REVISIONS TO AMENDMENT 11

TO THE

REEF FISH FISHERY MANAGEMENT PLAN

FOR THE REEF FISH RESOURCES OF

THE GULF OF MEXICO

(Includes Regulatory Impact Review and Environmental Assessment)

RESUBMISSION OF

DISAPPROVED MEASURE

SPECIFYING OPTIMUM YIELD

April, 1997

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Abbreviations Used in This Document

ABC	Allowable Biological Catch
AP	Advisory Panel
Council	Gulf of Mexico Fishery Management Council
EEZ	Exclusive Economic Zone
E.O.	Executive Order
F	Fishing Mortality Rate (measured as an instantaneous rate)
FMP	Fishery Management Plan
IRFA	Initial Regulatory Flexibility Analysis
MEY	Maximum Economic Yield
MSY	Maximum Sustainable Yield
NMFS	National Marine Fisheries Service
OY	Optimum Yield
RA	Regional Administrator of NMFS (for the Southeast Region)
RFA	Regulatory Flexibility Act of 1980
RFSAP	Reef Fish Stock Assessment Panel
RIR	Regulatory Impact Review
SBA	Small Business Administration
Secretary	Secretary of the Department of Commerce
SEFSC	Southeast Fisheries Science Center of NMFS
SPR	Spawning Potential Ratio
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch

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RESUBMISSION OF DISAPPROVED MEASURE IN 8.3

REEF FISH AMENDMENT 11

1.0 PUBLIC REVIEW

A total of ten public hearings were held to obtain public comments on this plan amendment with one additional hearing held during the Gulf Council meeting in the Holiday Inn Crown Plaza, 700 North Westshore Boulevard, Tampa, Florida during May 8-11, 1995. The public comment period for this amendment ended on May 3, 1995.

Public hearings were scheduled at the following dates and locations during 7:00 p.m. to 10:00 p.m.:

Monday, April 17, 1995
NMFS Panama City Laboratory
Conference Room
3500 Delwood Beach Road
Panama City, Florida 32408

Monday, April 17, 1995
Holiday Inn Beachside
3841 North Roosevelt Boulevard
Key West, Florida 33040

Tuesday, April 18, 1995
Our Lady of the Sea
Parish Hall
705 Longoria
Port Isabel, Texas 78578

Tuesday, April 18, 1995
Orange Beach Community Center
27301 Canal Road
Orange Beach, Alabama 36561

Tuesday, April 18, 1995
Ramada Airport Hotel
5303 West Kennedy Boulevard
Tampa, Florida 33609

Wednesday, April 19, 1995
University of Texas
Visitor's Center Auditorium
750 Channel View Drive
Port Aransas, Texas 78373

Wednesday, April 19, 1995
J.L. Scott Marine Education Center
and Auditorium
115 East Beach Boulevard
(U.S. Highway 90)
Biloxi, Mississippi 39530

Thursday, April 20, 1995
Holiday Inn on the Beach
5002 Seawall Boulevard
Galveston, Texas 77551

Monday, April 24, 1995
Venice Fire House
Highway 23
Venice, Louisiana 70091

Tuesday, April 25, 1995
Larose Regional Park
Versailles Room
2001 East 5th Street
Larose, Louisiana 70373

2.0 LIST OF AGENCIES AND PERSONS CONSULTED

The following agencies have been consulted on the provisions of this amendment:

Gulf of Mexico Fishery Management Council:	Standing and Special Reef Fish Scientific and Statistical Committees Reef Fish (Red Snapper) Advisory Panel Reef Fish (Other Reef Fish) Advisory Panel Reef Fish Stock Assessment Panel
Coastal Zone Management Programs:	Louisiana Mississippi Alabama Florida
National Marine Fisheries Service:	Southeast Regional Office Southeast Fisheries Science Center

3.0 LIST OF PREPARERS

Gulf of Mexico Fishery Management Council
- Wayne Swingle, Biologist
- Steven Atran, Statistician/Biologist
- Antonio Lamberte, Economist

4.0 RESUBMISSION BACKGROUND

Amendment 11 for which the final rule became effective on January 7, 1996 contained proposed administrative changes to the framework procedure for specifying TAC. It also included proposed permitting requirements for dealers, charter vessels and conditions on the commercial vessel permit. It extended the moratorium on the issuance of vessel permits, but made such permits transferable.

On August 30, 1995 the Regional Administrator (RA) of NMFS notified the Council that three proposed measures of Amendment 11 had been disapproved. These pertained to the framework procedure for specification of TAC and included (1) Section 8.3 Optimum Yield (OY) definition, (2) Section 8.5 use of ABC range for specification of TAC and (3) Section 8.7 - Respecification of the Generation Time Multiplier for the Recovery periods.

5.0 PURPOSE AND NEED FOR ACTION

The disapproval of the Council's proposed alternative for management measures under Section 8.3 has resulted in there being no biological standard for assessing the status of the stocks relative to optimum yield (OY) that differs from the overfishing definition. The measure was disapproved by NMFS based on scientific concerns expressed by SEFSC over the structure of the proposed alternative. These deficiencies have been corrected based, in part, on review and revision by the Reef Fish Stock Assessment Panel (RFSAP). The proposed alternatives disapproved under Sections 8.5 and 8.7 were intended to provide the Council with greater flexibility to consider economic and social impacts of restoring overfished stocks.
These issues will not be addressed in this amendment.

6.0 PROBLEMS REQUIRING A PLAN AMENDMENT TO REVISE AMENDMENT 11

This amendment addresses only one of the issues for which the Council's proposed alternative was disapproved. For consistency the same section numbers are retained for this section (8.3). The editorial revisions approved for the TAC procedures under Section 8.0 is included to facilitate understanding of the other measure of this amendment.

8.3 Optimum Yield Definition: The Optimum Yield definition for reef fish is currently set at the same rate and level as the overfishing definition. This is based on biological considerations only, and makes no provision for incorporation of social and economic considerations, as required by the Magnuson Act definition of OY. Furthermore, setting the OY level at the overfishing threshold may be insufficient to prevent overfishing from occurring, as required under the Section 602 guidelines. The Council's SPR Strategy Committee recommended that an optimum yield target be distinct and measurably different from an overfishing threshold. A redefinition of Optimum Yield is needed to bring the reef fish OY into greater compliance with the Magnuson Act and Section 602 guidelines.

7.0 PROPOSED ACTIONS

The following actions are proposed alternatives in this resubmission amendment, listed by section.

8.0 PROPOSED MODIFICATIONS OF FRAMEWORK PROCEDURE FOR SPECIFYING TAC

8.3 Optimum Yield Definition

Proposed Alternative: Set OY for each stock at a yield level that would result in at least a 30 percent SPR for that stock.

8.0 PROPOSED MODIFICATIONS OF FRAMEWORK PROCEDURE FOR SPECIFYING TAC

Editorial Revisions

The following editorial revisions to the framework procedure were approved in Amendment 11 and are provided here for informational purposes (additions in bold and deletions bracketed).

Procedure for Specification of TAC:

1. Prior to **October 1** [August 1] each year, or such other time as agreed upon by the Council and RA, the **NMFS** Southeast Fisheries **Science** Center [of NMFS] (SEFSC) **and Economics and Trade Division (ETD), Southeast Regional Office (SERO)** will: a) update or complete biological and economic assessments and analyses of the present and future condition of the stocks **and fisheries** for red snapper and other reef fish stocks or stock complexes; b) assess to the extent possible the current SPR levels for each stock; c) estimate fishing mortality (F) in relation to F(20 percent SPR) **and F_{OY}**; d) estimate annual surplus production, F(max) or other population parameters deemed appropriate; e) summarize statistics on the fishery for each stock or stock complex; f) specify the geographical variations

in stock abundance, mortality, recruitment, and age of entry into the fishery for each stock or stock complex; and g) **provide information for** analyzing social and economic impacts of any specification demanding adjustments of allocations, quotas, [or] bag limits **or other fishing restrictions.**

2. The Council will convene a Scientific **Reef Fish** Stock Assessment Panel **(RFSAP), and a Socioeconomic Assessment Panel (SEP)** appointed by the Council, that will, as [a] working groups, review the SEFSC **and ETD** assessments, current harvest statistics, economic, social, and other relevant data. **The RFSAP** [It] will prepare a written report to the Council specifying a range of ABC for each stock or stock complex which is in need of catch restrictions for attaining or maintaining OY. The ABCs are catch ranges that will be calculated for those species in the management unit that have been identified by the Council, NMFS, or the working panels as in need of catch restrictions for attaining or maintaining OY. **For overfished stocks,** the range of ABCs shall be calculated so as to achieve reef fish population levels at or above the 20 percent SPR goal **within 10 years** for all reef fish except red snapper which has a January 2019 target date, or by a time period (target date), or set of time periods (target dates) specified by the **RFSAP** [stock assessment panel]. Any time period specified by the stock assessment panel for consideration by the Council under this framework procedure cannot exceed a period equal to 1.5 times the potential generation time of the stock **or such other time period as specified by plan amendment.** Generation times are to be specified by the stock assessment panel based on the biological characteristics of the individual stocks. For stock or stock complexes where data in the SEFSC reports are inadequate to compute an ABC based on the spawning stock biomass per recruit **or SPR** models, the **RFSAP** [above working group] will use other available information as a guide in providing their best estimate of an ABC range that should result in at least a 20 percent SPR level. The ABC ranges will be established to prevent an overfished stock from further decline. To the extent possible, a risk analysis should be conducted indicating the probabilities of attaining or exceeding the stock goal of 20 percent SPR, the annual transitional yields (i.e., catch streams) calculated for each level of fishing mortality within the ABC range. [and the] **The SEP will examine the** economic and social impacts associated with **fishing restrictions required to attain** those levels. The working groups reports [will] **may** include recommendations on bag limits, size limits, specific gear limits, season closures, and other restrictions required to attain management goals, along with the economic and social impacts of such restrictions, and the research and data collection necessary to improve the assessments. The **RFSAP** [stock assessment panel] may also recommend additional species for future analyses.

3. The Council will conduct a public hearing on the [stock assessment panel] **RFSAP and SEP** reports at, or prior, to the time it is considered by the Council for action. Other public hearings may be held also. The Council will request review of the reports by its Reef Fish Advisory Panel and [Standing] Scientific and Statistical Committees and may convene these groups before taking action.

4. The Council in selecting a TAC level, and **a stock restoration** time period (target date), if necessary, for each stock or stock complex for which an ABC range has been identified will, in addition to taking into consideration the recommendations **and information** provided for in (1), (2), and (3), utilize the following criteria:

   a. Set TAC within or below **the first** ABC range or set a series of annual TACs to obtain the ABC level within **the first** three years or less.

   b. Subdivide the TACs into commercial and recreational allocations which maximize the net benefits of the fishery to the nation. The allocations will be based on historical percentages harvested by each user group during the base period of 1979-1987. However, if **for an overfished stock** the harvest in any year exceeds the TAC due to either the recreational or commercial user group exceeding its allocation, subsequent allocations pertaining to the respective user group will be adjusted to assure meeting the specified target date **for achieving the** spawning **potential ratio** [stock biomass per recruit] (SPR) goal.

5. The Council will provide its recommendations to the RA for any specifications in TACs and **stock restoration** target dates for each stock or stock complex, **and the** quotas, bag limits, trip limits, size limits, closed seasons, and gear restrictions necessary to attain the TAC, along with the reports, a regulatory impact review and environmental assessment of impacts, and the proposed regulations before October 15, or such other time as agreed upon by the Council and RA.

6. Prior to each fishing year, or other such time as agreed upon by the RA and Council, the RA will review the Council's recommendations and supporting information; and, if he concurs that the recommendations are consistent with the objectives of the FMP, the **Magnuson Act** National Standards, and other applicable law, he shall forward for publication notice of proposed **rules for** TACs and associated harvest restrictions by November 1, or such other time as agreed upon by the Council and RA (providing up to 30 days for additional public comment). The RA will take into consideration all **public comment and** information received and will forward for publication in the Federal Register the notice of final rule by December 1, or such other time as agreed upon by the Council and RA.

7. Appropriate regulatory changes that may be implemented by proposed rule **in the** <u>**Federal Register**</u> [action] include:

   a. The TACs for each stock or stock complex that are designed to achieve a specific level of ABC within the first year, or annual levels of TAC designed to achieve the ABC level within three years.

   b. Bag limits, size limits, vessel trip limits, closed seasons or areas, gear restrictions, and quotas designed to achieve the TAC level.

   c. The time period (target date) specified for rebuilding an overfished stock with the restriction that a time period specified under this framework procedure cannot exceed a period equal to 1.5 times the generation time of the stock under consideration.

8. If the NMFS decides not to publish the proposed rule of the recommended management measures, or to otherwise hold the measures in abeyance, then the Regional **Administrator** or must notify the Council of his intended action within **30** days of receipt of the Council's proposal and the reasons for NMFS concern along with suggested changes to the proposed management measures that would alleviate the concerns. Such notice shall specify: 1) the applicable law with which the amendment is inconsistent, 2) the nature of such inconsistencies, and 3) recommendations concerning the actions that could be taken by the Council to conform the amendment to the requirements of applicable law.

8.3 Optimum Yield Definition

The OY statement of the FMP used as a preamble to the procedure sets OY at any level above the threshold level describing overfishing (i.e., SPR = 20 percent). From both biological and economic perspectives, management should be directed toward an OY level significantly greater than the overfishing threshold. However, it should be recognized that for overfished stocks, TACs must be set to achieve restoration of the stock before management can be directed toward a higher stock level for OY.

Proposed Alternative: **Set OY for each stock at a yield level that would result in at least a 30 percent SPR for that stock.**

Rejected Alternative 1: **Set OY for each stock based on a SPR level corresponding to $F_{0.1}$ until an alternative operational definition that optimizes ecological, economic, and social benefits to the Nation has been developed by RFSAP, SEP, SSC and AP and approved by Council.**

Rejected Alternative 2: **Set OY for each stock at a harvest level that optimizes ecological, economic and social benefits to the Nation.**

Rejected Alternative 3: **Set OY for each stock equivalent to a MSY that optimizes long-term harvest in terms of yield.**

Rejected Alternative 4: **Set OY at a harvest level maintaining over time an average SPR level that is at least 5 (or other) percentage points above the SPR level that defines overfishing.**

Rejected Alternative 5: **Status Quo - Retain OY of at least a 20 percent SPR level.**

Discussion: The purpose of the proposed statement of OY is to provide a measurable target level to which stocks that were overfished will be eventually restored after the stocks are no longer classified as overfished and a target level for management of all other stocks. This provides a measurable biological parameter to assess the status of the stock relative to this target level. The annual (or biennial) specification of TAC will continue to serve as the annual specification of OY and the Council in specifying TAC will take into consideration the social, economic and ecological factors in setting that level. Under the proposed definition the Council could use a target level greater than 30 percent SPR if the RFSAP indicates a specific stock is less resilient to overfishing from causes such as changing sexes, being slower growing, late maturing or longer-lived. The Council would do this on a stock by stock basis rather than specifying a higher SPR level initially. The RFSAP recommended an alternative

similar to the proposed alternative after consideration of the SPR Strategy Committee report (1995). They recommended the SPR level in the proposed alternative be set at 35 percent which is the mid-point of the range recommended by the SPR Strategy Committee. They also suggested that OY should be defined in terms of yield which can result in high socioeconomic benefits from a fishery being exploited at a rate near F_{MSY}, the final definition of OY should be developed by the Socioeconomic Panel (SEP) for consideration by the Council. The Council, however, felt that it was more appropriate that they incorporate the social, economic and ecological factors into the annual specification of TAC, rather than the SEP attempting to incorporate that into the statement of OY. The recommendations of the RFSAP from their report (1995) are as follows:

"Optimum Yield should be based on MSY as reduced by economic and social considerations. When OY, or the biological target of MSY, cannot be calculated reliably, as in generally the case, the Panel recommends that the Council also adopt the findings of the SPR Report which states that:

> It is suggested that equilibrium SPR levels in the range of 30-40 percent be used as surrogates for F_{MSY}. In general, the low end of the range should be used for resilient species and the high end for species that have low fecundity and/or are slow growing, late maturing, or long-lived. This range is based on values in the scientific literature that suggest $F_{35\%}$ as a reasonable surrogate for F_{MSY} over a wide range of life history characteristics.

The panel considers this to be sound advice based on the best available information. In addition, because it is likely that a stock will experience near maximum production at $F_{35\%}$ the Panel recommends that $F_{35\%}$ be adopted by the Council to be a good surrogate for F_{MSY} and/or F_{OY} until the Council has explicitly determined OY for a stock."

The Council considered the RFSAP recommendations and set the SPR level for OY at 30 percent rather than 35 percent and rejected their recommendation that the SEP further specify a measurable yield level which resulted in high socioeconomic benefits by being exploited at a rate near F_{MSY}.

The Council felt the level of 30 percent SPR was more appropriate than the 35 percent level, in that it provided the Council more flexibility to consider social and economic factors, it was in the range recommended by the SPR Strategy Committee as a target level for management, and it is well above the level used as the overfishing threshold (i.e., 20 percent SPR). The proposed alternative allows the Council to set a higher SPR level for the OY target level, if the RFSAP indicates the biological information for a specific stock supports a higher level.

Under the status quo alternative the existing FMP definition of OY (at least 20 percent SPR) contains no provision for incorporation of social and economic considerations, as required by the Magnuson Act definition of OY. Furthermore, the existing definition of OY sets the minimum level for OY at the same level as the overfishing threshold, and may be inadequate to prevent a stock from becoming overfished. The Section 602 guidelines state that the most important limitation on specification of OY is that it must prevent overfishing (Section 602.11(b)). The Proposed Alternative brings the FMP definition of Optimum Yield into greater compliance with the Magnuson Act definition of OY and with the Section 602 guidelines.

Rejected Alternative 1 uses as an interim OY a SPR level corresponding to $F_{0.1}$, which results in a level of harvest more conservative than the Proposed Alternative. The RFSAP had previously recommended using $F_{0.1}$ as a reference point for OY for fisheries that are not overfished (GMFMC 1993). That alternative was disapproved by NMFS. For the reef fish species for which stock assessments have been prepared, under current management conditions, SPR at $F_{0.1}$ is approximately 34 percent for red snapper, 46 percent for red grouper, and 48 percent for gag.

The Proposed Alternative and Rejected Alternative 1 set OY to a biological reference point that maximizes yield per recruit and economic yield for a range of stocks. When a stock is below its OY level, but above the overfishing threshold, it is not in danger of recruitment overfishing, but it is being fished at less than its potential biological yield per recruit (growth overfishing) and is producing less economic yield that potentially possible. **The current Proposed Alternative of this resubmission amendment provides for a measurable biological standard that may be set for each individual stock in terms of SPR level of 30 percent or greater. This has some advantage in that it is expressed in the same terms as the overfishing threshold and is more easily comparable to that threshold by the fishing constituency. It also provides the flexibility to the Council to set TAC that may deviate from the measurable biological standard for OY based on social and economic considerations and impacts based on recommendations of the RFSAP, SEP, SSC and AP.**

Rejected Alternative 2 is OY as defined by the Magnuson Act. Inherent in this definition is the maintenance of the stock that assures the biological integrity of the stock, i.e., prevents recruitment overfishing. The 50 CRF 602 Guidelines further interpret the Magnuson Act in the specification of OY to allow periodically exceeding OY, overfishing a minor stock in a stock complex if in the best interests of the Nation, and generally giving broad latitude to the Councils in specifying OY at a level above overfishing. In considering factors that optimize benefits to the Nation, particular consideration is to be given to food production and recreational opportunity. Determining the ecological, economic and social benefits for OY management strategies involves a multi-discipline approach by biologists, economists, social scientists and fishermen. Therefore, expressing a harvest level under the preferred alternative should require that type of approach and without this analysis is primarily a goal. The Council rejected this alternative because it does not contain a measurable operational definition of OY.

Rejected Alternative 3 sets as an OY target or goal, maintenance of a stock at a MSY level that maximizes the biomass available for harvest from the resource. MSY as a concept is dependent on the status of the stock, practices used in prosecution of the fishery, and rules regulating harvest. For example, MSYs can be computed for stock equilibrium levels less than that which would optimize long term production from the biomass. Size limits (age at entry) and age composition of the stock also affect MSY levels. Rejected Alternative 3 would regulate harvest under that OY by allowing annual harvest at the maximum level. Maximum economic yield (MEY) is [always] less than MSY. However, if one is willing to allow sufficient fishing effort to harvest at the MSY level and forego the benefits associated with a lower fishing effort (i.e., determine that the economic and social benefits are greatest at the MSY harvest level), then Rejected Alternative 3 is acceptable.

Rejected Alternative 4 would set OY at a SPR level fixed at 5 (or other) percentage points above the overfishing threshold to assure an adequate SPR that would avoid overfishing. The Council rejected this alternative because it is only slightly above the current definition (20 percent SPR).

Rejected Alternative 5 would retain the current FMP definition of OY in terms of a SPR level greater than that (20 percent SPR) necessary to prevent recruitment overfishing. The Council rejected this because it accepted the recommendation of the SPR Strategy Committee that OY should not be the same as the definition of overfishing, and because the existing definition does not fully comply with the Magnuson Act definition of OY and the Section 602 guidelines.

Economic Impacts:

It is worth stressing at this stage that the various alternatives of Amendment 11 have no direct effects on fishing participants, since they merely introduce changes in the framework procedure. Specific measures adopted later through the modified framework procedure may have direct effects on fishing participants. In that eventuality the effects of proposed measures will be analyzed as to their impacts on fishing participants. In the present case, it suffices mainly to discuss the various issues surrounding the determination of OY, particularly along the line suggested by the Proposed Alternative.

Among the alternatives, Rejected Alternative 2 is the most encompassing statement of OY. It is also the most difficult to quantify. Rejected Alternative 3 may or may not address economic and social issues in the determination of OY. In all likelihood it does not address economic efficiency, since given a management system, for example an ITQ system, that allows achievement of maximum economic yield (MEY), the likely level of harvest that corresponds to MEY is below MSY. It may, however, address certain social issues, such as employment of more labor in the fishing and associated industries. The Proposed Alternative and Rejected Alternative 1 specify the biological portion of OY and allow for other factors to be included as it becomes practicable to do so. Rejected Alternatives 4 and 5 lean more on the biological parameter determining OY and do not explicitly consider economic and social factors, although the Council may consider these factors in setting TAC, as has been the case with Rejected Alternative 5 (status quo).

Rejected Alternative 2 is probably the more appropriate statement of OY as a general principle. But the Proposed Alternative and Rejected Alternative 1 provide the first steps to defining OY along the line suggested by Rejected Alternative 2. In fact either of these two latter alternatives contains the general principle of defining OY that Rejected Alternative 2 proposes. Thus, the Proposed Alternative, or Rejected Alternative 1, provides an operational concept of OY and also the flexibility to modify OY as information on social and economic factors become available.

While the Proposed Alternative itself does not have direct impacts on fishing participants, it does set the tone for the type of management measures that may be adopted subsequent to its implementation. In this regard, the following issues are worth raising at this juncture.

First, it is understood that both in the initial stage when only the biological component of OY is specified and later when other factors are considered by the Council, OY itself corresponds to a certain level of allowable harvest. In this manner, the harvest level corresponding to OY may change as other factors are considered or as more information on the fishery become available. Measures designed to achieve such level of harvest are the ones that have direct effects on fishing participants.

Second, a biological factor is introduced as the starting point for rendering OY to be measurable. Considering the relative amount of resources devoted to biological research, there is a better chance for the biological component of OY to be defined more adequately than the economic and social factors. It thus appears reasonable to start defining OY along the line suggested by the Proposed Alternative. In addition, the presence of an overfishing definition for reef fish invariably implies that the biological component of OY must be one that maintains the fish stocks above the overfishing threshold. In the meantime that economic and social factors are not considered, measures adopted to achieve OY would then be governed by the need to achieve the biological target. There is a strong possibility that the level of harvest allowed under such condition may not be coincident with the level demanded by economic or social factors. In such a situation, the Proposed Alternative could force the fishing participants to forgo economic or social benefits. That is, if the measures are very restrictive, short-run benefits may be forgone although the long-term status of the fish stock may be preserved. Measures less restrictive than those that may be required for social and economic reasons are very unlikely.

Third, the process of incorporating social and economic factors in the determination of OY may involve more than a determination of a fixed or variable harvest level. The process could involve adoption of a management regime that would enable achievement of OY at some harvest levels. In determining OY, the economic process involves, among others, the translation of sustainable harvests into consumer and producer surpluses. One way of doing this is to perform a constrained optimization exercise whereby consumer and producer surpluses are maximized over time subject to a minimum level of SPR or an attribute of the minimum SPR level. For example, if the stock is not overfished, the binding constraint could be a specific level of SPR, say 20 percent. If the stock is overfished, the binding constraint could be an attribute of the chosen level of SPR, such as the direction, absolute magnitude, or rate of change of the SPR. A similar exercise of constrained optimization may be performed incorporating social factors. As the process continues, OY that incorporates the factors mentioned in Rejected Alternative 2 would be measurable. It may be noted, however, that while the process discussed may determine the level of harvest corresponding to OY, achieving that level of harvest with the highest possible economic and social benefits may require certain type of management regimes, such as ITQ or some other effort limitation programs. In the absence of this management regime, constraining the harvest level to one that was determined to correspond to OY may not achieve OY itself.

The last issue that needs mentioning is the high likelihood that a satisfactory incorporation of economic and social factors in the determination of OY may take several years. In the meantime, the biological component may be the overriding concern, but as long as the Council through its various advisory groups, including the general public, is able to infuse social and economic factors in designing measures to achieve OY the Proposed Alternative may not require very restrictive measures that result in significant adverse consequences to the fishing participants in the short run.

Environmental Consequences:

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

Human Environment: Alternative 1 will likely produce the most conservative level of OY; however, the Proposed Alternative contains the flexibility to be more conservative when conditions warrant. The Proposed Alternative and Alternatives 1 and 4 specify a level of OY that is more conservative than the overfishing definition. Both the Proposed Alternative and Rejected Alternative 1 allow the OY definition to be later modified by the Council when ecological, economic and social factors are taken into account. If combined with changes to the framework procedure to direct management toward the OY level rather than the overfishing level this could result in more restrictive management measures than the status quo. Rejected Alternatives 2 and 3 do not provide a functional OY target and will have the same impact as the status quo (see below). The status quo provides the lowest OY target of those alternatives that specify a level of OY, and will result in the least restrictive regulations on the fishery. However, the status quo has the greatest risk of the stock slipping into an overfished state and resulting in the need for a recovery program with restrictive regulations. As a result, Rejected Alternatives 2 and 3 and the status quo equally provide the greatest risk of long term instability for the human environment.

Fishery Resources: The Proposed Alternative and Alternatives 1 and 4 specify a level of OY that is more conservative than the overfishing definition. If combined with changes to the framework procedure to direct management toward the OY level rather than the overfishing level (see Amendment 11 section 8.4), they will result in a higher stock spawning or biomass level and greater stock stability. Rejected Alternatives 2 and 3 do not provide a functional OY target and will have the same impact as the status quo. The status quo sets OY at or above the same level as the overfishing threshold. Alternative 4 and the status quo equally provide the greatest likelihood that the directed fishery resource will be managed to the verge of overfishing, and have the greatest risk of the stock becoming overfished.

Impact on Other Fisheries: An OY definition that results in management toward a more conservative spawning stock or biomass level than the overfishing level may result in greater restrictions on the directed fishery and effort shifting to other fisheries, but the specific impacts depend upon the specific changes implemented.

Effect on Wetlands: The alternatives in this section have no effect on wetlands.

9.0 REGULATORY IMPACT REVIEW

9.1 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 regulation is 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 entities in compliance with the Regulatory Flexibility Act of 1980 (RFA).

This RIR analyzes the probable impacts of the proposed amendment to the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico (FMP). Due to the fact that the single set of measures considered in this amendment pertains only to the definition of OY, the discussion of economic impacts proceeds by detailing the various economic issues associated with the specification of OY.

9.2 Problems and Objectives

Refer to Sections 5.0 and 6.0 of this document.

9.3 Methodology and Framework for Analysis

The basic approach adopted in this RIR is a qualitative discussion of the economic implications of various alternatives to defining OY.

9.4 Impacts of Proposed Alternatives

Refer to the "Economic Impacts" subsection in Section 8.0 of this document.

9.5 Government Costs of Regulation

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 resubmission amendment include:

Council costs of document preparation, meetings, public hearings, and information dissemination	$1,200
NMFS administrative costs of document preparation, meetings and review	1,100
Law enforcement costs	none
TOTAL	$2,300

Council costs and NMFS administrative costs were associated with meetings, preparation of various documents and reviews of all documents. There are no additional law enforcement costs inasmuch as the proposed measure merely concern the specification of OY.

9.6 Summary of Impacts of Proposed Action

The Proposed Alternative has no immediate impacts on fishing participants. But it does set the for the type of management measures that the Council may propose through the framework procedure. In essence, the Proposed Alternative sets up a process whereby a biological parameter is taken as the operational benchmark for OY. Relative to status quo, this process of setting OY has economic merit in the sense that factors other than the biology of the stock is explicitly taken into account. The short-run offshoot, however, of such a process is that measures that may be taken to achieve OY may be too restrictive, although such restrictive measures may afford the fishery a healthy stock in the long run.

Government costs for preparing and implementing the set of actions proposed in this amendment are estimated at $2,300.

9.7 Determination of a Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: a) an annual effect on the economy of $100 million or more; b) a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions; or c) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Mainly because the proposed measure in this amendment has no direct impacts on fishing participants, it is concluded that this regulation if enacted would not constitute a "significant regulatory action."

9.8 Determination of a Need for Initial Regulatory Flexibility Analysis

An Initial Regulatory Flexibility Analysis (IRFA) is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." Although an IRFA focuses more on adverse effects, determination of beneficial significant effects is also an integral component of the analysis. In addition to analyses conducted for the Regulatory Impact Review (RIR), the IRFA provides an estimate of the number of small businesses affected, a description of the small businesses affected, and a discussion of the nature and size of the impacts.

In general, a "substantial number" of small entities is more than 20 percent of those small entities engaged in the fishery (NMFS, 1992). At present there are 1,534 commercial reef fish permits and 261 dealer permits issued. There are about 1,110 charter vessels and 82 head boats operating in the Gulf area. The number of recreational anglers in the Gulf is not known. The Small Business Administration (SBA) defines a small business in the commercial fishing activity as a firm with receipts of up to $3.0 million annually and in the charter activity as a firm with receipts of up to $5.0 million.

Economic impacts on small business entities are considered to be "significant" if the proposed action would result in any of the following: a) reduction in annual gross revenues by more than 5 percent; b) increase in total costs of production by more than 5 percent as a result of an increase in compliance costs; c) 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; d) capital costs of compliance represent a

significant portion of capital available to small entities, considering internal cash flow and external financing capabilities; or e) as a rule of thumb, 2 percent of small business entities being forced to cease business operations (NMFS, 1992).

Since the only proposed measure in this amendment refers to the specification of OY and has been determined not to have any direct effects on fishing participants, it is concluded that this regulation, if enacted, would have no significant economic impact on a substantial number of small entities. Therefore, an IRFA is not required.

10.0 ENVIRONMENTAL CONSEQUENCES

The Supplemental Environmental Impact Statement of Amendment 5 examined the effects of the fishery on the environment. The purpose and need for action and problems requiring a plan amendment are discussed in sections 5 and 6 of this amendment. Additional discussion of the impacts as well as the environmental consequences of the alternatives accompanies the sections containing the alternatives (sections 8), and supplements the information provided below. Additional information concerning human impacts is contained in the RIR (See Sections 8 and 9).

10.1 Effects on Physical, Human, Fishery and Wetlands Environments

For easy reference, the environmental consequences of alternatives are presented with the same number identifier in Section 8.0 under the heading "Environmental Consequences" for each subsection.

10.2 Effect on Endangered Species and Marine Mammals

Previous Section 7 consultations under the Endangered Species Act concluded that the Reef Fish FMP, Amendments 1, 2, 3, 4, 5, 6, 7, 8 and 9, and various regulatory amendments were not likely to jeopardize the continued existence of threatened or endangered sea turtles or marine mammals or result in the destruction or adverse modification of critical habitat for those species. A Section 7 consultation was conducted by NMFS rearing the impact of Amendment 11, and determined that populations of threatened/endangered species would not be adversely affected by the proposed actions.

10.3 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.

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

Approved: _____ _____
Assistant Administrator for Fisheries Date

11.0 OTHER APPLICABLE LAW

11.1 Habitat Concerns

Reef fish habitats and related concerns were described in the FMP and updated in Amendments 1 and 5. The actions in this amendment do not affect the habitat.

11.2 Vessel Safety Considerations

A determination of vessel safety with regard to compliance with 50 CFR 605.15(b)(3) has been provided by the U.S. Coast Guaira. Actions in this amendment are not expected to affect vessel safety.

11.3 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.

This amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, and Mississippi to the maximum extent possible; Texas does not have an approved Coastal Zone Management program. This determination has been 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, Mississippi, and Louisiana.

11.4 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.

The Council does not propose, through this amendment, to establish any reporting requirements or burdens.

11.5 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.

12.0 REFERENCES FOR AMENDMENT 11

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