieve 20 percent SPR was extended to the year 2019, based on new biological information that red snapper live longer and have a longer generation time than previously believed. A March 1996 addendum to the regulatory amendment split the 1996 and 1997 commercial red snapper quotas into two seasons each, with the first season opening on February 1 with a 3.06 million pound quota, and the second season opening on September 15 with the remainder of the annual quota.

A March 1997 regulatory amendment changed the opening date of the second 1997 commercial red snapper season from September 15 to September 2 at noon and closed the season on September 15 at noon; thereafter the commercial season was opened from noon of the first day to noon of the fifteenth day of each month until the 1997 quota was reached. It also complied with the new Magnuson-Stevens Act requirement that recreational red snapper be managed under a quota system by authorizing the NMFS Regional Administrator to close the recreational fishery in the EEZ at such time as projected to be necessary to prevent the recreational sector from exceeding its allocation.

Subsequent to implementation of a recreational red snapper quota, the recreational red snapper fishery filled its 1997 quota of 4.47 million pounds, and was closed on November 27, 1997 for the remainder of the calendar year.

A November 1997 regulatory amendment canceled a planned increase in the red snapper minimum size limit to 16 inches TL that had been implemented through Amendment 5, and retained the 15-inch TL minimum size limit.

A January 1998 regulatory amendment proposed maintaining the status quo red snapper TAC of 9.12 million pounds, but set a zero bag limit for the captain and crew of for-hire recreational vessels in order to extend the recreational red snapper quota season. The NMFS provisionally approved the TAC, releasing 6 million pounds, with release of all or part of the remaining 3.12 million pounds to be contingent upon the capability of shrimp trawl bycatch reduction devices (BRDs) to achieve better than a 50 percent reduction in juvenile red snapper shrimp trawl mortality. The zero bag limit for captain and crew of for-hire recreational vessels was not implemented. Following an observer monitoring program of shrimp trawl BRDs conducted during the Summer of 1998, NMFS concluded that BRDs would be able to achieve the reduction in juvenile red snapper mortality needed for the red snapper recovery program to succeed, and the 3.12 million pounds of TAC held in reserve was released on September 1, 1998.

3.0 PURPOSE AND NEED FOR ACTION

Minor Amberjack Management Measures

The virtual population analysis (VPA) of the greater amberjack stock in the 1996 stock assessment (McClellan and Cummings 1996 - run 2) indicated that the number of age-0 greater amberjack has decreased since 1991; age-1 numbers have decreased since 1992; and age-2 numbers have decreased since 1993. In addition, anecdotal information from fishermen along the Florida coastline suggests that greater amberjack have been decreasing in average size and abundance. In light of these developments, the Council felt that additional protection for juvenile greater amberjack was warranted. Because banded rudderfish, lesser amberjack, and juvenile greater amberjack are similar in appearance and can be easily confused, the Council originally proposed, through Amendment 12, to apply the recreational minimum size limit of 28 inches FL to all three species and include all three species in an aggregate bag limit. These proposed measures were rejected by NMFS because banded rudderfish and lesser amberjack rarely, if ever, reach 28 inches FL, and the proposal would have eliminated these species from the recreational fishery. Charter and headboat operators commented to NMFS and to the Florida Marine Fisheries Commission (FMFC) that banded rudderfish are an important part of their business, and it is possible to tell them apart. The FMFC implemented, effective January 1, 1998, an alternative

of setting a 14-inch to 20-inch FL slot limit and aggregate 5-fish bag limit for banded rudderfish and lesser amberjack recreational harvest, and a commercial size limit equal to the greater amberjack size limit for all three species. These measures are expected to provide some protection for juvenile greater amberjack while allowing the recreational fishery to continue to have access to banded rudderfish and lesser amberjack.

Species Listed as Not in the Management Unit

Since its inception, the Reef Fish FMP has had two lists of reef fish: one for species in the management unit and one for species in the fishery but not the management unit. The original intent of having two lists was to include of species not in the management unit for data collection purposes only. This has created confusion as to which species of reef fish are subject to management measures. With the Council's proposal in Amendment 15 and subsequent approval by NMFS to remove sea basses, grunts, and porgies from the FMP, there are now only four species left in the list of species not in the management unit. Three of the species (sand perch, dwarf sand perch, and Queen triggerfish) are included in Florida's Marine Life rule, and the fourth species (hogfish) is a targeted species that may be more appropriate for listing in the management unit. Eliminating the category of species listed as not in the management unit would reduce confusion and simplify the FMP.

Florida Compatible Size Limits and Florida Compatible Bag Limits

Florida has established size and bag limits on several species of reef fish for which there are either no corresponding limits in federal waters, or for which federal limits differ from the state limits. For consistency of regulations and improvement of enforceability, Florida has asked that compatible limits be adopted in federal waters.

Speckled Hind and Warsaw Grouper

The NMFS Office of Protected Resources added speckled hind and Warsaw grouper to its candidate list of species for possible listing as threatened or endangered under the Endangered Species Act (ESA). Inclusion in the candidate species list is intended to stimulate voluntary conservation efforts which, if effective, can result in a lower likelihood of an ESA listing. There are two other Gulf reef fish species on the candidate species list, Nassau grouper and jewfish. Harvest of those species is prohibited.

4.0 PROBLEMS REQUIRING A PLAN AMENDMENT

Management measures are needed to protect juvenile greater amberjack from being landed as banded rudderfish or lesser amberjack, which are similar in appearance.

The existence in the fishery management plan of two separate lists of reef fish, one for species in the management unit and one for species in the fishery but not the management unit, complicates the fishery management plan and creates confusion as to which species are subject to reef fish management measures. Alternative management measures are available for the remaining list of species in the fishery but not the management unit.

Florida has implemented bag and size limits on several species of reef fish for which there either are no federal limits, or the federal limits are not compatible. Compatible regulations are needed between state and federal rules for consistency of regulation and for improved enforceability.

Speckled hind and Warsaw grouper were recently added to the NMFS list of candidate species for possible listing as threatened or endangered under the Endangered Species Act. Inclusion in the candidate species list is intended to stimulate voluntary conservation efforts. However, these species are currently not subject to any conservation measures beyond those for deep-water groupers in general, i.e., a 1.6 million pound commercial quota and a 5-fish aggregate grouper recreational bag limit.

5.0 PROPOSED ACTIONS

MINOR AMBERJACK MANAGEMENT MEASURES (Section 7)

7.2.1 Minor Amberjack Size Limits

Proposed Recreational Alternative: Set a slot limit for the recreational fishery for banded rudderfish and lesser amberjack of 14 inches to 22 inches FL

Proposed Commercial Alternative: Set a slot limit for the commercial fishery for banded rudderfish and lesser amberjack of 14 inches to 22 inches FL

7.2.2 Banded Rudderfish and Lesser Amberjack Bag Limits

Proposed Alternative: Set an aggregate bag limit of 5 fish for banded rudderfish and lesser amberjack.

SPECIES LISTED AS NOT IN THE MANAGEMENT UNIT (Section 8)

Proposed Alternative 1: Remove queen triggerfish from the Reef Fish FMP.

Proposed Alternative 2: Remove the distinction in the FMP between reef fish species in the management unit and those in the fishery but not in the management unit, with the intent that sand perch and dwarf sand perch will not be included in the aggregate reef fish bag limit.

FLORIDA COMPATIBLE SIZE LIMITS (Section 9)

Proposed Alternative: Adopt the following minimum size limits for the entire Gulf EEZ (fork length for hogfish and total length for the rest). Hogfish will be moved to the list of species in the management unit:

b. cubera snapper	12 inches	(currently no limit)
c. dog snapper	12 inches	(currently no limit)
d. mahogany snapper	12 inches	(currently no limit)
e. schoolmaster	12 inches	(currently no limit)
g. mutton snapper	16 inches	(currently 12")
i. scamp	16 inches	(currently no limit)
k. gray triggerfish	12 inches	(currently no limit)
l. hogfish	12 inches	(currently not in mgt. unit)

FLORIDA COMPATIBLE BAG LIMITS (Section 10)

Proposed Alternative: Adopt a recreational bag limit of 5 hogfish per person for the entire Gulf EEZ:

SPECKLED HIND AND WARSAW GROUPER (Section 11)

Proposed Alternative: Set a recreational bag limit of 1 speckled hind and 1 Warsaw grouper per vessel, and prohibit sale of these species when caught under the recreational bag limit.

6.0 [Section moved to Amendment 16A] FISH TRAP PHASE-OUT

Alternatives in this section are contained in Reef Fish Amendment 16A. The section number and title are retained in Reef Fish Amendment 16B for consistency with the section numbering used in the public hearing draft of Amendment 16.

7.0 MINOR AMBERJACK MANAGEMENT MEASURES

7.1 Background

7.1.1 Review of Minor Amberjack Management

The original Reef Fish Fishery Management Plan, implemented October 1984, listed all *Seriola* (amberjack) species as species taken incidental to the directed fishery for reef fish. No amberjack species were listed as being in the directed fishery or management unit.

Amendment 1, implemented January 1990, added greater amberjack and lesser amberjack to the list of species in the management unit. The other amberjack species (i.e., banded rudderfish and Almaco jack)

were not included in either list in the implementing regulations for Amendment 1, although the amendment itself continued to list *Seriola* species in the list of species in the fishery but not the management unit.

Amendment 4, implemented in April, 1992, added Almaco jack and banded rudderfish to the list of species in the management unit.

In 1996, the Council became concerned about a possible decline in the status of the greater amberjack stock, and about juvenile greater amberjack being misidentified and landed as banded rudderfish or lesser amberjack. The Council's Law Enforcement Advisory Panel (AP) had previously recommended that all amberjack species be subject to the same size limits in order to lessen confusion about species identification³. Amendment 12 proposed an aggregate recreational bag limit of 1 fish for greater amberjack, lesser amberjack or banded rudderfish with the 28-inch FL minimum size limit applying to all three species. Almaco jack were excluded from the proposed aggregate rule because the Council felt that species could be readily differentiated from juvenile greater amberjacks. The NMFS partially disapproved this measure by deleting its applicability to lesser amberjack and banded rudderfish, and implemented the 1-fish bag limit for greater amberjack only in January 1997. This disapproval was based on public comments received by NMFS and by the FMFC that banded rudderfish was an important recreational species that was targeted by some charter and head boats, and the operators of these boats could readily identify banded rudderfish. Since banded rudderfish and lesser amberjack rarely reach the 28-inch FL minimum size limit set for greater amberjack, NMFS felt that the proposal to include all three species under the same size limit would unfairly deprive the recreational sector access to the banded rudderfish and lesser amberjack fishery.

After holding a series of public workshops on amberjacks, the FMFC, proposed setting a slot limit of 14 inches to 20 inches FL and an aggregate bag limit of 5 fish for banded rudderfish and lesser amberjack. The FMFC felt that amberjack in the 20-inch to 28-inch size range were more likely to be juvenile greater amberjack than large banded rudderfish or lesser amberjack, and that this proposal would provide some protection for juvenile greater amberjack while allowing the recreational sector access to the banded rudderfish and lesser amberjack stocks. These management measures, along with a prohibition on the sale of any amberjack species less than 36 inches FL, and a prohibition on the sale of any amberjack species during March, April, and May, were implemented in Florida state waters on January 1, 1998.

7.1.2 Stock Assessments

In 1991, The RFSAP reviewed available information on all amberjack species (GMFMC 1991, Cummings-Parrack and Phares 1991). The RFSAP noted that the data at that time were too preliminary for any assessments, and identified additional data needs, including hard parts for age and growth studies, increased and more supervised tagging to provide validation of aging methods, and a program

³ On October 19, 1994, the Enforcement AP recommended, by a vote of 8 to 0, that Almaco jack, banded rudderfish, lesser amberjack and greater amberjack have a size limit of 28 inches total length for a fish taken by a person subject to the bag limit and 36 inches total length for a fish taken by a person not subject to the bag limit. The change in measurement method from fork length to total length would have effectively reduced the size of a legal amberjack by about three inches.

to obtain adequate samples for future assessment needs. The RFSAP also noted that the sampling on the minor species of amberjack (banded rudderfish, lesser amberjack, and Almaco jack) was very sparse.

In 1993, the RFSAP reviewed updated information on amberjack fisheries (GMFMC 1993, Cummings-Parrack 1993a and 1993b). At that time, the RFSAP found that, despite the fact that the commercial fishery for Gulf amberjack had increased, concomitant sampling of the needed biostatistics necessary to characterize the fishery was not being conducted. Sufficient age and/or length samples, including an extensive time series of fishery catch statistics, were not available; thus, traditional population analyses such as VPA or production modeling was inappropriate based on the available data. The RFSAP recommended a number of research and data needs, including: (1) annual sampling of commercial and recreational landings for age and growth analysis and other relevant biostatistical information ; (2) methods to allow field separation of lesser amberjack, Almaco jack, and banded rudderfish from greater amberjack to facilitate more accurate reporting of catch; and (3) define the stock structure of amberjack resources off the southeastern U.S. (Gulf and Atlantic). An evaluation of stocks structure is needed, i.e., are there separate Atlantic and Gulf amberjacks? Genetic based studies should receive high priority.

In 1996, the RFSAP reviewed the first full stock assessment on greater amberjack (McClellan and Cummings 1996). The most recent data yielded estimates of transitional SPR for greater amberjack in the range of 34 to 36 percent for 1994 (RFSAP November, 1996). The VPA analysis also indicated that the abundance of juvenile fish (age 1-3), which are in the size range where they might be misidentified as minor amberjack species, was highest 1991 with 2.1 million fish, but it has declined every year since to a low of 0.29 million fish in 1996 (Table 1). The mean size of catches are shown in Table 2.

Table 1. Estimated Stock at Age at Beginning of Year (from Cumming's Run #2)

Age	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
0	149512 2	117937 5	21333 25	10620 54	11909 61	11511 42	62394 7	71394	33996	NA
1-3	202383 1	182127 1	15255 66	20963 74	21364 20	21046 92	17851 39	15201 16	81200 9	28752 0
4- 7+	371135 5	401590	42576 4	25628 3	28663 9	34094 3	60821 1	51693 5	60399 0	70714 5

note: In VPA analysis, results for earlier years are generally more accurate than later years.

7.1.3 Annual Minor Amberjack Landings Information

Commercial landings of the minor species of amberjack were not recorded separately from greater amberjack until 1991. Landings for the period 1992-1996 are shown in Table 3. During this time, annual landings for Almaco jack have been on the order of 80,000 pounds, most of which was landed in Florida and Louisiana ports. Lesser amberjack annual landings increased to about 80,000 pounds in 1994 with landings principally in Florida and Louisiana ports. Commercial landings of banded rudderfish were much lower. Recorded recreational landings of all minor amberjacks combined was typically less than 50,000 fish in total for 1981-1995. Peaks in landings for lesser amberjack and banded rudderfish occurred in 1989 and 1993, but may be artifacts of poor data and inadequate sampling.

7.2 MINOR AMBERJACK MANAGEMENT ALTERNATIVES

7.2.1 Minor Amberjack Size Limits

In Amendment 12, the Council proposed protecting juvenile greater amberjack from being landed as misidentified minor amberjack species in the recreational fishery by combining recreational harvest of greater amberjack, banded rudderfish and lesser amberjack under a single 28-inch FL size limit and 1-fish bag limit. Almaco jacks were excluded from the proposed aggregate rule because it was felt that they could be more easily identified. The proposed aggregate size limit was disapproved by NMFS. In their disapproval letter⁴, NMFS stated that the 28-inch FL minimum size limit would have effectively prevented recreational harvest of banded rudderfish and lesser amberjack, which rarely get that large. Based on comments received by NMFS during the public comment period on the proposed rule, and on comments submitted by the FMFC, NMFS concluded that the recreational sector has been historically dependent on harvest of the two minor amberjack species. In addition, NMFS concluded that the aggregate size limit would have reallocated harvest of the two species to the commercial sector, facilitate excessive harvest and not promote conservation, and would be inconsistent with National Standard 4 of the Magnuson-Stevens Act (fair and equitable). Alternatives 1 and 5, in combination with Alternative 1 in the following section (bag limits), are compatible with rules implemented by the FMFC effective January 1, 1998, which limit recreational fishermen to a bag limit of 5 banded rudderfish and lesser amberjack in aggregate and a slot limit of 14 to 20 inches FL, and limit commercial fishermen to the minimum size limit for greater amberjack (36 inches FL) for all amberjack species. These state rules had been proposed by the FMFC as an alternative to the disapproved Council proposal for protecting juvenile greater amberjack. A party boat operator who targets banded rudderfish (Captain Ed Thompson) stated that the banded rudderfish that he catches range in size up to 22 inches FL, and he suggested that a slot limit of 14 to 22 inches rather than the Florida compatible slot limit of 14 to 20 inches FL be considered.

Recreational:

Proposed Recreational Alternative: Set a slot limit for the recreational fishery for banded rudderfish and lesser amberjack of 14 inches to 22 inches FL

Rejected Recreational Alternative 1: Set a slot limit for the recreational fishery for banded rudderfish and lesser amberjack of 14 inches to 20 inches FL (Florida compatible rule)

Rejected Recreational Alternative 2: Status Quo. Do not have recreational size limits for banded rudderfish and lesser amberjack.

⁴Letter from NMFS Regional Administrator Dr. Andrew J. Kemmerer to Council Chairman Dr. Robert L. Shipp, dated October 4, 1996.

Commercial:

Proposed Commercial Alternative: Set a slot limit for the commercial fishery for banded rudderfish and lesser amberjack of 14 inches to 22 inches FL

Rejected Commercial Alternative 1: Set a slot limit for the commercial fishery for banded rudderfish and lesser amberjack of 14 inches to 20 inches FL

Rejected Commercial Alternative 2: Prohibit the sale of amberjacks less than the commercial minimum size limit for greater amberjack (currently 36 inches FL) for the following species (select a sub-option):

- a. lesser amberjack and banded rudderfish
- b. lesser amberjack, banded rudderfish, and Almaco jack (Florida compatible rule)

Rejected Commercial Alternative 3: Status Quo. Do not have commercial size limits for lesser amberjack, banded rudderfish and Almaco jack.

Rationale: The **Proposed Recreational Alternative** is modified from the FMFC rule that creates a slot limit in the recreational fishery of 14 to 20 inches FL and aggregate bag limit of 5 fish for banded rudderfish and lesser amberjack combined (not including Almaco jack). The Council expanded the slot limit to include minor amberjacks up to 22 inches FL rather than 20 inches FL, based on testimony from a representative of the for-hire vessel industry that the wider slot limit more fully encompasses the range of banded rudderfish caught, and that the larger banded rudderfish, when released, have very poor survival. Since the objective of this action is primarily to protect juvenile greater amberjack while minimizing impacts on other amberjack species, the wider slot limit will minimize bycatch mortality of banded rudderfish and lesser amberjack in compliance with National Standard 9. This proposal protects the juveniles of all three species below 14 inches FL, and protects amberjacks between 22 inches FL and 28 inches FL, which the FMFC feels are more likely to be juvenile greater amberjack than large banded rudderfish or lesser amberjack. Although juvenile greater amberjack in the range of 14 to 22 inches FL might still be misidentified and landed under the slot limit, this proposal provides more protection for juvenile greater amberjack than the status quo alternative, while allowing the recreational fishery to have access to banded rudderfish and lesser amberjack. The difference between the maximum state and federal size limits could create an enforcement problem, but the Council's decision includes testimony that was not considered by the state, and it expects the state to consider modifying its rule to be consistent with the federal regulation.

Rejected Recreational Alternative 1, a 14-inch to 20-inch FL slot limit, was considered for compatibility with Florida's regulations; however, this would have required release of banded rudderfish between 20 and 22 inches FL. According to testimony from a representative of the Florida party boat industry, banded rudderfish be at themselves up badly being brought in and have poor survival. Adopting the wider slot limit would reduce the release mortality of oversized banded rudderfish while still providing protection for juvenile greater amberjack that are too large to be mistaken for banded rudderfish or lesser amberjack.

Rejected Recreational Alternative 3, status quo, would provide no protection for juvenile greater amberjack, banded rudderfish, or lesser amberjack. The concern by management is primarily with protection of juvenile greater amberjack. The status of banded rudderfish and lesser amberjack stocks is unknown, and the size at maturity for banded rudderfish and lesser amberjack is not known. However, the slot limit alternatives provide pro-active protection for these minor amberjack species and lessens the chance of them becoming overfished.

The **Proposed Commercial Alternative**, a 14-inch to 22-inch FL slot limit, was adopted for the same reasons at the Proposed Recreational Alternative. This alternative allows the same access to the minor amberjack fisheries for both the commercial and recreational sectors.

Rejected Commercial Alternative 1, a 14-inch to 20-inch FL slot limit, was rejected for the same reason as Rejected Recreational Alternative 1.

Rejected Commercial Alternative 2, prohibition on the sale of lesser amberjack and banded rudderfish, or any *Seriola* species, under 36 inches FL would have been consistent with the Florida state regulations. A single size limit for all amberjack species would make enforcement easier, and was recommended by the Law Enforcement AP. However, enforcement officers in some states have been trained to identify the minor amberjack species using morphometrics, such as gill raker counts; thus, enforcement of the greater amberjack size limit through proper species identification will not be as great a problem as in past years. Since the minor amberjack species (with the exception of some Almaco jack) do not reach 36 inches FL, this alternative would have allocated the entire banded rudderfish and lesser amberjack fishery, and most of the Almaco jack fishery (under sub-option b), to the recreational sector. Therefore, this alternative was rejected.

Rejected Commercial Alternative 3, status quo, was rejected for the same reason as Rejected Recreational Alternative 2 (status quo).

Discussion: The effective results of the various alternatives are as follows:

Proposed Recreational Alternative & Rejected Recreational Alternative 1	<u>banded rudderfish</u> - recreational harvest allowed within slot limit <u>lesser amberjack</u> - recreational harvest allowed within slot limit <u>Almaco jack</u> - recreational harvest allowed with no size limits <u>juvenile greater amberjack</u> - some recreational harvest may occur within the minor amberjack slot limit
Recreational Status Quo	<u>banded rudderfish</u> - recreational harvest allowed with no size limits <u>lesser amberjack</u> - recreational harvest allowed with no size limits <u>Almaco jack</u> - recreational harvest allowed with no size limits <u>juvenile greater amberjack</u> - some recreational harvest may occur

Proposed Commercial Alternative & Rejected Commercial Alternative 1	<u>banded rudderfish</u> - commercial harvest allowed within slot limit <u>lesser amberjack</u> - commercial harvest allowed within slot limit <u>Almaco jack</u> - commercial harvest allowed with no size limits <u>juvenile greater amberjack</u> - some commercial harvest may occur within the minor amberjack slot limit
Rejected Commercial Alternative 2	<u>banded rudderfish</u> - commercial harvest effectively prohibited <u>lesser amberjack</u> - commercial harvest effectively prohibited <u>Almaco jack</u> - sub-option a: harvest allowed with no size limits sub-option b: reduced harvest allowed above 36 inches FL <u>juvenile greater amberjack</u> - commercial harvest effectively prohibited
Commercial Status Quo	<u>banded rudderfish</u> - commercial harvest allowed with no size limits <u>lesser amberjack</u> - commercial harvest allowed with no size limits <u>Almaco jack</u> - commercial harvest allowed with no size limits <u>juvenile greater amberjack</u> - some commercial harvest may occur

The following summarizes available size and landings information about these species.

Table 2. Summary of biological information for minor amberjack species.

	banded rudderfish <i>Seriola zonata</i>	lesser amberjack <i>Seriola fasciata</i>	Almaco jack <i>Seriola rivoliana</i>
min. size of maturity	unknown	unknown	21 inches FL (males) ⁶
maximum size	27 inches FL ¹	29 inches FL ²	43 inches FL ⁴
mean sizes caught in Gulf of Mexico	15 inches FL recr. ³ 21 inches FL comm. ³	16 inches FL recr. ³ 17 inches FL comm. ³	15 inches FL rec. ³ 22 inches FL comm ³
longevity	4 years (in captivity) ⁵	unknown	unknown

Note:, the mean sizes caught are the average of all available years for catches from the Gulf of Mexico, but the maximum sizes are taken from a world-wide database and may reflect larger sizes than occur in the Gulf of Mexico.

Note: The Almaco jack minimum reported size of maturity is for males. Female size of maturity is unknown, but females usually mature at a larger size than males.

sources:

1 - Berry, F.H. and W.F. Smith-Vaniz (1978)

2 - Cervigón, F. and W. Fischer (1979)

3 - Cummings, N.J. and D.B. McClellan (1996)

4 - Myers, R.F. (1991)

5 - Nigrelli, R.F. (1959)

6 - Thompson, R.T. and J.L. Munroe (1974)

Table 3. Reported pounds landed of amberjacks, recreational and commercial, 1992-1996

Year	Banded Rudderfish & Amberine		Lesser Amberjack		Almaco Jack		Greater Amberjack	
	Rec.	Comm.	Rec.	Comm.	Rec.	Comm.	Rec.	Comm.
1992	2,438	9,675	2,787	10,997	12,717	83,173	4,457,291	2,473,637
1993	899,214	15,947	49,698	47,005	147,339	83,306	3,826,996	2,297,595
1994	110,652	16,589	1,393	78,453	119,557	76,802	2,331,692	1,828,197
1995	8,091	25,115	348	69,045	46,091	73,335	651,919	1,697,823
1996	5,920	7,805	n/a	42,647	7,494	12,499	n/a	n/a

Sources: Cummings and McClellan (1996); Thompson et al (1992)

Biological Impacts: The lower slot limit boundary of 14 inches FL for all *Seriola* species except Almaco jack is far below the average size of maturity for greater amberjack of 32.5 inches FL (Amendment 1, page 323). However, greater amberjack are already subject to minimum size limits of 28 inches FL for the recreational sector and 36 inches FL for the commercial sector. The lower slot limit for all *Seriola* species except Almaco jack will reduce the likelihood of misidentified juvenile greater amberjack being landed as banded rudderfish or lesser amberjack, and should provide a positive benefit to the resource.

The upper size limit of 22 inches FL is intended to protect juvenile greater amberjack that are between 22 inches FL and either 28 inches FL (recreational) or 36 inches FL (commercial). However, as stated in the "Rationale" section, a representative of the Florida party boat industry testified that larger banded rudderfish beat themselves up badly being brought in and have poor survival. If greater amberjack exhibit the same behavior, then a similar poor survival can also be expected for greater amberjack between 22 inches FL and 28 (or 36) inches FL. Aside from the actions of the fish itself, amberjack are frequently gaffed when brought to the boat, further harming the survival potential. No scientific information is available on release mortality of amberjacks, but based on the testimony, which suggests that amberjacks above 20 inches FL have poor survival, the upper size limit may harm rather than help the greater amberjack resource. Thus, the biological impact of the upper size limit on greater amberjacks is either neutral with respect to status quo, or slightly negative, since it may result in increased release mortality while a fisherman attempts to catch either a greater amberjack that is above the 28/36-inch FL minimum size limit, or a banded rudderfish or lesser amberjack that is below the 22-inch FL limit.

For banded rudderfish and lesser amberjack, the size of maturity is unknown. The 14-inch to 22-inch FL slot limit encompasses the sizes at which banded rudderfish are caught, according to anecdotal information provided to the FMFC and the Council, and catches of lesser amberjack at any size are rare. Therefore, biological impacts on the minor amberjack species are expected to be negligible.

Economic Impacts: The Proposed Recreational Alternative and Proposed Commercial Alternative 1 include a slot limit for banded rudderfish and lesser amberjack for recreational and commercial sectors, respectively. The slot limit in this case would be the same for both sectors and species. Based on mean length caught by the respective sectors (Table 2), the slot limit for banded rudderfish would appear to adversely affect the commercial sector more than the recreational sector. The lesser amberjack slot limit would appear to bring about the same effect to both sectors. Actual impacts would necessarily depend on the level of catch by recreational and commercial fishers outside the slot limits.

Judging by the total catches alone, it appears that the apparent uniform impacts of a lesser amberjack slot limit could possibly translate into actual differential impacts, with the commercial sector bearing more negative effects than the recreational sector. The case for banded rudderfish could also translate into actual differential impacts, again with the commercial sector bearing a larger effect. However, the large recreational catches in 1993 and 1994 confound the direction of actual effects, since these catches (noting some possible data problems as mentioned elsewhere) would imply the high likelihood of recreational catches being disallowed under the slot limit. Most of the recreational and commercial catches of minor amberjack species occur in Florida so that fishermen in this area would bear most of the impacts of any regulations imposed for these species.

Within the recreational sector, the slot limits would possibly impact headboats more than charterboats, considering that amberjacks (no distinction as to species) are targeted more by party than charterboats (Ditton et al. 1992). It may be noted, nonetheless, that amberjacks are important target species for headboats in Alabama and Florida (Holland et al. 1992). While it may not totally apply to the current measures considered, it is worth pointing out that in a survey of 500 anglers in Florida and Texas (Holland, unpublished data, as communicated to the SEP), 15 respondents who indicated that they targeted reef fish did not rank slot limits as among the more preferred management alternatives. Highly ranked in this survey were bag limits, size limits, and closed areas at certain times of the year. Based on the Marine Recreational Fisheries Statistics Survey (MRFSS) landings data only, the slot limit on lesser amberjack would appear to affect private/rental mode anglers more than others, while the slot limit on banded rudderfish would affect the shore and charter mode anglers more than those in private mode.

Considering landing levels, these species comprise a relatively minor component of the commercial reef fish fishery. Waters (1996a) reported commercial ex-vessel values of \$16,000 for banded rudderfish and \$46,000 for Almaco jack in 1995. Reported ex-vessel values for lesser amberjack were lumped with greater amberjack. It may be expected then that the impacts of the slot limits on commercial fishermen would be relatively minor relative to overall reef fish revenues of about \$45 million.

The upper bound of the proposed slot limits for both the commercial and recreational sectors would not be compatible with Florida rules. This difference could possibly create enforcement problems, especially since Florida accounts for most of the commercial and recreational landings of the subject species.

Rejected Recreational Alternative 1 and Rejected Commercial Alternative 1 would have practically similar effects on the recreational sector and commercial sector, respectively, as the proposed alternatives. The difference would mainly be in the magnitude of effects, i.e., more negative effects under the rejected alternatives due to the narrower range of slot limits. A 2-inch difference in the size of fish that can be legally kept would seemingly be substantial, but considering the relatively low landings of the subject species, it is highly possible that the difference in the magnitude of impacts between the proposed and rejected alternatives for slot limits would not be statistically significant.

Rejected Commercial Alternative 2 may be expected to result in higher revenue loss to the commercial sector than either of the slot limit alternatives. In fact, this alternative in conjunction with the slot limit virtually reduces to zero the commercial revenue from harvest of banded rudderfish and lesser amberjack. That is, while the slot limit on these species would allow possession of these species by commercial fishermen, Preferred Commercial Alternative 2 would disallow the sale of this harvest. What this alternative does is in effect prohibit commercial catch of most minor amberjack species considering that the mean size caught by commercial fishermen is well below 36 inches FL, which is the commercial size limit for greater amberjack. In fact, as noted elsewhere, banded rudderfish and lesser amberjack do not reach 36 inches FL. At the very least, Rejected Commercial Alternative 2 would result in the commercial sector losing at least \$16,000 in ex-vessel revenues. If Almaco jacks are also included in the sale prohibition (i.e., Sub-option b), total losses in ex-vessel revenues could amount to \$62,000.

7.2.2 Banded Rudderfish and Lesser Amberjack Bag Limits

Proposed Alternative: Set an aggregate bag limit of 5 fish for banded rudderfish and lesser amberjack.

Rejected Alternative: Status quo. Banded rudderfish and lesser amberjack remain part of the 20 reef fish aggregate bag limit.

Rationale: Since the slot limit (Section 7.2.1) may still allow juvenile greater amberjack to be landed as misidentified banded rudderfish or lesser amberjack, the Proposed Alternative limits the amount of amberjacks that can be taken by the recreational sector within the slot limit. This will also provide proactive protection of the banded rudderfish and lesser amberjack, which could become an alternate target species as a result of the recent reduction in the bag limit of greater amberjack to 1 fish.

Discussion: Under the Proposed Alternative, although some juvenile greater amberjack could continue to be landed as misidentified lesser amberjack or banded rudderfish, the bag limit will limit the amount of juvenile greater amberjack that might be landed by recreational fishers. The status quo places no limits on the number of lesser amberjack or banded rudderfish landed, and provides no protection for misidentified juvenile greater amberjack.

Biological Impacts: The Proposed Alternative reduces the potential maximum number of banded rudderfish and lesser amberjack that can be harvested under the recreational bag limit from 20 to 5. According to catch per unit effort (CPUE) data in the NMFS 1996 review of fisheries information on banded rudderfish, Almaco jack, and lesser amberjack in the Gulf of Mexico (Cummings and McClellan 1996), the catch per angler of banded rudderfish has exceeded 5 fish only once (1993, MRFSS data), and lesser amberjack have exceeded 5 fish only twice (1982 and 1993 MRFSS data). In other years for which CPUE data are available, banded rudderfish catch has never exceeded 3 fish per angler, and lesser amberjack has never exceeded 2.6 fish per angler. The 5-fish bag limit is therefore expected to have negligible immediate biological impacts, although it may prevent a substantial increase in recreational harvest if banded rudderfish and lesser amberjack become more of a targeted species.

The Proposed Alternative places no restrictions on the amount of banded rudderfish and lesser amberjack that can be commercially harvested. Beginning in 1998, there is a commercial closed season for greater amberjack in Gulf federal waters during March, April, and May. A similar rule in Florida state waters prohibits the sale of any amberjack species during the closed season. Allowing harvest of the minor amberjacks (banded rudderfish, lesser amberjack, and Almaco jack) in federal waters during the greater amberjack closed season could result in a seasonal increase in commercial targeting of these species. There are no stock assessments for the minor amberjack species, and the status of these stocks is unknown. It is also unknown whether such a seasonal increase in targeting of minor amberjacks will actually occur; and if it did, would it occur at a level that would create a negative impact on the resource.

Economic Impacts: The Proposed Alternative is expected to result in a reduction of an unknown amount of angler surplus and for-hire profits. The 5-fish bag limit on banded rudderfish would likely have a greater adverse impact on the for-hire sector, especially when this proposed bag limit is taken in

conjunction with the 1-fish bag limit for greater amberjack. Per MRFSS data, recreational landings of banded rudderfish were relatively high in 1993 at about 360,000 pounds, but dropped to about 100,000 pounds in 1994. Most of the landings occurred in Florida (346,000 pounds in 1993) and were made by charterboats (200,000 pounds in 1993). Recreational landings of lesser amberjacks totaled 48,000 pounds in 1993. Similar to the banded rudderfish case, most of the lesser amberjack landings occurred in Florida (48,000 pounds). The proportion of landings by mode differed from year to year. In 1993, for example, practically all landings were made by shore mode, but earlier in 1989 private/rental mode anglers accounted for most of lesser amberjack landings. It is, therefore, not apparent from these data as to which segment of the recreational sector would bear most of the burden of the proposed bag limit on lesser amberjack.

One advantage offered by the Proposed Alternative is to render the federal rule on the bag limit for banded rudder fish and lesser amberjack compatible with that of Florida. To some extent this provision would eliminate one of the disparities in fishing regulations with which both fishers and enforcement personnel have to contend.

7.3 Environmental Consequences

Physical Environment: The alternatives in this section have no impact on the physical environment.

Human Environment: A recreational slot limit of 14 to 22 inches FL combined with a bag limit of 5 fish provides the charter and headboat industry with an opportunity to utilize the banded rudderfish and lesser amberjack stocks that would not have existed under the rejected Amendment 14 proposal to implement a 28-inch FL size limit on all three similar amberjack species (greater amberjack, banded rudderfish and lesser amberjack). A similar slot limit on the commercial fishery provides the same access to the minor amberjack resources for the commercial and recreational sectors. The FMFC noted that, for the period 1991-1995, MRFSS data show that recreational landings of banded rudderfish and lesser amberjack combined are about half that of greater amberjack⁵. During the same period, commercial banded rudderfish and lesser amberjack landings were 3 percent of commercial greater amberjack landings. When Almaco jack were included, commercial landings of the minor amberjack species were 6 percent of the greater amberjack landings⁶.

Fishery Resources: Harvest of the minor amberjack species is currently restricted by the recreational 20-reef fish aggregate bag limit for species not otherwise subject to a bag limit, and by the commercial requirement for a reef fish vessel permit. There are currently no size limits or quotas. A 14-inch to 22-inch FL slot limit is unlikely to have much impact on recreational harvest since the average size of recreationally caught banded rudderfish (15 inches FL) and lesser amberjack (16 inches FL) is well within the slot limit, as is the average size of commercially caught lesser amberjack (17 inches FL).

⁵ Letter dated September 23, 1996 to Dr. Andrew Kemmerer from Mr. Roy Williams.

⁶ Greater amberjack commercial landings are from Table 4 of the 1996 greater amberjack stock assessment (McClellan and Cummings 1996). Minor amberjack commercial landings are from Table 1 of Cummings and McClellan 1996. Recreational landings in numbers of fish were compared to commercial landings in pounds, because those are the units of measurement of greatest importance to each sector.

However, it may result in some reduction of commercially harvested banded rudderfish that have an average size of 21 inches FL. Implementing the commercial greater amberjack size limit of 36 inches FL on all *Seriola* species would have eliminated all commercial harvest of banded rudderfish and lesser amberjack, and reduced commercial harvest of Almaco jacks that currently have an average size of 33 inches FL. Implementing a 5-fish bag limit is unlikely to have any significant impact on recreational harvest. Catch rates of banded rudderfish have never exceeded 3 fish per angler for any survey mode since 1981. Lesser amberjack data from MRFSS indicate that catch rates exceeded 5 fish per angler only in 1982 (6.3 fish per angler) and 1993 (7.6 fish per angler). In other years, the lesser amberjack landings never exceeded 2.6 fish per angler. It is important to note, however, that the primary impetus of these measures is not to conserve the minor amberjack resources, but to protect juvenile greater amberjack from being landed as misidentified minor amberjack.

Impact on Other Fisheries: The minor amberjack measures are specifically intended to impact the greater amberjack resource in a positive manner by limiting the amount of juvenile greater amberjack that are landed as lesser amberjack or banded rudderfish. All individuals of the three similar amberjack species (greater amberjack, lesser amberjack and banded rudderfish) would be protected between the lower size limit of 22 inches FL and upper size limit of 28 (recreational) or 36 (commercial) inches FL. This would essentially prohibit harvest of all adult banded rudderfish and lesser amberjack over 22 inches FL, and a portion of the juvenile greater amberjack. Some amberjacks landed between 14 and 22 inches FL may still be juvenile greater amberjacks, but any negative impact on the greater amberjack stock from harvest of undersized fish will be less than under the status quo 20-reef fish aggregate bag limit. However, release mortality of juvenile greater amberjack between 22 inches FL and 28/36 inches FL may increase, as well as release mortality on banded rudderfish and lesser amberjack. The lesser amberjacks have been reported to reach maximum sizes of 27 inches and 29 inches respectively; however, testimony indicates that they are less common above 22 inches FL.

Effect on Wetlands: The alternatives have no effect on wetlands.

8.0 SPECIES LISTED AS NOT IN THE MANAGEMENT UNIT

In the original Reef Fish FMP, implemented in 1984, species were categorized into two classifications: "Species in the Management Unit", and "species in the fishery but not the management unit". The original Reef Fish FMP stated that the list of "species in the fishery but not the management unit" was included in the FMP for the purposes of data collection. This list was intended to include species that are not normally target species and are taken incidentally to the directed fishery for species in the management unit. No measures were proposed for management of these species (GMFMC 1981).

Since implementation of the Reef Fish Fishery Management Plan (FMP) and until NMFS' consolidation of the regulations for fisheries of the Caribbean, Gulf, and South Atlantic in 1997, reef fish regulations distinguished between species in these two classifications in only one management measure. The stressed area was closed to the use of powerheads for taking reef fish "species in the management unit"; "species in the fishery but not in the management unit" were exempt from that prohibition. All other management measures in the original regulations, and in each amendment to the regulations, have applied to a species, a species group (snappers, groupers, etc.) or to "reef fish," i.e., to species in both the management unit and the fishery.

Reef Fish Amendment 15, implemented in January 1998, removed sea basses, grunts, and porgies from the Reef Fish FMP. Most of the species affected were in the FMP's list of "species in the fishery but not the management unit". Consequently, there are now only four species left in that list. As amended by Amendment 15, the species listed in the Reef Fish FMP are as follows:

Old list of Species in the Reef Fish FMP

Species in the Management Unit	<u>Snappers</u>	<u>Groupers</u>	<u>Tilefishes</u>
	queen snapper	rock hind	goldface tilefish
	mutton snapper	speckled hind	blackline tilefish
	schoolmaster	red hind	anchor tilefish
	blackfin snapper	yellowedge grouper	blueline tilefish
	red snapper	jewfish	tilefish
	cubera snapper	red grouper	
	gray (mangrove) snapper	misty grouper	<u>Jacks</u>
	dog snapper	Warsaw grouper	greater amberjack
	mahogany snapper	snowy grouper	lesser amberjack
	lane snapper	Nassau grouper	almaco jack
	silk snapper	black grouper	banded rudderfish
	yellowtail snapper	yellowmouth grouper	
	wenchman	gag	<u>Triggerfishes</u>
	vermilion snapper	scamp	gray triggerfish
		yellowfin grouper	
* Species in the Fishery but not the Management unit	<u>Wrasses</u>	<u>Triggerfishes</u>	<u>Sand Perches</u>
	hogfish	** Queen triggerfish	dwarf sand perch
			sand perch

* The distinction between the two lists to be removed under Proposed Alternative 2.

** Queen triggerfish to be removed from Reef Fish FMP under Proposed Alternative 1.

When the regulations for the fisheries of the Caribbean, Gulf, and South Atlantic were consolidated into one part, the distinction between reef fish "species in the management unit" and "species in the fishery but not in the management unit" was erroneously dropped. As a result, the powerhead prohibition was applied to both "species in the fishery but not the management unit" and to "species in the management unit". Additionally, the 20-reef fish aggregate bag limit for reef fish species not otherwise subject to a bag limit was also applied to both lists.

Amendment 15 proposed removal of "species in the fishery but not the management unit" from the 20-reef fish aggregate bag limit. The NMFS partially approved that change and removed sand perch and dwarf sand perch, but left hogfish and Queen triggerfish subject to the 20-reef fish aggregate reef fish bag limit. In addition, NMFS added a provision which reinstated the allowance of powerheads in the stressed area to harvest the four remaining species in the list of "species in the fishery but not the management unit", i.e., hogfish, Queen triggerfish, sand perch, and dwarf sand perch.

The current management regulations that apply some of the rules to some of the "species in the fishery but not the management unit, create confusion as to the purpose of having a separate list of "species in the fishery but not the management unit". This category could be entirely eliminated by moving these four species elsewhere. This would simplify the FMP and eliminate any future confusion about which species Reef Fish FMP regulations apply.

8.1 Management Alternatives

Proposed Alternative 1: Remove queen triggerfish from the Reef Fish FMP.

Proposed Alternative 2: Remove the distinction in the FMP between reef fish species in the management unit and those in the fishery but not in the management unit, with the intent that sand perch and dwarf sand perch will not be included in the aggregate reef fish bag limit.

Discussion: Under Proposed Alternatives 1 and 2, the list of species in the Reef Fish FMP will appear as follows:

Revised list of Species in the Reef Fish FMP

Species in the Reef Fish Fishery	<u>Snappers</u>	<u>Groupers</u>	<u>Tilefishes</u>
	queen snapper	rock hind	goldface tilefish
	mutton snapper	speckled hind	blackline tilefish
	schoolmaster	red hind	anchor tilefish
	blackfin snapper	yellowedge grouper	blueline tilefish
	red snapper	jewfish	tilefish
	cubera snapper	red grouper	
	gray (mangrove) snapper	misty grouper	<u>Jacks</u>
	dog snapper	Warsaw grouper	greater amberjack
	mahogany snapper	snowy grouper	lesser amberjack
	lane snapper	Nassau grouper	Almaco jack
	silk snapper	black grouper	banded rudderfish
	yellowtail snapper	yellowmouth grouper	
	wenchman	gag	<u>Triggerfishes</u>
	vermilion snapper	scamp	gray triggerfish
		yellowfin grouper	
	<u>Wrasses</u>		<u>Sand Perches</u>
	hogfish		dwarf sand perch
			sand perch

Queen triggerfish are identified as a marine life species under Florida’s Marine Life Rule. Under the state regulations, marine life species must be landed alive. Commercial harvest requires a Florida Saltwater Products License, restricted species endorsement, and marine life endorsement to commercially harvest and land in Florida. The recreational harvest is subject to Florida’s recreational marine life aggregate bag limit of 20 individual marine life organisms per person. Florida’s regulations state that these are designated as marine life species “as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters” (Florida statutes Ch. 46-42.001(2)). Most of the Florida marine life rules are written as possession rules while in or on the waters of the state. The NOAA General Counsel has stated that species would need to be removed from both the management unit and from the fishery in order to fall under state management (Michael McLemore, personnel communication). If left in the Reef Fish FMP, whether as species in the management unit or species not in the management unit, Florida’s rules claiming jurisdiction into federal waters appear to be in conflict with the federal regulations that have less restrictive or no management measures on these species. Removal of this species from the Reef Fish FMP eliminates a conflict between state and federal regulations, and allows Florida to extend its marine life rule for this species into federal waters.

Eliminating the distinction between reef fish “species in the management unit” and “species in the fishery but not the management unit” is an administrative change that has no impact on regulations, but simplifies the Reef Fish FMP. Under this proposal, applicability of a management measures can be individually tailored to specific species instead of being based on the broad categories of “management unit” and “fishery”. For example, hogfish might be excluded from the aggregate bag limit but included in the powerhead prohibition.

Implicit in adoption of this proposal is recognition that species exempt from the powerhead prohibition and exclusion from the aggregate bag limit are appropriate measures for the species formerly in the fishery but not in the management unit, unless specifically changed. Explicitly stated in the proposal is the condition that sand perch and dwarf sand perch will continue to be exempt from the reef fish aggregate bag limit.

Rejected Alternative 1: Remove the following species from the Reef Fish FMP (select species):

- a. sand perch**
- b. dwarf sand perch**

Discussion: These two species, along with Queen triggerfish, are included in Florida’s Marine Life Rule. If removed from the Reef Fish FMP, they would be managed by Florida under that rule in adjacent waters. It is likely that the sand perches were inadvertently included in Florida’s rule, which intended to cover tropical hamlets/seabasses, but broadly included all species in the family Serranidae except for groupers of the genera *Epinephalus* and *Mycteroperca* and seabass of the genus *Centropristis*. The sand perches are commonly used as bait, and there is no reason to suspect that there are any problems with the stocks. Rejecting this alternative and retaining these species in the Reef Fish FMP assures that Florida’s marine life rule will not affect these species in federal waters, and that these species can continue to be utilized in federal waters for their traditional purposes.

Rejected Alternative 2: Move the following species into the list of species in the management unit, and reinstate the prohibition on the use of powerheads to harvest these species in the stressed area (select species):

- a. hogfish**
- b. Queen triggerfish**
- c. sand perch**
- d. dwarf sand perch**

Discussion: The NMFS recently implemented a rule allowing these four species to be targeted with powerheads in the stressed area, on the basis that, since these species are not in the management unit, they should not be subject to the powerhead restriction. Under the Proposed Alternative to eliminate the distinction between “species in the management unit” and “species in the fishery but not the management unit”, the first part of this alternative, to move these species into the management unit, is moot.

With regard to the use of powerheads, hogfish are a common target for spearfishermen. They are relatively slow swimming fish that usually show little fear of divers, making them particularly vulnerable to spearfishing. The use of powerheads would make the proposed hogfish minimum size limit (Section 9) unenforceable, for at least some hogfish harvested using powerheads, due to the

damage inflicted on the fish. On the other hand, because of the damage, it is unlikely that a diver would seriously attempt to use powerheads to harvest small hogfish. Sand perches are also too small to seriously be considered as a target for powerhead spearfishermen, and the presence or absence of a powerhead restriction is of no consequence. Queen triggerfish will be removed from the Reef Fish FMP and become subject to Florida's marine life law under Proposed Alternative 1.

Rejected Alternative 3: Status Quo. Leave the list of species in the fishery but not in the management unit as is.

Discussion: Most of the species originally listed as "species in the fishery but not the management unit" were sea basses, grunts, and porgies that were removed from the FMP in Amendment 15. Species in this list were intended to be listed for data collection only, and excluded from management measures. However, of the four remaining species on the list, Queen triggerfish are proposed to be removed from the Reef Fish FMP; hogfish are currently subject to the aggregate reef fish bag limit and have further size and bag limit measures proposed in this amendment; and sand perch and dwarf sand perch are explicitly exempted from the reef fish aggregate bag limit under the Proposed Alternative. Thus, there is no functional reason to continue separating reef fish into two lists in the Reef Fish FMP.

Economic Impacts: Among the alternatives, only Proposed Alternative 1 and Rejected Alternative 2 would pose potential adverse impacts on fishing participants. To the extent that current Florida rules would apply to fishing in the EEZ, these alternatives would mean a ban on the taking of queen triggerfish (Proposed Alternative 1) and sand perches (Rejected Alternative 1) by both the commercial and recreational sectors. These species would, in effect, be totally allocated to the marine life industry and recreational fishers who practice catch and release. In this event, the full amount of ex-vessel revenues generated from these species would be lost to the commercial sector. In addition, benefits to the recreational anglers and revenues to the for-hire vessels that may be attributed to these species would be forgone by these fishing participants.

There is no species specific information on ex-vessel revenues of queen triggerfish and sand perches, although it is deemed that the revenues involved would be small. If, as an approximation, the 1996 ex-vessel price of unclassified triggerfish of about one dollar a pound were employed, the revenues that commercial fishermen would have to give up would amount to \$1,500 for queen triggerfish (Proposed Alternative 1) and \$5,700 for sand perches (Rejected Alternative 1).

Triggerfishes are not among the highly sought after species by charter and headboats (Ditton et al. 1992; Holland et al. 1992) so that the adverse impacts on the for-hire sector may be considered minimal. There is no targeting information on sand perches. At any rate, the full amount of angler surplus and for-hire vessel profits attributable to these species would be forgone by the recreational fishery. These measures, then, would only further limit the flexibility of for-hire vessels in selling their trips as more restrictions are imposed on their major target species. Rejected Alternative 1 would particularly impact the for-hire vessels in central and south Florida where sand perches are mostly caught.

Proposed Alternative 2 has no direct impacts on fishing participants but does help avoid complications that may arise from certain management actions (e.g., bag limits on all or a group of reef fish species) that are intended but not explicitly stated to apply to one or both sets of reef fish.

Except for the reinstatement of the prohibition on the use of powerheads to harvest the subject species in the stressed areas, Rejected Alternative 2 would have no direct impacts on fishing participants. The impacts of the prohibition on the use of powerheads are not known but are deemed to be relatively small and pertain mainly to the taking of hogfish.

8.2 Environmental Consequences

Physical Environment: The alternatives in this section have no impact on the physical environment.

Human Environment: The alternatives in this section are intended to eliminate unnecessary complexity in the federal regulations.

Fishery Resources: The Proposed Alternatives allow queen triggerfish to be managed by Florida under its Marine Life Rule, even if caught in federal waters. Florida already claims this authority in their Marine Life Rule. The Marine Life Rule is more restrictive than current federal rules that merely include Queen triggerfish in the 20-reef fish aggregate bag limit.

Impact on Other Fisheries: The alternatives in this section will have no impact on other fisheries.

Effect on Wetlands: The alternatives have no effect on wetlands.

9.0 FLORIDA COMPATIBLE SIZE LIMITS

Florida is in a rather unique situation in that fisheries management in the EEZ is formulated by the Gulf Council and the South Atlantic Council. Thus both commercial and recreational fishermen in Florida are subject to potentially three sets of regulations for the same fishing activities. While there may be some good reason for maintaining separate rules, a move toward more consistent federal and state regulations on the same fishing activities will help facilitate compliance and enforcement of fishing rules. To date there are several species for which Florida and the Gulf Council have similar rules, but there are other species that have different rules at least with respect to bag and size limits.

In this regard, the FMFC has requested that the Gulf Council consider implementing bag and size limits for several species that would make both federal and Florida rules consistent. However, for one species, gray (mangrove) snapper, the FMFC withdrew its request for compatible size limits. The Florida state size limit for recreationally caught gray snapper is 10 inches TL, lower than the federal size limit of 12 inches TL. Florida implemented the smaller size limit in order to allow access to the fishery for shore and pier based anglers, and felt that having a higher minimum size limit in federal waters would not create an enforcement problem.

9.1 Management Alternatives

Proposed Alternative: Adopt the following minimum size limits for the entire Gulf EEZ (fork length [FL] for hogfish and total length [TL] for the rest). Hogfish will be moved to the list of species in the management unit:

a. cubera snapper	12 inches	(currently no limit)
b. dog snapper	12 inches	(currently no limit)
c. mahogany snapper	12 inches	(currently no limit)
d. schoolmaster	12 inches	(currently no limit)
e. mutton snapper	16 inches	(currently 12")
f. scamp	16 inches	(currently no limit)
g. gray triggerfish	12 inches	(currently no limit)
h. hogfish	12 inches	(currently not in mgt. unit)

Rejected Alternative 1: Adopt the following minimum size limits for the entire Gulf EEZ (total length [TL]).

a. blackfin snapper	12 inches	(currently no limit)
b. silk snapper	12 inches	(currently no limit)
c. queen snapper	12 inches	(currently no limit)
d. scamp	20 inches	(currently no limit)
e. yellowmouth grouper	20 inches	(currently no limit)

Rejected Alternative 2: Adopt the minimum size limits for the Gulf EEZ off Florida only.

Rejected Alternative 3: Status quo - no changes on existing minimum size regulations for the subject species.

Discussion: Adoption of the minimum size limits listed in the Proposed Alternative (except for the 16-inch TL scamp minimum size limit) and in Rejected Alternative 1 were requested by the FMFC for compatibility with state rules and to improve enforceability of state regulations. Florida’s rationale for the minimum size limits are summarized below.

Florida’s size limit statutes are specified as landing laws and are worded as follows (Florida Statutes Chapter 46-14.003(1) and 46-14.004(1): *No person shall harvest in or from state waters at any time, land, or unnecessarily destroy, any of the following ...*”. Confusion exists as to whether Florida’s statutes permit enforcement against landing fish that are undersized in state waters but are legally harvested in federal waters. Consequently, such rules tend to be enforced inconsistently. Having the same regulations in both state and federal waters eliminates that inconsistency or need to determine where a fish was harvested.

Those species listed in the Proposed Alternative, other than scamp, are species that Council members, based on personal observations or on statements from the public, believe either rarely occur in federal waters or rarely occur at sizes smaller than the proposed minimum size limit proposed by FMFC.

Scamp smaller than the 20-inch TL minimum size limit that FMFC has proposed are found in federal waters. Because they may be caught in very deep water, undersized scamp would have very poor survival if released. In addition, scamp are a smaller species than other commercially and recreationally harvested groupers. Where red grouper reach 50 percent maturity at 20 inches TL or larger and gag at 24 inches TL, the best available scientific information on scamp suggests maturity at 16 inches TL (Manooch 1984). Most scamp caught in federal waters are above 16 inches TL, so a 16-inch TL minimum size limit would allow Florida to enforce its regulations on juvenile scamp in shallow waters while minimizing release mortality of mature scamp caught in deep water in the EEZ.

The species listed in Rejected Alternative 1 are species that are found in deep water of the EEZ at sizes below the proposed minimum size limits. The Council rejected adoption of these size limits in order to avoid the negative impacts of release mortality.

The Council considered adopting the proposed minimum size limits for the Gulf EEZ off Florida only (Rejected Alternative 2), since the minimum size limit requests came from Florida. However, enforcement representatives recommended that regulations be made Gulfwide in order to improve enforceability. Likewise, the Council rejected status quo (Rejected Alternative 3) because it would result in inconsistent regulations.

The FMFC rationale for the above minimum size limits was provided in a November 3, 1994 letter from the FMFC to the Council. The rationale provided in the letter is summarized as follows:

Schoolmaster: Similar in appearance to gray snapper, which has a 12-inch TL commercial minimum size limit (10-inch TL recreational minimum size limit in state waters). Shipp (1986) states that this species rarely grows above 12 to 14 inches TL.

Blackfin snapper, cubera snapper, dog snapper, silk snapper, queen snapper: These snappers are similar in appearance to red snapper, which (in federal waters) had a 12-inch FL minimum size limit at the time that Florida implemented these size limits in 1990. They are relatively large growing species that FMFC felt would benefit from a 12-inch TL minimum size limit.

Mahogany snapper: Florida implemented a 12-inch TL minimum size limit on this species solely to simplify enforcement. This is a smaller species, generally growing to a foot and a half (Shipp 1986). Florida Department of Environmental Protection (FDEP) states that this species is common to 15 inches TL (FDEP 1993).

Mutton snapper: In 1994, the FMFC felt based on public testimony that this stock was declining and in need of additional management measures. The 16-inch TL minimum size limit was a compromise between the 12-inch and 20-inch TL minimum size limits used for many other reef fish species.

Gray triggerfish: The FMFC adopted a 12-inch TL minimum size limit in 1995 based on a NMFS assessment prepared for the South Atlantic Fishery Management Council that indicated this minimum size limit would solve any SPR problems and address a growing fishery, as well as public

perception that stocks were declining and in need of regulation off the Florida northwest (Atlantic) coast.

Yellowmouth grouper, scamp: These species are similar in appearance. The FMFC adopted these minimum size limits in 1990 as part of implementation of a 20-inch TL minimum size limit on all groupers, following the lead of the Gulf Council.

Hogfish: The FMFC adopted a 12-inch FL minimum size limit in 1994, based on public testimony that hogfish were getting smaller in size. The 12-inch FL minimum size limit is a size at which some of the hogfish have transformed from females to males.

The size of maturity for most of these species is unknown. Information available to the Council indicates the following sizes of maturity. Lengths are as provided in the source document in FL, or not specified. For sizes measured in FL, the equivalent TL will be slightly larger. Note: these are the earliest sizes of maturity or the percent maturity is not given:

Blackfin snapper:	8" FL females, 15" FL males (Boardman and Weiler 1979)
Silk snapper:	9" females, 11" males (Manooch 1984)
Scamp:	16" (Manooch 1984)
Gray triggerfish:	12" (Manooch 1984)
Hogfish:	8" FL females, 12" FL males (Davis 1976)

Appendix I shows the size limit regulations on the enumerated species adopted (or proposed) by the Gulf Council, South Atlantic Council, and Florida. Both Florida and the South Atlantic Council have either similar minimum size limit rules on all the mentioned species or are in the process of making their rules compatible. Except for mutton snappers, there are no size limits on those species in the Gulf EEZ. Mutton snapper has a size limit of 12 inches TL in the Gulf EEZ, but it has a 16-inch TL minimum size limit in Florida waters.

Economic Impacts: With the potential exception of gray triggerfish, Florida accounts for most of the recreational and commercial landings of the subject species. Alabama, Louisiana, and Texas account for a fairly good amount of recreational landings of triggerfish. Triggerfish are also commercially landed in Louisiana and Mississippi. Recreational and commercial fishermen in these areas would be the ones primarily affected by the compatibility rule on size limits. In 1993, dockside values for selected species were: \$4,000 blackfin snapper, \$1,000 Cubera snapper, \$165 dog snapper, \$582,000 triggerfish, \$253 schoolmaster, \$328,000 silk snapper, \$499,000 mutton snapper, \$130,000 queen snapper, \$846,000 scamp, and \$186,000 hogfish.

An earlier analysis attempted to estimate the potential reductions for some species brought about by making federal size limits compatible with those of Florida. It was determined, using MRFSS data only for the period 1991-1993, that such a proposal would reduce recreational catch as follows: 1 percent for Cubera snapper, 100 percent for schoolmaster, 61 percent for mutton snapper, 82 percent for scamp, 46 percent for yellowmouth grouper, 34 percent for gray triggerfish, and 32 percent for hogfish. Analysis of impacts for other species were not conducted due to the sparseness of length information. Additionally, for schoolmaster, length information was available only for 1993. Other analyses,

however, showed different results. Goodyear and Thompson (1993) reported a reduction of only 9 percent for gray triggerfish. An analysis done for some species in the South Atlantic Council area of jurisdiction reported reductions of 28 percent for hogfish, 13 percent for gray triggerfish, and 54 percent for mutton snapper (SAFMC 1993).

The impacts on the commercial sector have been estimated for only three species. Goodyear and Thompson (1993) reported a reduction in commercial catch of 0.4 percent for gray triggerfish. The SAFMC (1993) analysis showed reductions of 6 percent, 0.5 percent, and 14 percent for hogfish, gray triggerfish, and mutton snapper, respectively. If directly applied to ex-vessel revenues, losses would amount to \$2,328 for triggerfish, \$11,160 for hogfish, and \$69,860 for mutton snapper.

With the possible exception of gray triggerfish, the mentioned impacts would not materially change if the minimum size limit restrictions were made to apply only in the EEZ off of Florida, since Florida has accounted for most landings of these species.

9.2 Environmental Consequences

Physical Environment: The alternatives in this section have no impact on the physical environment.

Human Environment: The proposed alternatives in this section will eliminate conflicts and confusion between federal and Florida state regulations. Fishermen in federal waters would need to be aware of numerous additional minimum size limit requirements, and be able to identify the affected fish to the species level. The minimum size limit proposals attempt to reduce some of the need to identify fish to species by setting the same minimum size limit for fish with similar appearances.

Fishery Resources: The rationale and expected consequences of the proposed minimum size limits were explained by the FMFC in their November 3, 1994 letter, when compatible minimum size limits for these species were first requested⁷ (see discussion above). Mutton snapper, gray triggerfish, and hogfish minimum size limits are intended to stop declines in those stocks that have been perceived in anecdotal information to FMFC. Yellowmouth grouper and scamp minimum size limits were originally adopted by Florida in 1990 with the expectation that the Gulf Council was going to adopt those limits in federal waters. Minimum size limits on the remaining snappers are intended to eliminate confusion by adopting similar size limits on species that appear similar, and to benefit spawning stocks and yield. All of the proposed minimum size limits will benefit the stocks by protecting juveniles. The estimated reductions in recreational and commercial harvest for species, where estimates can be made, are shown under economic impacts.

Impact on Other Fisheries: The alternatives in this section will have no impact on other fisheries.

Effect on Wetlands: The alternatives have no effect on wetlands.

⁷ Letter from Mr. Roy Williams to Mr. Steven Atran dated November 3, 1994.

10.0 FLORIDA COMPATIBLE BAG LIMITS

(Note: Also see Section 11 bag limit alternatives for Warsaw grouper and speckled hind.)

10.1 ALTERNATIVES

Proposed Alternative: Adopt a recreational bag limit of 5 hogfish per person for the entire Gulf EEZ:

Rejected Alternative 1: Adopt the following recreational bag limits for the entire Gulf EEZ:

- a. Include the 5 red snapper as part of the snapper aggregate bag limit (currently 10)
- b. cubera snapper - under 30 inches TL- part of the snapper aggregate limit
- 30 inches TL and over - 2 fish per vessel regardless of trip length
(not part of snapper aggregate)

Rejected Alternative 2: Adopt the above recreational bag limits only for the Gulf EEZ off Florida.

Rejected Alternative 3: Status quo - do not change regulations on recreational bag limits of the enumerated species.

Discussion: As with size limits, adoption of the bag limits listed in the Proposed Alternative and in Rejected Alternative 1 were requested by the FMFC for compatibility with state rules and to improve enforceability of state regulations. Unlike the size limits, only some of Florida's bag limits are written as landing rules, but all are written as possession rules. Florida's hogfish bag limit is written as follows (Florida Chapter 46-14.003(3): *No recreational harvester shall harvest in or from state waters more than five (5) hogfish per day, nor possess more than (5) such fish at any time.* Florida's cubera snapper and red snapper bag limits are written as both possession and landing rules.

As with the 12-inch FL minimum size limit, Florida's 5-fish bag limit for hogfish is a conservation measure that FMFC adopted based on public testimony that hogfish were getting smaller in size. Based on personal observations or on statements from the public, Council members concurred that a bag limit on hogfish is an appropriate conservation measure, and proposed a compatible bag limit in federal waters. However, Council members felt that a bag limit on large cubera snapper caught in deep waters in the EEZ would be ineffective due to poor survival of fish caught from deep depths. Council members also felt that the existing federal (5 [now 4]) red snapper bag limit separate from the 10-snapper aggregate bag limit was sufficient to protect red snapper. None of the other snappers subject to the aggregate snapper bag limit are considered to be overfished or approaching an overfished condition; therefore, more restrictive conservation measures are unnecessary. Consequently, the Council rejected more restrictive bag limit measures for cubera snapper.

Bag limits in the EEZ are both trip and possession limits. In accordance with other reef fish bag limits, charter and head boats, on trips lasting more than 24 hours, would be allowed 2-day bag limits of the above species, with the exception of the rejected limit of two cubera snapper per vessel 30 inches TL or over. The above bag limits are compatible with Florida's state limits. Appendix I shows the various

regulations on recreational bag limits adopted by the Gulf Council, South Atlantic Council, and Florida. The alternatives in this section are for those species where federal regulations and Florida state regulations are not currently compatible.

Currently, the federal red snapper 4-fish bag limit is in addition to the aggregate 10-fish snapper limit. Hogfish are listed in the Reef Fish FMP as being in the fishery but not in the management unit. Although species listed as being in the fishery but not the management unit are intended to be in the FMP for data collection only (and excluded from management measures), hogfish were included in the 20-reef fish aggregate bag limit that was implemented in January 1997 under Amendment 14. Under Amendment 15, NMFS partially rejected a proposal to remove species listed as not in the management unit from the aggregate bag limit, and left hogfish, along with queen triggerfish, in the aggregate bag limit. Cubera snapper in federal waters are currently included in the aggregate 10-fish snapper bag limit without regard to size.

Economic Impacts: Currently available information is deficient to determine the impacts of the proposed bag limit for hogfish. However, some general statements can be made regarding the directions of effects. Currently, hogfish is part of the 20-fish aggregate bag limit for reef fish. By imposing a separate bag limit for this species, as in the Proposed Alternative, hogfish would no longer be considered part of the 20-fish bag limit. In this case, the effect of the measure would be to restrict the recreational harvest of hogfish. Most of the negative effects of this measure would fall on private/rental mode anglers, primarily because they have been accounting for 97 to 99 percent of all recreational landings of hogfish. The mitigating aspect of this measure is that it would allow anglers more flexibility in filling their aggregate bag limit. Also, considering the fact that hogfish is not a highly targeted species in for-hire trips, for-hire vessels would stand to benefit from the proposed measure, since in effect, they can offer higher bag limits to their customers, i.e., 5 hogfish plus an assortment of 20 other species not separately subject to a bag limit.

Recreational catch of cubera snapper mostly occur in Florida through the charter fishing mode, although the level of catch for this species is relatively low. The impact of limiting catch to 2 fish per vessel for sizes of 30 inches TL and above (Rejected Alternative 1b) is not known, but it may be deemed to be relatively minor. Most of the impacts of including the red snapper bag limit as part of the 10-fish overall snapper bag limit (Rejected Alternative 1a) would fall on anglers fishing in the Florida Panhandle. In other areas, red snapper are either not caught, or they are the main or only snapper species caught, so the adverse impacts on anglers in these areas would be relatively small.

Rejected Alternative 2 would have similar impacts as the proposed measure, with the magnitude of effects changing only very slightly. The main reason for this is that hogfish are mainly landed in Florida.

10.2 Environmental Consequences

Physical Environment: The alternatives in this section have no impact on the physical environment.

Human Environment: The alternatives in this section will eliminate conflicts between federal and Florida state regulations for hogfish bag limits.

Fishery Resources: The hogfish bag limit is intended to stop a decline in that stock that has been perceived in anecdotal information to the FMFC.

Impact on Other Fisheries: An analyses by the NMFS, SEFSC concluded that the data do not indicate that including red snapper as part of the 10-fish aggregate snapper limit would greatly affect catch of either red snapper or the species in the aggregate bag limit. It was also concluded that there is little evidence that catches of hogfish in Florida and the rest of the Gulf of Mexico would be affected by a bag limit of 5 fish per angler per day at the current catch rates (Phares 1997).

Effect on Wetlands: The alternatives have no effect on wetlands.

11.0 SPECKLED HIND AND WARSAW GROUPE

Proposed Alternative: Set a recreational bag limit of 1 speckled hind and 1 warsaw grouper per vessel, and prohibit sale of these species when caught under the recreational bag limit.

Rejected Alternative 1: Set a recreational bag limit of 1 speckled hind and 1 warsaw grouper per person - speckled hind and Warsaw grouper are included in the aggregate grouper limit.

Rejected Alternative 2: Set a recreational bag limit of 1 speckled hind and 1 warsaw grouper per person - speckled hind and warsaw grouper are in addition to the aggregate grouper limit. [Compatible with Florida state regulations]

Rejected Alternative 3: Set a recreational bag limit of 1 speckled hind and 1 warsaw grouper per vessel, and prohibit sale of these species. [Compatible with South Atlantic Snapper-Grouper regulations]

Rejected Alternative 4: Within the deep-water grouper quota (of 1.6 million pounds) set precautionary commercial sub-quotas of 24,000 pounds of speckled hind and 160,000 pounds of warsaw grouper (the average of 1986-1996 annual landings).

Rejected Alternative 5: Prohibit recreational and commercial harvest of speckled hind and warsaw grouper.

Rejected Alternative 6: Status Quo: No species specific measures for speckled hind and warsaw grouper.

Discussion: Speckled hind and warsaw grouper are part of the deep-water grouper complex, which also includes misty grouper, snowy grouper, and yellowedge grouper. On July 14, 1997, the NMFS Office of Protected Resources published a revised list of candidate species for endangered or threatened species status, which added speckled hind and warsaw grouper to the list. Inclusion in the candidate list does not mean that a species is threatened or endangered; however, it does mean that NMFS has documented evidence that the biological status of a species has declined and that the species faces a high degree of threat. Inclusion in the candidate species list is intended to stimulate voluntary

conservation efforts, which, if effective, can result in a lower likelihood of the species being listed as threatened or endangered. The decision by the NMFS Office of Protected Resources to list speckled hind and warsaw grouper was based primarily on a stock assessment for the Atlantic populations of these species. The Council may wish to ask NMFS to compile available biological information on Gulf of Mexico stocks to determine if it is appropriate to include Gulf of Mexico populations in the candidate species listing.

In the case of speckled hind and warsaw grouper, documentation for the status of stocks came from a published 1994 list of U.S. marine fishes identified as endangered, threatened, or of special concern (Huntsman 1994), and from a 1992 stock assessment of the south Atlantic snapper-grouper complex⁸. According to this assessment, headboat landings of speckled hind, which had been over 8,000 fish for the Carolinas alone in 1973, declined to 649 fish for the entire southeast region in 1990. Commercial landings also declined from more than 32,000 pounds in 1986 to 22,000 pounds in 1990. In addition, the mean weight of speckled hind in 1990 was 3 pounds, a decline of 33 percent from 1988. Warsaw grouper landings saw a 72 percent decline by weight, and a 71 percent decline by numbers from 1988 to 1990. In addition, NMFS was concerned about the mean weight of warsaw grouper being landed. At about 15 pounds, it was below the minimum weight of an adult warsaw grouper (Timi Jordan, personal communication - NMFS Office of Protected Species).

Speckled hind, also known as Kitty Mitchell or calico grouper (rock hind is also called calico grouper), can reach a maximum size of 43 inches TL and 66 pounds (Heemstra and Randall 1993); but in the Gulf of Mexico, they generally reach a size of about 18 inches TL (Hoese and Moore 1977). They are believed to live for up to 15 years (Matheson and Huntsman 1984). They are found in depths of 80 to 600 feet, but are most common at 196 to 400 feet. Speckled hind are often misidentified as scamp (Shipp 1986). Warsaw grouper, also known as black jewfish, can reach a size of 90 inches TL (Heemstra and Randall 1993) and a weight of up to 437 pounds (International Game Fish Association 1991). They occur in a depth range of 180 to 1,722 feet. Small warsaw groupers are common around jetties and offshore oil platforms, and fish up to 40 pounds are not unusual in these areas (Hoese and Moore 1977).

The Proposed Alternative is similar to Rejected Alternative 3; but unlike Rejected Alternative 3, it restricts only recreational harvest while permitting commercial harvest of warsaw grouper and speckled hind. The ban on sale of recreationally harvested warsaw grouper and speckled hind is somewhat redundant, since existing rules already prohibit sale of reef fish caught under a recreational bag limit. For the recreational fishery, this is the most conservative alternative other than a total ban on harvest. Because these species are caught in deep water, release survival is expected to be very poor. The Council felt that the Proposed Alternative allows recreational vessels on which a warsaw grouper or speckled hind may occasionally be caught to keep the fish rather than discard it dead, while discouraging recreational vessels from targeting these species. Since commercial vessels do not target these species, but may occasionally catch them in deep water, the Council felt that allowing such fish to be kept rather than discarded dead would minimize negative impacts of release mortality.

⁸ Huntsman, G.R., J. Potts, R. Mays, R. Dixon, M. Burton, and B. Harvey. 1992. A stock assessment of the snapper-grouper complex in the U.S. south Atlantic based on fish caught in 1990. National Marine Fisheries Service, Southeast Fisheries Science Center, Beaufort Laboratory.

Rejected Alternative 1 would set a precautionary bag limit of 1 speckled hind and 1 warsaw grouper per person, and include them as part of the 5-grouper bag limit. This is a more conservative alternative than that implemented in Florida state waters (Rejected Alternative 2). Rejected Alternative 2 would set a precautionary bag limit of 1 speckled hind and 1 warsaw grouper per person. It differs from Rejected Alternative 1 in that the speckled hind and warsaw grouper bag limits would be separate from and in addition to the 5-fish aggregate grouper limit. Recreational grouper harvest is dominated by shallow water grouper, mainly red grouper and gag. Consequently, neither Rejected Alternative 1 or Rejected Alternative 2 would likely have significant impact on most recreational fishing, but this would prevent an unanticipated increase in recreational harvest of speckled hind and warsaw grouper from occurring. Both Rejected Alternative 1 and Rejected Alternative 2 are less conservative than the Proposed Alternative.

Rejected Alternative 3 is similar to the Proposed Alternative for the recreational fishery, but it also prohibits all sale of the species and thus prohibits commercial harvest. Rejected Alternative 3 is compatible with the South Atlantic Council's regulations, where commercial harvest of speckled hind and warsaw grouper is prohibited in the South Atlantic EEZ waters; but it is allowed in Florida state waters with a restricted species endorsement. The Council rejected this alternative because it felt that prohibiting commercial harvest and sale of warsaw grouper and speckled hind that are caught as an incidental catch would contribute to increased release mortality.

Rejected Alternative 4 would set a precautionary commercial sub-quota of speckled hind and warsaw grouper at the average commercial landings from 1986 to 1996, based on reported commercial landings. (These landings do not include groupers landed as unclassified groupers.) Annual commercial landings of speckled hind increased from less than 2,000 pounds prior to 1990 to a range of 25,000 to 55,000 pounds during 1991-1996. A quota based on the 1986-1996 average would be less than recent landings. Warsaw grouper, on the other hand, have had declining landings, from over 200,000 pounds prior to 1990 to 103,000 pounds in 1994, and even smaller landings in 1995 and 1996. The 1986-1996 average is above the landings level for recent years. The Council rejected this alternative because they felt that a quota would not contribute to conservation of this deep water resource, and a quota closure would create a waste of the resource due to bycatch mortality during the closed season.

Rejected Alternative 5 would prohibit all recreational and commercial harvest of speckled hind and warsaw grouper. This is consistent with the regulations for jewfish and Nassau grouper, which are also on the candidate species list. These fish are caught primarily in deep water and are subject to decompression mortality; therefore, this alternative would not provide additional protection. Speckled hind and warsaw grouper account for about 14 percent of commercial deep-water grouper landings, that group being dominated by yellowedge grouper. Information on recreational harvest levels is not available, but it is likely to be very low.

Rejected Alternative 6 (status quo) would retain current harvest allowances of speckled hind and warsaw grouper, as part of the commercial deep-water grouper complex and recreational grouper bag limit. The Council felt that, given that these species are on the candidate list of species for possible listing as threatened or endangered, a response other than status quo was warranted. The Council felt that the Proposed Alternative provided the most conservative measure possible that is also consistent with minimizing the adverse effects of bycatch mortality.

Table 4. Annual Deep-water Grouper Landings, 1986 to 1996

DEEP WATER GROUPERS (all data from NMFS Commercial Fishery Statistics web page)							
Year	Pounds Landed						Percent Warsaw + Speckled hind
	Warsaw	Speckled Hind	Misty	Yellowedge	Snowy	Total	
1986	220,359	1,251		1,110,629	152,112	1,484,351	15%
1987	224,253	1,346		1,091,448	162,651	1,479,698	15%
1988	276,171	1,918		1,579,330	239,598	2,097,017	13%
1989	224,744	802		579,484	132,523	937,553	24%
1990	165,392	2,751	1,798	914,093	172,248	1,256,282	13%
1991	153,721	44,785		838,869	180,116	1,217,491	16%
1992	124,930	47,050		998,042	201,508	1,371,530	13%
1993	129,993	25,573		812,176	166,533	1,134,275	14%
1994	103,671	55,916		1,250,614	140,404	1,550,605	10%
1995	77,798	40,906		904,319	141,989	1,165,012	10%
1996	55,164	37,335	1,229	596,552	119,252	809,532	11%
Total	1,756,196	259,633	3,027	10,675,556	1,808,934	14,503,346	14%
Avg	159,654	23,603	1,514	970,505	164,449	1,318,486	14%

Economic Impacts: There is currently some good evidence on the biological status of speckled hind and warsaw grouper in the Atlantic area, but similar information for these species in the Gulf is not available. Noting this absence of information, the costs and benefits, particularly over the long-run, of changing the management of these species can only be described in general terms. If restrictive measures are imposed and are successful in preventing these species from eventually being listed as threatened or endangered, the long-term benefits from an open and continuing fishery will tend to outweigh the short-run costs. The benefits would even be higher if a decline in the long-term sustainability of the stocks was prevented. If, on the other hand, the restrictive measures are unsuccessful in preventing these species from being listed as threatened or endangered, or if such measures are imposed but these species are actually in relatively good shape, the measures' associated costs are bound to outweigh the benefits.

The impacts of the Proposed Alternative cannot be estimated, but some general description of such impacts may be made. In 1997, a total of 25,000 speckled hind (number of fish) were caught (all types of catches) by recreational anglers in the Gulf. It is not known how many of these were actually landed. There is no estimate for the number of warsaw grouper caught by Gulf recreational anglers in 1997. The relatively small number of speckled hind and warsaw grouper caught by recreational anglers indicates that the total effect of the proposed measure would be small, despite the fact that the measure appears to be very stringent.

Rejected Alternatives 3 would have practically the same impacts as the proposed measure. The impacts of Rejected Alternatives 1 and 2 would differ from those of the proposed measure only in the magnitude of effects. Rejected Alternative 1 would be less restrictive than the proposed measure to the extent that the limit is set on a per-person and not on a per-vessel basis. Rejected Alternative 2 would even be less restrictive in the sense that it provides more flexibility to anglers in filling their bag limits, since the speckled hind and warsaw grouper limit would be in addition to the 5-fish aggregate grouper limit.

Rejected Alternative 4, which sets individual quotas for the two species, may simply limit the commercial harvest and associated revenues to the historical average, or it may bring about worse effects. The quotas are equivalent to historical average landings for the period 1986-1996, but we may note several points, using information from Table 4. In the case of speckled hind, commercial landings had been relatively low before 1991; thence landings have been relatively high but fluctuated around an average of 42,000 pounds. Since the quota is about half of the average of landings for this latter and more recent period, there is a good chance that it would be effective in constraining commercial landings. If the stock were protected in this case, some future benefits would be forthcoming to compensate for short-run losses. The net effect cannot be determined. In the case of warsaw grouper, landings appear to be declining over the years. The quota is about twice the catch in the last two years; consequently, there is some possibility that commercial landings of this species would not be constrained. If the stock could not be protected in this case, future losses would erode short-run benefits. Again, the net effect cannot be determined. The mentioned worse case scenario can happen if the quotas bring about derby-like conditions. Derby-like conditions would be more likely to occur if the fishery for these species is well defined and the quotas restrictive.

One other point worth noting with respect to impacts on the commercial sector is that warsaw grouper and speckled hind are part of the deep-water grouper complex that is subject to an overall quota. This quota has never been reached since it was first established in 1990. If the quotas for the two subject species were restrictive enough, effort would likely be directed at other species in the complex. This could have some untoward effects on the status of the other species.

Rejected Alternative 5 is the most stringent of all the alternatives considered. This alternative, which prohibits commercial and recreational harvests of the two species, would result in the commercial sector forgoing ex-vessel revenues amounting to \$80,000 for speckled hind and \$126,000 for warsaw grouper (based on 1995 data). It is not known how many vessels would be affected by closing these fisheries and how substantially those vessels would be affected. The impacts on the recreational sector cannot be determined; however, as noted above, such impacts could be small relative to the landings of these species. In addition, the two subject species are not listed as among the sought-after species by private and for-hire anglers. However, this alternative would limit the flexibility of anglers to catch fish at the face of restrictions imposed on the more sought-after species.

11.1 Environmental Consequences

Physical Environment: The alternatives in this section have no impact on the physical environment.

Human Environment: Since warsaw grouper and speckled hind are minor components of both the commercial and recreational grouper fisheries, the alternatives in this section are expected to have little impact on the human environment. However, having a highly restrictive recreational bag limit will discourage fishing vessels from targeting these species. Having different regulations for these species than for other groupers will increase the need for fishermen to be able to identify the species of grouper that they catch, and confusion with species identification could affect voluntary compliance.

Fishery Resources: The alternatives in this section will maintain or reduce current harvest levels of these species.

Impact on Other Fisheries: The Proposed Alternative in this section may result in a very minor increase in recreational landings of other deep-water groupers. It will have no impact on commercial fisheries.

Effect on Wetlands: The alternatives have no effect on wetlands.

12.0 REGULATORY IMPACT REVIEW

12.1 Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: 1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action, 2) it 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 the problem, and 3) it ensures 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.

The RIR also serves as the basis for determining whether any proposed regulations are a "significant regulatory action" under certain criteria provided in Executive Order 12866 and whether the proposed regulations will have a "significant economic impact on a substantial number of small business entities" in compliance with the Regulatory Flexibility Act of 1980 (RFA).

This RIR analyzes the probable impacts on fishery participants of the proposed plan amendment to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico.

12.2 Problems and Objectives

The general problems and objectives are found in the Reef Fish FMP, as amended, and Sections 3.0 and 4.0 of this document. The purpose and need for the present plan amendment are found in Section 3.0 of this document. The current plan amendment addresses the following issues: 1) management of minor amberjacks, 2) species listed as not in the management unit, 3) Florida compatible size limits, 4) Florida compatible bag limits, and 5) management of speckled hind and warsaw grouper.

12.3 Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects are stated in terms of producer surplus to the harvest sector, net profits to the intermediate sector, and consumer surplus to the final users of the resource.

In addition to changes in the surpluses mentioned above, there are public and private costs associated with the process of changing and enforcing regulations on the reef fish fishery. A simple estimation of these costs is made in this document.

Ideally, all these changes in costs and benefits need to be accounted for in assessing the net economic benefit from management of reef fish. The RIR attempts to determine these changes to the extent possible.

12.4 Impacts of Management Measures

The discussions under the “Economic Impacts” sub-heading in Sections 7 through 11 comprise the bulk of the impact analysis for RIR purposes. A summary of these impacts is developed in Sub-section 12.6 below.

12.5 Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any federal action involves the expenditure of public and private resources which can be expressed as costs associated with the regulations. Costs associated with this amendment include:

Council costs of document preparation, meetings, public hearings, and information dissemination	\$15,000
NMFS administrative costs of document preparation, meetings and review	7,000
Law enforcement costs	15,000
Public burden associated with licenses and reporting requirements	none
NMFS costs associated with licenses and reporting requirements	none
TOTAL	\$37,000

These costs pertain mainly to the initial implementation of Amendment 16B. The enforcement cost is expected to be expended annually and is determined to be the minimum cost required to enforce the regulations proposed in this amendment. There are no additional public burden cost or NMFS costs associated with permitting and reporting requirements.

12.6 Summary of Economic Impacts

The emphasis of this summary is on the effects of the proposed measures under each of the 5 sets of alternatives. Regarding the management of minor amberjacks, the proposed measures would impose a slot limit of 14 inches to 22 inches FL for banded rudderfish and lesser amberjack. While the slot limit is uniform for both the commercial and recreational sectors, the adverse impacts on the commercial sector would be greater at least with respect to the slot limit on banded rudderfish. Judging, however, from the amount of landings of the two species by both commercial and recreational sectors, the total effects would be relatively small.

The proposed 5-fish bag limit for banded rudderfish would likely affect the for-hire sector more than the other fishing modes, mainly because the for-hire sector has historically accounted for most of the recreational landings of this species. This effect would only compound the effect of the 1-fish bag limit for greater amberjack. A similar 5-fish bag limit for lesser amberjacks has an indeterminate effect as to which sector would bear most of the adverse effects, since the dominance of one fishing mode over another is not consistent from year to year.

The proposed measure to remove queen triggerfish from the Reef Fish FMP would imply that Florida rules governing this species would extend to the EEZ. In this event, queen triggerfish would probably be fully allocated to the marine life industry. Both commercial and recreational fishermen (other than those who practice catch and release) would stand to lose all their harvests of this species. According to landings records, however, the commercial fishery would only lose about \$1,500 in ex-vessel revenues. The loss to the recreational sector, including the for-hire fishery, cannot be determined.

The proposed measure to remove the distinction between reef fish species in the management unit and those in the fishery but not in the management unit is expected to have no direct impacts on fishing participants.

The proposed measure to impose minimum size limits on 7 species that are currently not subject to any minimum size limit and to raise the minimum size limit on 1 species would make the minimum size limit rules in the EEZ compatible with those of Florida. The potential negative impacts of the various minimum size limits range from 1 percent (for cubera snapper) to 82 percent (for scamp) for the recreational sector and from 0.4 percent (for gray triggerfish) to 14 percent (for hogfish) for the commercial sector.

The proposed measure to impose a recreational 5-fish bag limit for hogfish would adversely impact the private mode anglers the most, since they account for 97 to 99 percent of all recreational landings of hogfish. To the extent that hogfish is not a target species of for-hire mode anglers and the fact that in effect the bag limit for hogfish would be in addition to the 20-fish aggregate recreational bag limit for reef fish, the for-hire sector could benefit from this measure.

The proposed 1-fish recreational bag limit per vessel each for speckled hind and warsaw grouper appears to be very stringent, but noting the relatively small amount of landings of both species, the overall impacts may be deemed small.

12.7 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it: (1) has an annual effect on the economy of \$100 million or more or adversely affects in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) creates a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (4) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

The entire Gulf reef fish commercial harvest sector has an ex-vessel value of \$45 million. Considering this size of the fishery, the fact that the various measures considered are likely to affect only certain segments of the reef fish fishery, and the findings that the measures considered in this amendment do not materially affect the total revenues generated by the reef fish commercial sector and for-hire sector, a \$100 million annual impact due to this amendment is not likely to happen. Prices of reef fish to consumers are not expected to increase significantly as a result of this amendment. Overall cost increases to the reef fish industry are expected to be insignificant. Costs to the local and federal governments are estimated to be relatively small. To the extent, in fact, that certain state and federal rules are rendered compatible, such costs may tend to drop. The proposed measures, particularly those affecting minor amberjack species and size and bag limits of certain species, may be expected to have some adverse effects on employment, competition, and investment. These impacts cannot be quantified but to the extent that most of these are confined mainly to certain segments of the reef fish fishery, the impacts are deemed to be relatively small from the standpoint of the entire industry. Most of the measures considered in this amendment would affect fishing operations based in Florida, but again relative to the reef fish fishery in this state, the adverse effects of the proposed measures may be deemed relatively small.

Insofar as some of the proposed measures are designed to make federal rules compatible with those of Florida, the general tone of this amendment rules out any serious inconsistency with actions of other fishing agencies, particularly those in Florida. None of the proposed measures is expected to materially alter the budgetary impact of entitlements, grants, user fees and similar programs or raises novel legal or policy issues.

Based on the foregoing, it is concluded that this regulation if enacted would not constitute a "significant regulatory action."

12.8 Determination of the Need for an Initial Regulatory Flexibility Analysis

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

All of the commercial reef fish harvesting entities affected by the rule will qualify as small business entities because their gross revenues are less than \$3 million annually. In addition, for-hire vessels in the Gulf affected by the proposed rule generally earn less than \$5 million in annual revenues and are thus considered to be small business entities. Hence, it is clear that the criterion of a substantial number of the small business entities comprising the commercial reef fish harvesting industry and the for-hire sector being affected by the proposed rule will be met. The outcome of "significant impact" is less clear but can be triggered by any of the five conditions or criteria discussed below.

The regulations are likely to result in a change in annual gross revenues by more than 5 percent. In one way or another, all 5 sets of measures in this amendment are likely to reduce, but not materially, the gross revenues of commercial and for-hire vessels. It is possible that a few vessels may experience more than a 5 percent reduction in their gross revenues. Overall, however, the revenue impacts are less than the 5 percent threshold. For example, the potential loss in revenue to the entire industry from the proposed rule on the sale of lesser amberjack and banded rudderfish would be less than \$100,000, whereas the gross revenues from low-volume vessels are \$6.9 million in the Northern Gulf and \$7.5 million in the Eastern Gulf (Waters, 1996b).

Annual compliance costs (annualized capital, operating, reporting, etc.) increase total costs of production for small entities by more than 5 percent. There is a potential increase in operating cost from the size limit measures. Although this increase is relatively unknown, its probability of being greater than 5 percent of operating costs by fishing vessels is relatively low.

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

Capital costs of compliance represent a significant portion of capital available to small entities, considering internal cash flow and external financing capabilities. General information available as to the ability of small business fishing firms to finance items such as a switch to new gear indicate that this would be a problem for at least some of the firms. The evidence is that the banking community is becoming increasingly reluctant to finance changes of this type, especially if the firm has a history of cash flow problems. Vessels fishing for the species under consideration in this amendment are the ones that would be affected in this fashion, but this effect is not precisely known.

The requirements of the regulation are likely to result in a number of the small entities affected being forced to cease business operations. This number is not precisely defined by SBA but a "rule of thumb" to trigger this criterion would be two percent of the small entities affected. The proposed change in bag and size limits on certain species would reduce the financial viability of some commercial and for-hire vessels, but those affected are not expected to cease operation entirely.

Based on the information presented, it is concluded that the proposed rule will not have a significant economic impact on a substantial number of small business entities, and therefore an IRFA is not required.

13.0 ENVIRONMENTAL ASSESSMENT

The purpose and need for action for this amendment are contained in Section 3, with additional discussion in Section 4. The list of proposed actions is contained in Section 5. The full list of alternatives considered, including rejected alternatives, is listed for each issue in the appropriate issue section (Sections 7.0 to 11.0).

The description of the affected environment and environmental effects of the fishery were discussed in the SEIS for Amendment 5 and are incorporated in this amendment by reference.

13.1 Effects on Physical, Human, Fishery and Wetlands Environments

Discussion of the environmental consequences of the alternatives accompanies the sections containing the alternatives (sections 7.0 to 11.0) and constitutes the bulk of the environmental assessment with respect to the specific alternatives. Additional information concerning human impacts is contained in the RIR, and in the Economic Impacts subsection under each of the sets of alternatives.

13.2 Effect on Endangered Species and Marine Mammals

A Section 7 consultation will be requested from NMFS regarding the impact of proposed Amendment 16B. Section 11 (Warsaw grouper and speckled hind) specifically addresses species that have recently been added to the candidate list of species for threatened or endangered status. These species are not currently listed as threatened or endangered, and their inclusion in the candidate species list is intended to stimulate voluntary conservation efforts which, if effective, can result in a lower likelihood of being listed as threatened or endangered. The proposed actions are expected to have a positive benefit toward preventing any further decline of these species. It is not anticipated that populations of threatened/endangered species would be adversely affected by the proposed actions.

13.3 Conclusion

Mitigation measures related to the proposed action and fishery: No significant environmental impacts are expected; therefore, no mitigating actions are proposed. Unavoidable adverse effects with implementation of the proposed actions and any negative net economic benefits are discussed in the Regulatory Impact Review. Irreversible and irretrievable commitment of resources involved with government costs are those related to permitting alternatives for which NMFS is permitted to charge its administrative costs.

13.4 Finding of No Significant Environmental Impact

In view of the analysis presented in this document, I have determined that the fishery and the proposed action in this amendment to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico would not significantly affect the quality of the human environment with specific reference to the criteria contained in NDM 02-10 implementing the National Environmental Policy Act.

Accordingly, the preparation of a Supplemental Environmental Impact Statement for this proposed action is not necessary.

Approved: _____
Assistant Administrator for Fisheries Date

14.0 OTHER APPLICABLE LAW

14.1 Habitat Concerns

Reef fish habitats and related concerns were described in the Reef Fish FMP and updated in Amendments 1 and 5. A generic amendment that will describe essential fish habitat, including reef fish habitat, is currently in preparation. The actions in this amendment do not affect the habitat.

14.2 Vessel Safety Considerations

A determination of vessel safety with regard to compliance with 50 CFR 605.15(b)(3) will be requested from the U.S. Coast Guard. Actions in this amendment are not expected to affect vessel safety.

14.3 Coastal Zone Consistency

Section 307(c)(1) of the Federal Coastal Zone Management Act of 1972 requires that all federal activities which directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. The proposed changes in federal regulations governing reef fish in the EEZ of the Gulf of Mexico will make no changes in federal regulations that are inconsistent with either existing or proposed state regulations.

While it is the goal of the Council to have complementary management measures with those of the states, federal and state administrative procedures vary, and regulatory changes are unlikely to be fully instituted at the same time.

Where applicable, this amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent. A determination will be submitted to the responsible state agencies under Section 307 of the Coastal Zone Management Act administering approved Coastal Zone Management programs in the states of Alabama, Florida, Louisiana, Mississippi, and Texas.

14.4 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act is to control paperwork requirements imposed on the public by the Federal Government. The authority to manage information collection and record keeping requirements is vested with the Director of the Office of Management and record keeping requirements is vested with the Director of the Office of Management and Budget. This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications.

There are no additional public reporting burdens associated with this plan amendment.

14.5 Federalism

No federalism issues have been identified relative to the actions proposed in this amendment. Therefore, preparation of a federalism assessment under Executive Order 12612 is not necessary.

15.0 LIST OF AGENCIES AND PERSONS CONSULTED

The following agencies were consulted on the provisions of this amendment:

Gulf of Mexico Fishery Management Council:

- Standing and Special Reef Fish Scientific and Statistical Committees
- Reef Fish Advisory Panel
- Law Enforcement Advisory Panel

Coastal Zone Management Programs:

- Texas
- Louisiana
- Mississippi
- Alabama
- Florida

National Marine Fisheries Service:

- Southeast Regional Office
- Southeast Fisheries Science Center

16.0 PUBLIC HEARING LOCATIONS AND DATES

Public hearings for public hearing draft Amendment 16 were held at the following dates and locations from 7:00 p.m. to 10:00 p.m.. In addition, public testimony was accepted at the Gulf Council meeting in Duck Key, Florida on March 11, 1998, and at the Gulf Council meeting in San Destin, Florida on May 13, 1998.

Monday, February 9, 1998

Holiday Inn Beachside
3841 North Roosevelt Boulevard
Key West, Florida 33040

Tuesday, February 10, 1998

Hampton Inn
13000 North Cleveland
North Fort Myers, Florida 33903

Wednesday, February 11, 1998

Radisson Bay Harbor Inn
7700 Courtney Campbell Causeway
Tampa, FL 33607

Thursday, February 12, 1998

Plantation Inn and Golf Resort
9301 West Fort Island Trail
Crystal River, Florida 34429

Thursday, February 19, 1998

Old Post Office Building
102 East Green Street
Perry, Florida 32347

Monday, February 23, 1998 *

National Marine Fisheries Service
Panama City Laboratory
3500 Delwood Beach Road
Panama City, FL 32408

Tuesday, February 24, 1998 *

Holiday Inn on the Beach
365 East Beach Boulevard
Gulf Shores, AL 36547

Wednesday, February 25, 1998 *

J. L. Scott Marine Education Center & Aquarium
115 East Beach Boulevard, US Highway 90
Biloxi, MS 39530

Thursday, February 26 *

Texas A&M Auditorium
200 Seawolf Parkway
Galveston, TX 77553

Thursday, February 26 *

Larose Regional Park
2001 East 5th Street
Larose, LA 70373

Port Aransas Library
700 West Avenue A
Port Aransas, TX 78373

* Held in conjunction with public hearing for Draft Amendment 9 to the Coastal Migratory Pelagics (Mackerel) Fishery Management Plan.

17.0 LIST OF PREPARERS

Gulf of Mexico Fishery Management Council

- Steven Atran, Population Dynamics Statistician
- Antonio Lamberte, Economist
- Rick Leard, Fishery Biologist

18.0 REFERENCES

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APPENDIX I - SUMMARY OF REEF FISH HARVEST REGULATIONS

This compares regulations in Gulf and South Atlantic federal waters with rules in Florida state waters. Dashes (--) indicate no regulations. Highlighted areas show inconsistencies with Florida rules. Prepared by Roy Williams, Florida Marine Fisheries Commission, 6-25-97, and modified by Council staff to reflect recent changes. Note: The Gulf Council has just recently increased the vermilion snapper size limit to 10 inches.

MINIMUM SIZES. Total length except for amberjack and hogfish.

	<u>GULF</u>	<u>SOUTH ATLANTIC</u>	<u>FLORIDA</u>
<i>Snappers</i>			
lane	8"	8"	8"
vermilion			
Gulf	10"		8"
Atlantic		10" (Rec)	10" (rec)
		12" (Com)	12" (com)
schoolmaster	----	12"	10"
gray (mangrove)	12"	12"	10" (Rec)
			12" (Com)
queen	----	12"	12"
blackfin	----	12"	12"
cupera	----	12"	12"
dog	----	12"	12"
mahogany	----	12"	12"
silk	----	12"	12"
yellowtail	12"	12"	12"
mutton	12"	16"	16"
red snapper			
Gulf	15"		15"
Atlantic		20"	20"
<i>Groupers</i>			
yellowfin	20"	20"	20"
black	20"	20"	20"
gag	20"	20"	20"
red	20"	20"	20"
yellowmouth	----	20"	20"
scamp	----	20"	20"
Nassau	no harvest	no harvest	no harvest
jewfish	no harvest	no harvest	no harvest
<i>Gray Triggerfish</i>	----	12"	12"
<i>THE FOLLOWING SIZES ARE FORK LENGTHS</i>			
<i>Greater Amberjack</i>			
recreational	28"	28"	28"
commercial	36"	36"	36"
commercial core	----	28"	28"
<i>Hogfish</i>	----	12"	12"

APPENDIX I (continued) - SUMMARY OF REEF FISH HARVEST REGULATIONS

RECREATIONAL DAILY BAG LIMITS

	<u>GULF</u>	<u>SOUTH ATLANTIC</u>	<u>FLORIDA</u>
<i>Snappers</i> ⁹			
Aggregate	10	10	10
Limits within aggregate:	-----	2 reds	5 reds (Gulf_ 2 reds (Atl.) 5 gray
Limits beyond aggregate:			
Red	5	0	0
Vermilion			
Gulf			unlimited
Atlantic		10	10
Lane			
Gulf			unlimited
Atlantic		0	unlimited
Cubera	0	2 fish ≥ 30"	2 fish ≥ 30"
<i>Groupers</i>			
Aggregate	5	5	5
Limits within aggregate:			
Speckled hind	-----	1/boat	-----
Warsaw grouper	-----	1/boat	-----
Limits beyond aggregate:			
Speckled hind	-----	-----	1/boat
Warsaw grouper	-----	-----	1/boat
<i>Greater Amberjack</i>	1	3	3 (Monroe Cty = 1)
<i>Hogfish</i>	-----	5	5
<i>Gulf Aggregate Limit</i>	20	n.a.	-----

CLOSED SEASONS

No Harvest

Jewfish	Year round	Year round	Year round
Nassau grouper	Year round	Year round	Year round

Bag limit only

Greater amberjack	None	April: south of Cape Canaveral	April - May, statewide
Mutton snapper	None	May - June	May - June

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In the Gulf federal zone, there is a 20 fish aggregate limit for all reef fish species which lack a specific bag limit. This includes, *among others*, lane and vermilion snappers, hinds, banded rudderfish, lesser amberjack, Almaco jacks, hogfish, gray and queen triggerfish, and tilefishes.,