REGULATORY AMENDMENT TO THE REEF FISH FISHERY MANAGEMENT PLAN

TO SET 2011 TOTAL ALLOWABLE CATCH FOR RED SNAPPER

January 2011
(Including Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Analysis)

Gulf of Mexico Fishery Management Council
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
813-348-1630
813-348-1711 (fax)
888-833-1844 Toll Free
gulfcouncil@gulfcouncil.org
www.gulfcouncil.org

National Oceanic & Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
727-824-5308
727-824-5305 (fax)
http://sero.nmfs.noaa.gov

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TABLE OF CONTENTS

ENVIRONMENTAL ASSESSMENT COVER SHEET ..... **iii**
FINDING OF NO SIGNIFICANT IMPACTS ..... **iv**
EXECUTIVE SUMMARY ..... **xi**
1.0 INTRODUCTION **1**
1.1 Background 1
1.2 Purpose and Need 2
1.3 History of Management 2
2.0 AFFECTED ENVIRONMENT **4**
3.0 MANAGEMENT ALTERNATIVES **8**
3.1 Proposed Action: Set Red Snapper Total Allowable Catch 8
3.2 Environmental Consequences 13
3.2.1 Direct and Indirect Effects on Physical Environment 13
3.2.2 Direct and Indirect Effects on Biological/Ecological Environment 13
3.2.3 Direct and Indirect Effects on the Economic Environment 16
3.2.4 Direct and Indirect Effects on the Social Environment 21
3.2.5 Direct and Indirect Effects on Administrative Environment 24
3.2.6 Cumulative Effects 24
4.0 REGULATORY IMPACT REVIEW **27**
4.1 Introduction 27
4.2 Problems and Objectives 27
4.3 Description of Fisheries 27
4.4 Impacts of Management Measures 27
4.5 Public and Private Costs of Regulations 28
4.6 Determination of Significant Regulatory Action 28
5.0 REGULATORY FLEXIBILITY ACT ANALYSIS **29**
5.1 Introduction 29
5.2 Statement of the need for, objectives of, and legal basis for the rule 29
5.3 Description and estimate of the number of small entities to which the proposed action would apply 29
5.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records 31
5.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed rule 31
5.6 Significance of economic impacts on small entities 31
5.7 Description of significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities 32
6.0 OTHER APPLICABLE LAW **33**
7.0 LIST OF PREPARERS **41**
8.0 LIST OF AGENCIES CONSULTED **41**
9.0 LITERATURE CITED **42**

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	Acceptable biological catch
ACL	Annual catch limit
APA	Administrative Procedures Act
CEQ	Council on Environmental Quality
C.F.R.	Code of Federal Regulations
CZMA	Coastal Zone Management Act
EA	Environmental assessment
EEZ	Exclusive economic zone
EFH	Essential fish habitat
EIS	Environmental impact statement
EJ	Environmental Justice
E.O.	Executive Order
ESA	Endangered Species Act
F_{MSY}	Fishing mortality rate at maximum sustainable yield
FMP	Fishery management plan
FTE	Full time equivalent
GMFMC	Gulf of Mexico Fishery Management Council
HAPC	Habitat area of particular concern
IFQ	Individual fishing quota
IRFA	Initial Regulatory Flexibility Analysis
MP	Million pounds
MRFSS	Marine Recreational Fisheries Statistics Survey
MRIP	Marine Recreational Information Program
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum sustainable yield
NMFS	NOAA's National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	Overfishing limit
OMB	Office of Management and Budget
OY	Optimum yield
RFA	Regulatory Flexibility Act
RIR	Regulatory impact review
SEDAR	Southeast Data, Assessment, Review
SERO	Southeast Regional Office
TAC	Total allowable catch

ENVIRONMENTAL ASSESSMENT COVER SHEET

Responsible Agencies and Contact Persons

Gulf of Mexico Fishery Management Council (Council)	813-348-1630
2203 North Lois Avenue, Suite 1100	813-348-1711 (fax)
Tampa, Florida 33607	gulfcouncil@gulfcouncil.org
Steven Atran (steven.atran@gulfcouncil.org)	http://www.gulfcouncil.org
National Marine Fisheries Service (Lead Agency)	727-824-5305
Southeast Regional Office	727-824-5308 (fax)
263 13th Avenue South	http://sero.nmfs.noaa.gov
St. Petersburg, Florida 33701	
Peter Hood (Peter.Hood@noaa.gov)	

Name of Action

Regulatory Amendment to the Reef Fish Fishery Management Plan to Set 2011 Total Allowable Catch for Red Snapper

Type of Action

(X) Administrative ( ) Legislative
( ) Draft (X) Final

ABSTRACT

Results from the red snapper update assessment in 2009, indicate that the red snapper stock is no longer undergoing overfishing and that total allowable catch could be increased. The Scientific and Statistical Committee, after reviewing the update assessment, recommended three years of increasing acceptable biological catch levels from 2010 to 2012. However, the Council, in a February 2010 regulatory amendment, only raised the total allowable catch for 2010 (from 5.0 million pounds [MP] to 6.945 MP). Management measures considered in this regulatory amendment are intended to increase the red snapper total allowable catch in 2011 from 6.945 MP to 7.185 MP (and optionally in 2012 to 7.485 MP) and make the resulting recreational and commercial quotas consistent with goals and objectives of the Gulf of Mexico Fishery Management Council's red snapper rebuilding plan. Based on the current 51% commercial and 49% recreational allocation of red snapper, the proposed total allowable catch increase would adjust the commercial and recreational quotas from 3.542 and 3.403 MP to 3.66 MP and 3.525 MP in 2011 (and optionally 3.817 MP and 3.668 MP in 2012) respectively. The commercial sector is under an individual fishing quota program and has maintained landings within their quota in recent years. The projected recreational fishing season would be announced before the season opens on June 1.

FINDING OF NO SIGNIFICANT IMPACTS

National Oceanic and Atmospheric Administration (NOAA) Administrative Order 216-6 (NAO 216-6) (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. On July 22, 2005, NOAA published a Policy Directive with guidelines for the preparation of a Finding of No Significant Impact. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. Section 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity". Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria, the recent Policy Directive from NOAA, and CEQ's context and intensity criteria. These include:

1) Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?

Response: No. Harvests of target species are primarily controlled by hard quotas, minimum size limits, and bag limits. The quota is established based on an allowable biological catch level determined from the results of a peer-reviewed and vetted stock assessment, which is based on the best scientific information available. The proposed action does not alter the manner in which red snapper component of the reef fish fishery is conducted; it adjusts the allowable harvest to a level consistent with red snapper's rebuilding schedule.

2) Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?

Response: No. The proposed action does not alter the manner in which the reef fish fishery is conducted. The proposed action would only adjust the allowable catch to a level consistent with red snapper's rebuilding schedule. Incidental catch would consist of alternative target species that are managed (e.g., vermilion snapper, greater amberjack) or non-managed species that are not known to be in jeopardy from fishing, e.g., grunts and porgies. Fishing regulations exist for several of these species to constrain harvest and those regulations are unaffected by this action. As elaborated in Criterion 5, the proposed action is not expected to adversely affect endangered and threatened species.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat (EFH) as defined under the Magnuson-Stevens Act and identified in FMPs?

Response: No, the proposed action is not reasonably expected to cause substantial damage to the ocean and coastal habitats and/or Essential Fish Habitat in the U.S. waters of the Gulf of Mexico. The increase in allowable harvest may increase commercial fishing effort to some degree to harvest the additional new quota. Alternatively, commercial fishermen working under the IFQ may simply harvest more fish per trip with their increased allocations, thus not increasing impacts to habitat. For the recreational sector, the allowable recreational quota may be taken in a shorter period of time than in previous fishing seasons simply because the size of

red snapper caught is increasing; therefore, even with an increase in quota, the overall fishing impacts to Essential Fish Habitat may be reduced. Nevertheless, vertical line gear has the potential to snag and entangle bottom structures. Although individual gear has a very small footprint the cumulative impact of the commercial and recreational fishing sector results in a large amount of gear being placed in the water, increasing the potential for impact. Additionally, anchoring can add to the potential damage of the bottom at fishing locations.

4) Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?

Response: No, the proposed action is not reasonably expected to have a substantial adverse impact on public safety or health. The commercial red snapper sector in the Gulf of Mexico operates under an individual fishing quota, which removes the need to "race for the fish", thus allowing fishermen to better choose when and how they want to fish. This increases safety at sea by eliminating the need for a derby fishery. The proposed increase in allowable harvest is not expected to substantially alter the manner in which the recreational sector operates fishing activities in the Gulf of Mexico. The proposed action would continue to allow harvest of the resource in areas where fishing is currently allowed to occur including areas that were re-opened after being closed because of the Deepwater Horizon MC252 oil spill. The federal and State governments have established strong systems to test and monitor seafood safety and to prohibit harvesting from affected areas, keeping oiled products from being harvested. The first and most important preventive step in protecting the public from potentially contaminated seafood was from the National Marine Fisheries Service's actions to close fishing and shellfish harvesting areas in federal waters of the Gulf that have been or are likely to be exposed to oil from the spill. NOAA conducts a combination of both sensory analysis (of tissue) and chemical analysis (of water, sediment, and tissue) to determine if seafood is safe. If managers determined that seafood may be affected, the next step was to assess whether seafood was tainted or contaminated to levels that could pose a risk to human health through consumption. The reopening of Gulf waters was supported by test results indicating that fish flesh tested have tested well below any level of concern for oil-based contamination.

5) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

Response: No. The biological environment affected by the action in this regulatory amendment was described in the February 2010 Final Regulatory Amendment to the Reef Fish Fishery Management Plan to Set Total Allowable Catch for Red Snapper (GMFMC 2010) (see sections 2.2.1 and 2.2.2) and are incorporated here by reference. The proposed action would only adjust the allowable catch to a level consistent with red snapper's rebuilding schedule. This action does not alter the overall manner in which the reef fish fishery is conducted; thus it would not affect endangered or threatened species or marine mammals in a manner not already considered in previous biological opinions conducted for the fishery under the Endangered Species Act. In addition, recent regulations require for-hire reef fish permitted vessels to comply with sea turtle and smalltooth sawfish release protocols, possess a specific set of release gear, and adopt guidelines for the proper care for incidentally caught sawfish. These regulations are designed to benefit sea turtle and smalltooth sawfish populations by reducing discard mortality. Other listed

species and designated critical habitat in the Gulf are not likely to be adversely affected, according to the most recent (2009) biological opinion for the reef fishery. The Gulf reef fish fishery is classified in the 2009 Marine Mammal Protection Act List of Fisheries as Category III fishery (73 FR 73032, December 1, 2008). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from the fishery is less than or equal to 1% of the potential biological removal.

6) Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?

Response: No, the proposed action is not expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area. The proposed action to increase the allowable harvest of red snapper is not expected to substantially alter the manner in which the reef fish fishery is conducted in the Gulf of Mexico. The proposed action would allow the red snapper stock to recover consistent with the rebuilding plan. Indirectly, rebuilding red snapper may affect stocks of other species, but these inter-relationships are poorly known. There could be shifting of fishing selectivities and increases in stock abundance could lead to changes in the abundance of other reef fish species that compete with red snapper for shelter and food. For example, predators of red snapper could increase if red snapper abundance is increased, or species competing for similar resources as red snapper could potentially decrease in abundance if less food and/or shelter are less available. Species likely to be affected by changes in red snapper abundance the most include: vermilion snapper, gray triggerfish, and gag, which all co-occur with red snapper. These effects are explored in more detail in Amendment 27/14.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

Response: No, the proposed action would not create any significant social or economic impacts interrelated with natural or physical environmental effects. Allowing increased harvest of red snapper by both the commercial and recreational fishing sectors will have direct and indirect social and economic impacts to their respective sectors and to the shoreside operations that support them. However, these impacts are not related to, nor have an impact on, the natural or physical environment. No information is available that indicates reduced harvests are necessary to maintain the current rebuilding schedule, i.e., mitigate biological harm resulting from the oil spill. The current rebuilding schedule and associated recreational and commercial quotas are based on the assumption, given assessed biological conditions and legal obligations, that they will achieve maximum economic and social benefits, while allowing the stock to rebuild to its maximum yield potential. Thus, the action, which ultimately would allow the opportunity to harvest the quota and meet the Gulf of Mexico Fishery Management Council's (Council) designated optimum yield (OY) from the red snapper resource, is biologically neutral compared to the norm, whereby the full quota is normally harvested. However, stock rebuilding would not be expected to occur substantially quicker if the quota were not allowed to be harvested. The proposed action provides social and economic benefits compared to "no action", which would not allow further harvest of the remaining quota. However, these social and economic benefits

are not related to the natural or physical environment. These impacts are described in Sections 4.3 and 4.4 of the Environmental Assessment (EA).

8) Are the effects on the quality of the human environment likely to be highly controversial?

Response: No, the effects on the quality of the human environment are not likely to be highly controversial. The proposed action may be considered controversial in that the fishing industry often questions the validity of the science involved in the estimates of annual harvest and the status of the various targeted fish stocks. Nevertheless, the relaxation of harvesting restrictions is expected to be perceived in a positive manner.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, EFH, or ecologically critical areas?

Response: No, the proposed action is not reasonably expected to result in substantial impacts to unique areas, park land, prime farmlands, wetlands, wild and scenic rivers, Essential Fish Habitat, or ecologically critical areas. Park land, prime farmlands, wetlands, wild and scenic rivers are inland and are not affected by this action in federal waters of the Gulf of Mexico. Possible impacts to EFH are discussed in the response to Question 3. Reef fish fishing occurs in or adjacent to ecologically sensitive areas, such as habitat areas of particular concern, marine sanctuaries, and marine reserves. Although vertical gear used within these areas could adversely impact habitat if it became entangled within coral or other living bottom structures, the proposed actions are expected to have minor effects. In regard to ecologically critical areas in the Gulf, areas such as the Flower Gardens and the Tortugas Marine Sanctuaries are closed to fishing, Madison Swanson and Steamboat Lumps ecologically-critical areas are closed to bottom fishing. Fishing activity already occurs in the vicinity of the U.S.S. Hatteras, located in federal waters off Texas, which is listed in the National Register of Historic Places; but this proposed action would not substantially increase fishing activity over that exhibited in other years. Therefore, there would be no additional impacts on these components of the environment from the proposed action.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

Response: No, the effects on the human environment are not likely to be highly uncertain or involve unique or unknown risks. This action proposes to adjust the total allowable catch of red snapper, in accordance with approved procedures outlined in the Council's Reef Fish FMP. Adjustments to total allowable catch are made regularly in many fisheries, based on updated information regarding the status of a specific stock or stocks. The proposed action does not alter the manner in which the fishery is conducted. The proposed action would continue to allow harvest of the resource in areas where fishing is currently allowed to occur. The federal and State governments have established strong systems to test and monitor seafood safety and to prohibit harvesting from affected areas, keeping oiled products from being harvested. The first and most important preventive step in protecting the public from potentially contaminated

seafood was from the National Marine Fisheries Service's actions to close fishing and shellfish harvesting areas in federal waters of the Gulf that have been or are likely to be exposed to oil from the spill. NOAA conducts a combination of both sensory analysis (of tissue) and chemical analysis (of water, sediment, and tissue) to determine if seafood is safe. If managers determined that seafood may be affected, the next step was to assess whether seafood was tainted or contaminated to levels that could pose a risk to human health through consumption. The reopening of Gulf waters was supported by test results indicating that fish flesh tested have tested well below any level of concern for oil-based contamination.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

Response: No, the proposed action is not related to other actions with individually insignificant but cumulatively significant impacts. The proposed action to increase the allowable harvest of red snapper is not expected to substantially alter the manner in which the fishery is conducted. The Deepwater Horizon MC252 oil spill is expected to have long-term significant impacts to major portions of the Gulf; however this action is not directly related to that event. There are no past and reasonably foreseeable future actions to manage red snapper that, if combined with this proposed action, would have a significant cumulative effect. This action to increase the allowable catch is intended to lessen social and economic impacts. The proposed action is not related to other actions with individually insignificant but cumulatively significant impacts.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

Response: The proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor is it expected to cause loss or destruction of significant scientific, cultural, or historical resources. Fishing activity already occurs in the vicinity of the U.S.S. Hatteras, located in federal waters off Texas, which is listed in the National Register of Historic Places; but this would not increase fishing activity over that exhibited in other years.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

Response: No, the proposed action is not reasonably expected to result in the introduction or spread of a non-indigenous species. The proposed action relates to the harvest of an indigenous species in the Gulf of Mexico, and proposes only to increase that harvest, consistent with the most recent stock assessment for the species. Changing allowable harvest may pose the potential to shift fishing effort from other species in the Gulf, some of which may not be indigenous. However, the activity being altered does not itself introduce non indigenous species, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non indigenous species.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?

Response: No, the proposed action does not establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. Fishing effort for red snapper are regulated though quotas, minimum size limits, and other fishing restrictions. The Council revised its rebuilding plan for this overfished stock in 2008, and updated scientific information regarding the status of the stock indicates the stock is recovering within the bounds expected by the rebuilding plan. FMPs and their implementing regulations are always subject to future changes. The Council and the National Marine Fisheries Service have discretion to amend the FMP and accompanying regulations and may do so at any time, subject to the Administrative Procedures Act, National Environmental policy Act, and other applicable laws.

15) Can the proposed action reasonably be expected to threaten a violation of federal, state, or local law or requirements imposed for the protection of the environment?

Response: No, the proposed action is being taken pursuant to federal legal mandates for the management of fishery resources. It is not reasonably expected to threaten a violation of federal, state, local law, or requirements imposed for the protection of the environment. The proposed action would allow the red snapper stock to recover consistent with the rebuilding plan, and would lessen restrictions on harvest, thus providing some increase in social and economic benefits. However, the minimal increases in allowable catch are not expected to result substantial increases in total fishing effort; the manner in which the red snapper component of the reef fish fishery is conducted is not expected to be altered, thus there should be no additional impacts to the environment.

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: No, the proposed action is not reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species. In general, the proposed action to increase the allowable harvest of red snapper is not expected to substantially alter the manner in which the fishery is conducted. The proposed harvest levels are adjusted well below the overfishing threshold to ensure overfishing does not occur. There may be some lowering of fishing pressure on a variety of other reef fish and non-targeted stocks, because of the increased ability to harvest red snapper.

DETERMINATION:

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for this framework action to the FMP for the Reef Fish Fishery Resources of the Gulf of Mexico, it is hereby determined that this framework action will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement (EIS) for this action is not necessary.

for James E. Weaver 4/21/2011

Roy E. Crabtree, Ph.D.
Regional Administrator
Southeast Regional Office
National Marine Fisheries Service

Date

EXECUTIVE SUMMARY

Results of a red snapper update assessment completed in 2009 (SEDAR 7 update 2009) indicate that the red snapper stock is no longer undergoing overfishing and that total allowable catch could be increased. Management measures considered in this regulatory amendment are intended to increase the red snapper total allowable catch and make the resulting recreational and commercial quotas consistent with goals and objectives of the Gulf of Mexico Fishery Management Council's red snapper rebuilding plan.

The Southeast Data, Assessment and Review (SEDAR) update assessment for Gulf of Mexico red snapper was conducted in August 2009, with the objective of updating the SEDAR 7 benchmark assessment conducted in 2005 (SEDAR 7 2005). The assessment updated, reviewed, and incorporated into the model all data streams included in SEDAR 7. The conclusions of the assessment update, as reviewed and approved by the Council's Scientific and Statistical Committee, project that overfishing likely ended in 2009, and therefore total allowable catch could be increased. The Scientific and Statistical Committee, upon review of the update assessment in December 2009, established a three year yield stream of increasing levels of acceptable biological catch from 2010 to 2012.

A February 2010 regulatory amendment set the red snapper total allowable catch (TAC) for 2010 at 6.945 million pounds (MP), which was the acceptable biological catch (ABC) recommended by the Scientific and Statistical Committee for 2010. However, the Council chose not to set TACs beyond 2010 because of uncertainty, given past overruns, as to whether the 2010 catch would remain within the TAC. The ABCs that were recommended by the Scientific and Statistical Committee were:

2010 = 6.945 MP
2011 = 7.185 MP
2012 = 7.485 MP

Because the February 2010 regulatory amendment only set TAC for one year, any increase beyond the 2010 TAC requires a subsequent regulatory amendment. The 2010 recreational red snapper season was set to open from June 1 through July 23 based on analyses that the recreational allocation would be filled in this time frame (NMFS 2010a). However, an unforeseen event occurred in April 2010, when the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. Because of the resulting oil spill, approximately one-third of the Gulf of Mexico was closed to fishing for much of the summer months. The direct loss of fishing opportunities due to the closure, plus the reduction in tourism throughout the Gulf coast, resulted in a much lower catch than had been projected. An estimated 2.3 million pounds of the 3.4 million pound recreational quota remained unharvested (NMFS 2010b). Consequently, the Council requested an emergency rule to provide the Regional Administrator with the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) From October 1 through November 21 (24 fishing days).

The greatest concern deals with potential impacts to eggs and larvae. The oil spill at its greatest area of coverage affected 37 percent of the Gulf. However, red snapper spawn throughout the Gulf, in areas away from reefs, at depths of 60-120 feet over flat sand bottom areas. The peak spawning period is June through August in the northwestern Gulf of Mexico, and from August to September off southwestern Florida. Therefore, the oil spill could only impact a portion of the total eggs spawned. Red snapper begin to enter the fishery at about age 2, and become fully recruited to the fishery by age 3. Therefore, the impacts on the 2010 red snapper year-class will not become evident until 2012-2013, and will be evaluated by a SEDAR benchmark assessment currently scheduled for 2014.

At present, there is no evidence that the adult stock of red snapper has been adversely impacted, and the fishing mortality rate remains below the overfishing threshold. Furthermore, the acceptable biological catch levels set by the Scientific and Statistical Committee is 25 percent below the overfishing limit, which is also the rebuilding yield. Thus, there is a substantial safety margin to absorb any eventual impacts without adversely impacting the ability of the rebuilding program to meet its 2032 target. For these reasons, actions to reduce the total allowable catch are not warranted or included as alternatives.

This regulatory amendment proposes, contingent on the 2010 total allowable catch not being exceeded, to increase the total allowable catch in 2011 from 6.945 MP to 7.185 MP and adjust the commercial and recreational quotas accordingly. This increase is consistent with goals and objectives of the Gulf of Mexico Fishery Management Council's red snapper rebuilding plan, and provides a substantial safety buffer by keeping the total allowable catch 25 percent below the overfishing limit (which is also the maximum rebuilding yield). Based on the current 51% commercial and 49% recreational allocation of red snapper, the proposed total allowable catch increase would adjust the commercial and recreational quotas from 3.542 and 3.403 MP to 3.66 MP and 3.525 MP in 2011. The commercial sector is under an individual fishing quota program and has maintained landings within their quota in recent years. The projected recreational fishing season length would be announced before the season opens on June 1.

1.0 INTRODUCTION

1.1 Background

The SEDAR update assessment for Gulf of Mexico red snapper was conducted in August 2009, with the objective of updating the SEDAR 7 benchmark assessment conducted in 2005 (SEDAR 7 update 2009). The assessment updated, reviewed, and incorporated into the model all data streams included in SEDAR 7. The conclusions of the assessment update, as reviewed and approved by the Council's Scientific and Statistical Committee, projected that overfishing likely ended in 2009, and therefore total allowable catch could be increased. Based on their review of the assessment update, the Council's Scientific and Statistical Committee established overfishing limits of 9.26 million pounds (MP), 9.58 MP and 9.98 MP for 2010, 2011 and 2012. The Scientific and Statistical Committee further recommended acceptable biological catch levels 25% below the overfishing limits to account for scientific uncertainty and in accordance with the National Standard 1 Guidelines (74 FR 3178). This resulted in acceptable biological catch levels in 2010, 2011 and 2012 as follows:

2010 = 6.945 MP
2011 = 7.185 MP
2012 = 7.485 MP

A February 2010 regulatory amendment set the red snapper total allowable catch (TAC) for 2010 at 6.945 MP, which was the acceptable biological catch (ABC) recommended by the Scientific and Statistical Committee for 2010. However, the Council chose not to set TACs beyond 2010 because of uncertainty, given past overruns, as to whether the 2010 catch would remain within the TAC. The ABCs that were recommended by the Scientific and Statistical Committee were:

Because the February 2010 regulatory amendment only set TAC for one year, any increase beyond the 2010 TAC requires a subsequent regulatory amendment. At the time of this writing, it appears that the 2010 TAC will not be exceeded, and that the shrimp trawl bycatch reductions will continue to stay below the maximum levels required for the rebuilding plan. However, an unforeseen event occurred in April 2010, when the Deepwater Horizon MC252 deep-sea drilling rig exploded and sank off the coast of Louisiana. The resulting oil spill led to approximately one third of the Gulf of Mexico being closed to fishing. Oil impacted surface waters of the north-central Gulf, which is an area where red snapper spawn in late spring and summer. The effect of the oil and dispersants used to attempt to control the oil spill are not yet known, but are likely to have an immediate effect on the number of eggs and larvae of numerous fish species. Longer term, if a reduction in the year-class for 2010 occurs, it may not become evident until the fish that were spawned this year grow large enough to enter the fishery in two to four years from now. In addition, persistent oil and dispersants in the environment could create chronic effects that may not be fully known for years.

At present, there is no indication that the oil spill has affected current stock biomass levels. Therefore, assuming the selected total allowable catch for 2010 is not exceeded, subsequent increases in TAC based on the acceptable biological catch levels recommended by the Scientific and Statistical Committee would be consistent with a constant fishing mortality rate rebuilding

plan. To make the language from Amendment 27/14 consistent with the National Standard 1 Guidelines, total allowable catch is equivalent to the stock annual catch limit.

1.2 Purpose and Need

The purpose of this consolidated regulatory amendment, environmental assessment, regulatory impact review, and regulatory flexibility act analysis is to make adjustments to the total allowable catch of red snapper consistent with the recommendations of the Scientific and Statistical Committee to meet the goals and objectives of the Council's red snapper rebuilding plan. The recreational and commercial allocation of the stock annual catch limit will remain consistent with Amendment 1 where 49% is allocated to the recreational sector and 51% is allocated to the commercial sector (GMFMC 1989).

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) requires the National Marine Fisheries Service and regional fishery management councils to prevent overfishing, and achieve, on a continuing basis, the optimum yield from federally managed fish stocks. These mandates are intended to ensure fishery resources are managed for the greatest overall benefit to the nation, particularly with respect to providing food production and recreational opportunities, and protecting marine ecosystems. To further this goal, the Magnuson-Stevens Act requires fishery managers to specify through rebuilding plans their strategy for rebuilding overfished stocks to a sustainable level within a certain time frame, provide accountability measures to minimize the risk of overharvest, to minimize bycatch and bycatch mortality to the extent practicable, and to ensure that management decision are based on the best available scientific information.

1.3 History of Management

Management measures implemented prior to 2010 are detailed in the February 2010 regulatory amendment (GMFMC 2010) and are incorporated herein by reference. This section presents management actions implemented in 2010.

A February 2010 Regulatory Amendment (with an EA, RIR and RFA), implemented June 2, 2010, increased the red snapper total allowable catch to 6.945 MP, allocated 3.542 MP commercial and 2.949 MP recreational. The National Marine Fisheries Service set the recreational season to be June 1 through July 23 based on analyses of catch rates from previous years. However, on April 20, 2010, the Deepwater Horizon oil rig exploded and sank approximately 36 nautical miles (41 statute miles) off the Louisiana coast, resulting in a massive uncontrolled oil spill. Consequently, the National Marine Fisheries Service issued an emergency rule to temporarily close a portion of the Gulf of Mexico exclusive economic zone (EEZ) to all fishing [75 FR 24822]. The initial closed area extended from approximately the mouth of the Mississippi River to south of Pensacola, Florida and covered an area of 6,817 square statute miles. The coordinates of the closed area were subsequently modified periodically in response to changes in the size and location of the area affected by the spill. At its largest size on June 2, 2010, the closed area covered 88,522 square statute miles, or approximately 37 percent of the Gulf of Mexico EEZ (Figure 2.1.1). This closure was implemented for public safety. The oil

spill was finally capped on July 15, 2010, but large areas of the Gulf remained closed until testing could confirm the safety of the seafood.

As a result of reduced effort because of the oil spill area closure, red snapper harvest was reduced dramatically. At the August 2010 Council meeting, the National Marine Fisheries Service estimated that 2.3 million pounds of the 3.4 million pound recreational quota remained unharvested (NMFS 2010b). Consequently, the Council requested an emergency rule to provide the Regional Administrator the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) From October 1 through November 21 (24 fishing days). This rulemaking was effective September 24, 2010.

2.0 AFFECTED ENVIRONMENT

The physical, biological, economic, social, and administrative environments affected by actions in this regulatory amendment have been described in the February 2010 Final Regulatory Amendment to the Reef Fish Fishery Management Plan to Set Total Allowable Catch for Red Snapper (GMFMC 2010) and are incorporated here by reference. However, on April 20, 2010, the Deepwater Horizon MC252 oil rig explosion and oil spill created impacts on the environment beyond those described in the referenced materials. This section will focus on the additional impacts to the affected environment from the oil spill.

On April 20, 2010 an explosion occurred on the Deepwater Horizon MC252 oil rig approximately 36 nautical miles (41 statute miles) off the Louisiana coast. Two days later the rig sank. An uncontrolled oil leak from the damaged well continued for 87 days until the well was successfully capped by BP on July 15, 2010. The Flow Rate Technical Group formed to monitor the oil spill reported that the well initially was dumping 62,000 barrels of oil per day and that it dwindled to 53,000 barrels when it was capped as the well was depleted. In total, the Flow Rate Technical Group estimated that 4.9 million barrels were released into the Gulf, out of which approximately 800,000 barrels were contained and captured.[1]

Researchers have also discovered the presence of distinct layers of degraded oil as much as half a mile deep in the northern Gulf of Mexico many miles from the Deepwater Horizon site.

In addition to the oil, the Flow Rate Technical Group reported that approximately 1.84 million gallons of Corexit 9500A dispersant were been applied—1.07 million on the surface and 771,000 sub-sea.

In response to the expanding area of the Gulf surface waters covered by the spill, the National Marine Fisheries Service issued an emergency rule to temporarily close a portion of the Gulf of Mexico EEZ to all fishing [75 FR 24822]. The initial closed area extended from approximately the mouth of the Mississippi River to south of Pensacola, Florida and covered an area of 6,817 square statute miles. The coordinates of the closed area were subsequently modified periodically in response to changes in the size and location of the area affected by the spill. At its largest size on June 2, 2010, the closed area covered 88,522 square statute miles, or approximately 37 percent of the Gulf of Mexico EEZ (Figure 2.1). As of the writing of this description (December 2, 2010), 1,041 square statute miles, or about 0.4 percent of the Gulf EEZ surface waters, remained closed. However, 4,213 square statute miles of bottom were closed to royal red shrimp fishing on November 24, 2010 after tar balls were found in a shrimp fisherman's net.

[1] The Ongoing Administration-Wide Response to the Deepwater BP Oil Spill, August 2, 1010 http://app.restorethegulf.gov/go/doc/2931/840851/

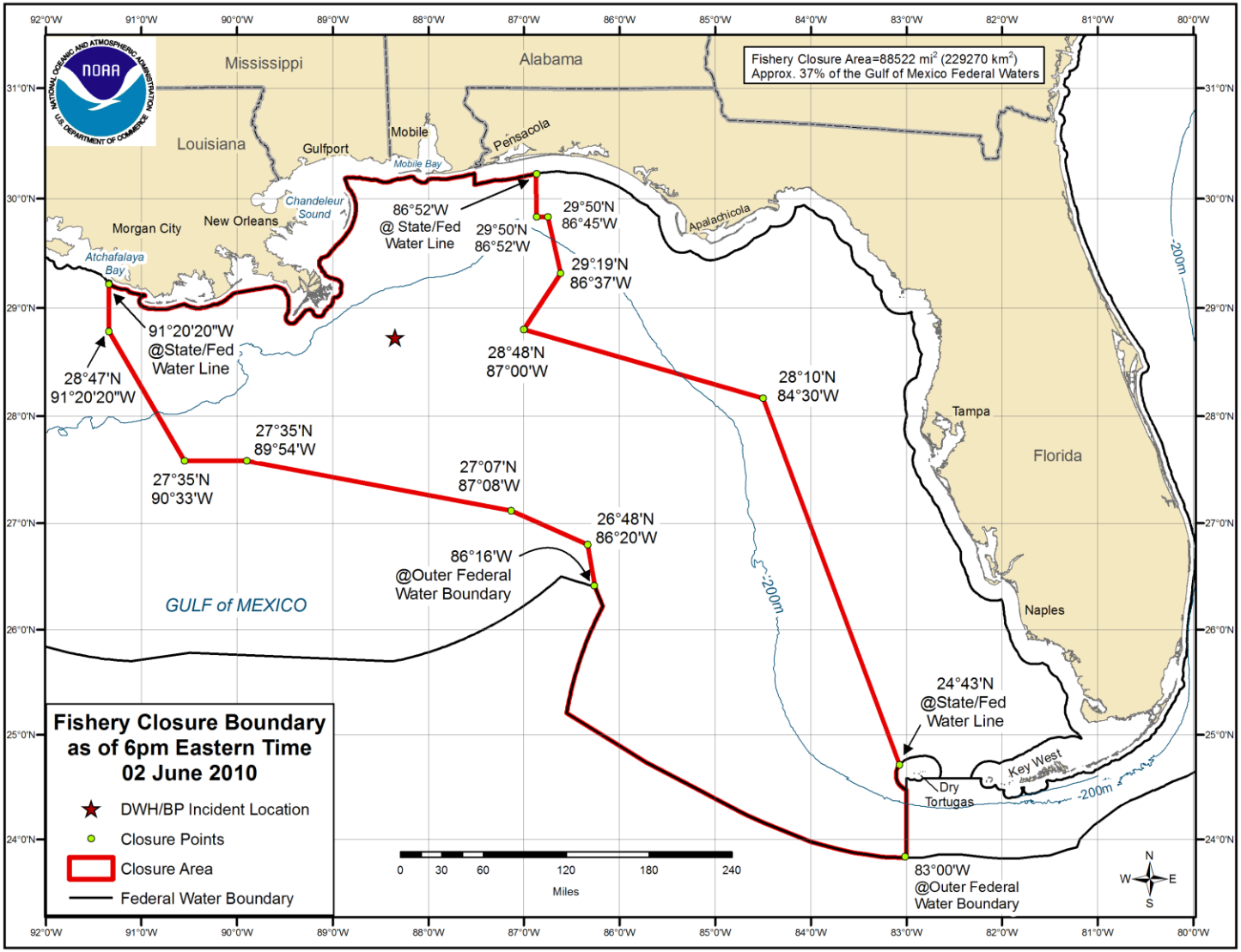

Figure 2.1 Fishery closure at the height of the Deepwater Horizon oil spill.

The following information was taken from the "EPA Response to BP Spill in the Gulf of Mexico" website as of September 2, 2010 (http://www.epa.gov/bpspill/dispersants-qanda.html)

> Both the oil and the Corexit 9500A dispersant are toxic to marine life, both separately and in combination. In EPA testing, the Corexit 9500A was found to have similar toxicity to seven over dispersants that were tested. Oil alone was found to be more toxic to mysid shrimp than the eight dispersants when tested alone. Oil alone had similar toxicity to mysid shrimp as the dispersant-oil mixtures, with exception of the mixture of Nokomis 3-AA and oil, which was found to be more toxic.
>
> The oil results for small fish are inconclusive to date, but EPA is performing additional testing of the toxicity of oil to small fish. For the highest concentration of oil tested, only 7 % of the inland silverside, the small estuarine fish, died. To estimate the LC50 – the goal of this standard toxicity test – 50% mortality is needed. The test was conducted over a range of five concentrations and at the highest concentration only 7% mortality was achieved. The test will be repeated using a series of oil in water concentrations with results that encompass 50% mortality of the test organisms.

The oil spill occurred during the primary spawning months for red snapper. In a May 11, 2010 testimony to the Senate Committee on Environment and Public Works, Gulf Council Executive Director Stephen Bortone described a number of potentially negative biological impacts:

> "There are a number of short-term (i.e., days, weeks, and months) effects that are likely to cause harm to several fisheries and the ecosystem in which they occur. During the spring and early summer months, many commercially and recreationally important reef-associated fish species, such as the groupers and red snapper, spawn in the area currently subjected to the oil release. Depending upon the species, eggs are released into the water column where they are fertilized and float at or near the surface for 20-40 hours before they hatch. These newly-hatched fish live as larvae at or near the surface for 20-50 days. Subsequent to their larval life stage, they settle out of the water column and become bottom dwelling inhabitants of sea grass beds, coral reefs and other hard bottoms.
>
> Released oil floats to the surface and thus affects the life and condition of the early life stages of these and other species, including the forage food upon which they depend. Of additional concern, is that many of the dispersants being used to disperse the oil can also affect the health and condition of these fish species. Dispersants can make the oil easier to ingest as the oil is often formed into small, "bite-sized" particles. Additionally, some dispersants can make oil more biologically available in that oil is more easily taken up by fish when emulsified.
>
> The short-term impacts of this oil release will likely have an immediate effect on the number of eggs and larvae of numerous fish species – not only those that are important for our fisheries.
>
> The long-term effects of red tide events demonstrate that something such as a large and persistent toxic bloom that occurred in the eastern Gulf of Mexico in 2005 is just now

being observed by fishery scientists. The result of this bloom has led to noticeable reductions in the 2005 year-class. This indicates that major and significant events can have long-lasting and far reaching effects, even after several years."

There have been no observed fish kills from the oil spill in federal waters. However, the oil spill may have impacted spawning success of red snapper and other species that spawn in the summer months, either by reduced spawning activity or by reduced survival of the eggs and larvae. If this is the case, impacts on harvestable size red snapper will begin to be seen in 2 to 3 years when the 2010 year class becomes large enough to enter the fishery and be retained.

The oil spill has also resulted in a major monitoring program by the National Marine Fisheries Service and other agencies, as well as by numerous research institutions. Of particular concern is the potential health hazard to humans from consumption of contaminated fish and shellfish. NOAA, the Food and Drug Administration, the Environmental Protection Agency, and the Gulf States have implemented a comprehensive, coordinated, multi-agency program to ensure that seafood from the Gulf of Mexico is safe to eat. For a closed area to re-open for harvesting of a given species, samples of the species taken from the waters must successfully pass both a sensory examination and chemical analysis in an approved laboratory. Testing has been and will continue to be performed on finfish, shrimp, crabs, and mollusks (e.g. oysters/mussels).[2]

In addition, changes in the amount and distribution of fishing effort in the Gulf of Mexico in response to the oil spill and area closures has required a reanalysis of the number of days needed for the recreational sector to fill its quota. The continuing but unknown effects of the oil spill in future years on both fishing effort and red snapper abundance and distribution will make the requirement to allow the recreational sector to harvest its quota of red snapper while not exceeding the quota particularly challenging. Nevertheless, substantial portions of the red snapper population are found in the northwestern and western Gulf (western Louisiana and Texas) and an increasing population of red snapper is developing off the west Florida continental shelf, thus spawning by this segment of the stock may not be impacted, which would mitigate the overall impact of a failed spawn by that portion of the stock located in oil-affected areas.

[2] Overview of Testing Protocol to Re-open Harvest Waters that were Closed in Response to the Deepwater Horizon Oil Spill, http://www.fda.gov/Food/ucm217598.htm

3.0 MANAGEMENT ALTERNATIVES

3.1 Proposed Action: Set Red Snapper Total Allowable Catch

Alternative 1: No Action - Maintain total allowable catch* as defined in the February 2010 regulatory amendment. Total allowable catch would continue to be 6.945 million pounds (MP) whole weight. Based on the 51%:49% commercial and recreational allocation of red snapper, the commercial and recreational quotas would be 3.542 and 3.403 MP, respectively.

Year	OFL	ABC/TAC (75% of OFL)	Comm (51% of TAC)	Rec (49% of TAC)
2011	9.26 MP	6.945 MP	3.542 MP	3.403 MP

Preferred Alternative 2: Set total allowable catch for 2011 using the Scientific and Statistical Committee's acceptable biological catch recommendation, which is 75% of the overfishing limit defined in the 2009 red snapper stock assessment update. Total allowable catch would be 7.185 MP. Based on the 51%:49% commercial and recreational allocation of red snapper, the commercial and recreational quotas would be 3.664 and 3.521 MP, respectively. This increase is contingent upon the 2010 total allowable catch not being exceeded.

Year	OFL	ABC/TAC (75% of OFL)	Comm (51% of TAC)	Rec (49% of TAC)
2011	9.58 MP	7.185 MP	3.664 MP	3.521 MP

Alternative 3: Set total allowable catch for 2011 and 2012 using the Scientific and Statistical Committee's acceptable biological catch recommendations, which are 75% of the overfishing limits defined in the 2009 red snapper stock assessment update. Total allowable catch for 2011 would be 7.185 MP. Based on the 51%:49% commercial and recreational allocation of red snapper, the commercial and recreational quotas would be 3.664 and 3.521 MP, respectively. Total allowable catch for 2012 would be 7.485 MP. Based on the 51%:49% commercial and recreational allocation of red snapper, the commercial and recreational quotas would be 3.817 and 3.668 MP, respectively. The 2011 increase is contingent upon the 2010 total allowable catch not being exceeded, and the 2012 increase is contingent on neither the 2010 nor 2011 total allowable catch being exceeded.

Year	OFL	ABC/TAC (75% of OFL)	Comm (51% of TAC)	Rec (49% of TAC)
2011	9.58 MP	7.185 MP	3.664 MP	3.521 MP
2012	9.98 MP	7.485 MP	3.817 MP	3.668 MP

Note: * Total allowable catch is equivalent to a stock annual catch limit.

Discussion and Rationale:

This action proposes an increase of total allowable catch (stock annual catch limit) of red snapper and makes the resulting recreational and commercial quotas consistent with the goals and objectives of the Red Snapper Rebuilding Plan, while achieving the mandates of the Magnuson-Stevens Act. In Amendment 27/14 the Council set total allowable catch for red snapper at 5.0 MP until the 2009 red snapper update assessment was complete. Under this harvest restriction and revised rebuilding plan, there was greater than a 50% probability of ending overfishing and rebuilding the stock to biomass at maximum sustainable yield by 2032. Based on the 2009 red snapper update assessment, the management goals have been achieved. Even though the fishery is still overfished, the stock is rebuilding, and all three alternatives would result in a fishing rate below fishing mortality at maximum sustainable yield F_{MSY} (i.e., not overfishing). These alternatives are also within the Red Snapper Rebuilding Plan outlined in Amendment 27/14 (GMFMC 2007).

The greatest concern deals with potential impacts to eggs and larvae from the Deepwater Horizon MC252 oil spill. The oil spill at its greatest area of coverage affected 37 percent of the Gulf. However, red snapper spawn throughout the Gulf, in areas away from reefs, at depths of 60-120 feet over flat sand bottom areas. The peak spawning period is June through August in the northwestern Gulf of Mexico, and from August to September off southwestern Florida[3]. Therefore, the oil spill could only impact a portion of the total eggs spawned. Red snapper begin to enter the fishery at about age 2, and become fully recruited to the fishery by age 3. Therefore, the impacts on the 2010 red snapper year-class will not become evident until 2012-2013, and will be evaluated by a SEDAR benchmark assessment currently scheduled for 2014.

At present, there is no evidence that the adult stock of red snapper has been adversely impacted, and the fishing mortality rate remains below the overfishing threshold. Furthermore, the acceptable biological catch levels set by the Scientific and Statistical Committee is 25 percent below the overfishing limit, which is also the rebuilding yield. Thus, there is a substantial safety margin to absorb any eventual impacts without adversely impacting the ability of the rebuilding program to meet its 2032 target. For these reasons, actions to reduce the total allowable catch are not warranted or included as alternatives.

Due to the Deepwater Horizon MC252 oil spill and subsequent closing of as much as 37 percent of the EEZ, recreational effort and landings of red snapper have been far below projections for 2009. After the recreational season closed on June 24, 2010, the National Marine Fisheries Service estimated that 2.3 million pounds of the 3.4 million pound recreational quota remained unharvested (NMFS 2010b). Consequently, the Council requested an emergency rule to provide the Regional Administrator the authority to reopen the recreational red snapper season. After considering various reopening scenarios, the Council requested that the season be reopened for eight consecutive weekends (Friday, Saturday and Sunday) From October 1 through November 21 (24 fishing days). This is expected to allow the recreational sector to harvest the remainder of

[3] Source: Florida Museum of Natural History web site:
http://www.flmnh.ufl.edu/fish/gallery/descript/redsnapper/redsnapper.html

its quota, but the final landings will not be known until the Marine Recreational Information Program's (MRIP) wave 6 landings are available in early 2011.

Commercial landings of red snapper in 2010 through November have totaled about 2.55 MP, or about 72% of the 3.542 MP commercial quota. This rate of landings appears to be slightly ahead of previous years under the red snapper IFQ. In 2007, 2.54 MP were landed through November, in 2008, 2.01 MP were landed through November, and in 2009, 2.08 MP were landed through November. Under the IFQ program, 100% of the red snapper quota has never been landed. In 2007, the first year of the IFQ program, 96% of the quota was landed, and in 2007 and 2008, 97.4% was landed each year.

Under **Preferred Alternative 2**, an increase in total allowable catch is contingent upon the 2010 total allowable catch, commercial and recreational landings combined, not being exceeded. Under **Alternative 3**, an increase is contingent on neither the 2010 nor 2011 total allowable catch being exceeded. Although commercial landings are known fairly quickly, recreational landings estimates under MRIP take 30 to 60 days to be determined. Therefore, these alternatives would not alter the release of the previous year's commercial quota, and if these alternatives were implemented, commercial quota adjustments can be made in-season. The red snapper rebuilding plan does not currently have an overage adjustment, so there will be no reduction in TAC from the previous year, only the same TAC or an increase.

Alternative 1, no action, would maintain total allowable catch at 6.945 MP as defined in the February 2010 regulatory amendment. The commercial and recreational quotas would remain at 3.542 and 3.403 MP, respectively. This alternative would set the total allowable catch below the 2011 acceptable biological catch of 7.185 MP established in the 2009 red snapper SEDAR update assessment[4]. This is also below the 2011 optimum yield (yield at F_{OY}) defined in the 2009 red snapper update assessment as 7.57 MP, and well below the 2011 $F_{rebuild}$ level of 9.58 MP. Based on the status of the red snapper stock and the Scientific and Statistical Committee's recommendation of acceptable biological catch, this alternative might be unnecessarily restrictive. The commercial sector is under an individual fishing quota system and thus far has maintained landings at approximately 97 percent of their quota since the IFQ program was implemented in 2007. The recreational sector exceeded its quota by 75% in 2009 under a 75-day season, but harvested only about one-third of its quota during the 53-day June 1 – July 23 season in 2010 because of reduced effort from the Deepwater Horizon oil spill fishery closures. Under this alternative, if effort in 2011 returns to the pre-oil spill levels, the recreational season length would again be approximately 53 days (the exact closing date would be determined by the National Marine Fisheries Service prior to the opening of the season). There is no payback provision for overharvest in the Red Snapper Rebuilding Plan, but a shorter season may be needed to keep the recreational sector from overharvesting its allocation in 2011.

[4] Table 1 of the 2009 red snapper update assessment erroneously referred to the ABC as the $F_{rebuild}$ catch level. In fact, Table 25 of the update assessment (Shrimp effort rebuild – AS3 model) shows that the $F_{rebuild}$ catch level is actually the OFL yield, which is 9.58 MP for 2011. The ABC of 7.185 MP was set by the Scientific and Statistical Committee at 75% of OFL as a precautionary level.

Preferred Alternative 2 would set total allowable catch for 2011 at 7.185 MP, which is 75% of the 2011 overfishing limit (also the $F_{rebuild}$ limit) of 9.58 MP defined in the 2009 red snapper stock assessment update. Based on the current commercial and recreational allocations, the quotas would be 3.664 and 3.521 MP, respectively. The Scientific and Statistical Committee recommended an acceptable biological catch of 7.185 MP for 2011, 25% below the overfishing limit to account for scientific uncertainty. Although this ABC is below the 2011 optimum yield catch level of 7.57 MP (calculated from the formula, OY = the yield when fishing at 75% of F_{MSY}), the Scientific and Statistical Committee selected it because it falls within the Council's current guidelines that ABC should be set within the range of 15% to 45% probability of overfishing, and the Scientific and Statistical Committee felt that setting ABC at a fixed 25% reduction from the overfishing level (OFL) would be an appropriate approach pending development of an ABC control rule. Given that the optimum yield has historically been a yield level that accounts for all sources of uncertainty, this alternative can be considered to account for both scientific and management uncertainty, pending the development of control rules for setting ABC and annual catch limit/annual catch target. The Council selected **Alternative 2** as the preferred total allowable catch in accordance with the Scientific and Statistical Committee's recommendation of acceptable biological catch. The Scientific and Statistical Committee's recommendation took into account the status of the red snapper stock as well as scientific uncertainty. Release of the full 7.185 MP catch limit would be contingent upon the 2010 total allowable catch not being exceeded. If the 2010 total allowable catch is exceeded, then the catch limit would remain at 2010 levels in 2011, i.e., **Alternative 1** would effectively be implemented. Since it is unlikely that the final landings for 2010 will be known before the start of the 2011 fishing year, this alternative allows only the previous year's quota of the commercial IFQ to be released initially, with the remainder to be released once the final 2010 landings are available. As with **Alternative 1**, the recreational season length would be determined after finalized 2010 recreational landings data are available.

Alternative 3 would set total allowable catch for both 2011 and 2012. The 2011 total allowable catch would be 7.185 MP, allocated 3.664 MP commercial and 3.521 MP recreational, the same as under **Preferred Alternative 2**. The 2012 total allowable catch would be 7.485 MP, allocated 3.817 MP commercial and 3.668 MP recreational. The total allowable catch for each year is the acceptable biological catch recommended by the Scientific and Statistical Committee, which is 75% of the overfishing limit/$F_{rebuild}$ catch level. As with **Preferred Alternative** 2, these catch levels are also below the optimum yield levels of 7.57 MP in 2011 and 8.07 MP in 2012 because the Scientific and Statistical Committee chose to set an ABC that reflects scientific uncertainty by using a fixed 25% reduction from OFL pending development of an ABC control rule.

Under **Alternative** 3, release of the full 7.185 MP catch limit 2011 would be contingent upon the 2010 total allowable catch not being exceeded, and release of the 7.485 MP catch limit in 2012 would be contingent upon neither the 2011 nor 2010 total allowable catch not being exceeded. If these conditions are not met, then the catch limit would remain at the previous level. Since it is unlikely that the final landings for 2010 will be known before the start of the 2011 fishing year (or 2011 landings known prior to 2012), this alternative allows only the previous year's commercial IFQ to be released initially, with the remainder to be released once the final prior year landings are available. As with **Alternative 1**, the recreational season length would be determined after finalized 2010 recreational landings data are available. This alternative

eliminates the need for a separate regulatory amendment to set 2012 catch levels. A new red snapper SEDAR assessment is not scheduled before 2013, so the no new information will be available from which to adjust allowable catch levels other than the 2010 and 2011 landings.

Preferred Alternative 2 would leave the catch level at the 2011 level for 2012 and beyond unless adjusted in a subsequent regulatory action. This would leave the 2012 allowable catch level at either a 4% reduction (if the contingent increase for 2011 is approved) or a 7% reduction (if the contingent 2011 increase is not approved) relative to **Alternative 3**. Both **Alternatives 2 and 3** include contingency statements that the proposed increase in total allowable catch will occur only if the prior year's (or previous two years) total allowable catch has not been exceeded. This provides the greatest likelihood of the rebuilding plan achieving its target recovery of 26% spawning potential ration on or before 2032. These contingency statements serve as accountability measures for the condition where the entire total allowable catch (both sectors combined) is exceeded. In addition, all three alternatives set the annual catch limit by sector, and if the annual catch limit for a sector is exceeded, then that sector's accountability measures would be triggered. These accountability measures could be in-season or post-season measures to prevent future quota overages. The recreational fishing season would be the shortest for both 2011 and 2012 if **Alternative 1** is selected and longest if **Alternative 3** is selected and the contingent increase approved in both years. The 2011 season length under **Preferred Alternative 2** would be the same as **Alternative 1** if the contingent increase is not approved, and intermediate between **Alternatives 1 and 3** if the contingent increase is approved.

All of the alternatives would result in a fishing rate below fishing mortality at maximum sustainable yield F_{MSY} (i.e., not overfishing). All of the alternatives would also result in a fishing rate below $F_{rebuild}$, and would therefore be expected to rebuild the stock faster than the 2032 target date. The acceptable biological catch level set by the Scientific and Statistical Committee is 25 percent below the overfishing limit, which is also the rebuilding yield. Thus, there is a substantial safety margin to absorb any eventual impacts without adversely impacting the ability of the rebuilding program to meet its 2032 target. For these reasons, actions to reduce the total allowable catch are not warranted or included as alternatives.

Although each alternative includes a proposed total allowable catch at the ABC level, **Alternatives 2** and **3** each have a contingency, so that the resulting total allowable catch could be either an increase or the same total allowable catch as the previous year. If the total allowable catch stays at the previous year, then it will be below ABC. Further, as discussed earlier, the ABC selected for each year by the Scientific and Statistical Committee is below optimum yield. Optimum yield historically incorporated all sources of uncertainty. Therefore, even though the Scientific and Statistical Committee only explicitly discussed scientific uncertainty when they set ABC, setting total allowable catch below optimum yield can be considered to take into account management uncertainty as well.

3.2 Environmental Consequences

3.2.1 Direct and Indirect Effects on Physical Environment

Direct and indirect effects on the physical environment resulting from the harvest of red snapper by the reef fish fishery have been discussed in detail in Amendments 22 and 27/14 (GMFMC 2004a and 2007) and in the February 2010 red snapper regulatory amendment (GMFMC 2010) and are incorporated here by reference.

As noted in Section 2, on April 20, 2010 an explosion occurred on the Deepwater Horizon MC252 oil rig, resulting in the release of an estimated 4.9 million barrels of oil into the Gulf. In addition, 1.84 million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. Oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing oxygen concentrations in the water column. In addition, microbes in the water that break down oil and dispersant also consume oxygen; this could lead to further oxygen depletion. It is also possible that zooplankton that feed on algae could be negatively impacted, thus allowing more of the hypoxia-fueling algae to grow.

As of this writing, limited oil remains on the surface and most is offshore; therefore, the impacts to demersal reef fish habitat on the continental shelf may be minor; impacts would be limited to areas where pelagic eggs and larvae are found. However, if the oil reaches the bottom or nearshore/inshore areas, the impacts on habitat will increase. At this time, there is no definitive information regarding the overall impact to the nearshore and offshore physical environment.

Alternative 1 (no action) would maintain the 6.945 MP total allowable catch, and result in no changes to the commercial or recreational quotas. Therefore, this alternative should have no additional effects on the physical environment. **Preferred Alternative 2** would allow the total allowable catch to increase in 2011 to 7.185 MP (contingent upon the 2010 catch not exceeding total allowable catch), and **Alternative 3** would set total allowable catch for two years, 7.185 MP in 2011 (contingent upon the 2010 catch not exceeding total allowable catch) and 7.485 MP in 2012 (contingent upon neither the 2010 catch nor 2011 catch exceeding total allowable catch for the respective years). These alternatives would be expected to have the greater impacts on the physical environment when compared with **Alternative 1** because they would allow for the greatest levels of fishing effort and most opportunities for gear interactions with habitat. However, any indirect effects on the physical environment are expected to be small because: 1) the increases are small; 4% in 2011 and an additional 3% in 2012; and 2) a large portion of the catch is taken from artificial structures (i.e., artificial reefs, oil and gas platforms). The primary gear used is hook-and-line, and the directed red snapper harvest represents only a small portion of the overall reef fish fishery in the Gulf of Mexico (SEDAR 7 2005). Also, several habitat areas of particular concern, marine sanctuaries, and marine reserves already exist in the Gulf where red snapper occur, providing additional protection to habitat and reducing impacts to the physical environment.

3.2.2 Direct and Indirect Effects on Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper by the reef fish fishery have been discussed in detail in Amendments 22 and 27/14

(GMFMC 2004a and 2007) and in the February 2010 red snapper regulatory amendment (GMFMC 2010) and are incorporated here by reference. Potential impacts of the Deepwater Horizon oil spill on the biological/ecological environment are discussed in the Description of the Environment section of this regulatory amendment.

The Deepwater Horizon MC252 oil spill, the National Marine Fisheries Service had, as of mid-July, closed approximately 35 percent of the Gulf to all fishing. Subsequently, all but approximately one thousand square miles immediately surrounding the oil spill origin some have been re-opened. The remaining fishing closure, centered in the north-central Gulf, has been and will continue to be adjusted as necessary to reflect past, present, and projected future areas affected by the oil spill. Oil is dispersed on the surface as well as deep within the water column, but since the well head was capped, oil is beginning to disappear from most areas. The Deepwater Horizon MC252 oil spill may have direct negative impacts on red snapper egg and larval stages. Red snapper spawn during summer and fall. Oil still present in surface waters could affect the survival of eggs and larvae. Anthropogenically-induced natural mortality on larvae caused by the oil spill could result in declines in recruitment in future year classes. Effects on the physical environment such as low oxygen and the inter-related effects that culminate and magnify through the food web could lead to impacts on the ability of larvae and post-larvae to survive, even if they never encounter oil. If realized, these effects would be expected to negatively impact the rebuilding plan for this overfished species, as well as have short- and potentially long-term economic impacts on commercial and recreational fisheries in the Gulf. In addition, effects of oil exposure may not always be lethal, but can create sub-lethal effects on the eggs, larva, and early life stages of fish. There is the potential that the stressors can be additive, and each stressor may increase the susceptibility to the harmful effects of the other. For example, brown shrimp exposed to polycyclic aromatic hydrocarbons (PAHs), a common pollutant associated with oil, have been shown to induce stress at a higher level of dissolved oxygen relative to clean environments.

Under these conditions, there is increased risk as to whether the acceptable biological catch and total allowable catch levels are sufficiently enough low enough to counter these impacts and allow the rebuilding plan to continue on schedule without some future reduction in total allowable catch. However, the red snapper rebuilding plan includes factors that address this risk. Red snapper become large enough to begin entering the fishery at 2 years of age, and they are 100 percent recruited to the fishery by age 3. Thus, the impacts to the fishery of this year's eggs and larvae will become evident in 2012 and 2013. A SEDAR red snapper benchmark assessment is currently scheduled for 2014, and will be able to evaluate the impact at that time. If a suspension in increases of total allowable catch, or possibly even a reduction, becomes necessary, this assessment will provide a scientifically based rationale for setting the new catch levels. At present, there is no evidence that the adult stock of red snapper has been adversely impacted, and the fishing mortality rate remains below the overfishing threshold. Furthermore, the acceptable biological catch levels set by the Scientific and Statistical Committee created a 25 percent buffer between the overfishing limit and the acceptable biological catch. Thus, there is a substantial safety margin for the adult stock to absorb any near term impacts.

Since a worst case scenario could possibly require a future reduction in the total allowable catch, there is some risk even with **Alternative 1**, status quo. **Alternative 3** would carry the greatest

risk of a future reduction since it would allow increases in catch for two years. **Preferred Alternative 2** in intermediate in risk since it allows one increase in catch but then holds the catch level until action (and accompanying analysis) is taken to further increase total allowable catch.

Effects on the biological environment because of changes in total allowable catch have been discussed in detail in Amendments 22 and 27/14 and the February 2010 red snapper regulatory amendment, and are incorporated here by reference. Direct effects of all three alternatives would allow the stock to recover consistent with the rebuilding plan. Any future increases in total allowable catch would also need to be consistent with this plan. **Alternative 1**, because it has the lowest total allowable catch, may allow the stock to recover more quickly than **Preferred Alternative 2** and **Alternative 3**. **Alternative 1** would also provide the greatest protection from overfishing should the stock projections be over optimistic or should some change occur in the stock that lowers its productivity, such as an episodic mortality event or natural disturbance. **Preferred Alternative 2** would allow an increase in red snapper catch in 2011 compared to **Alternative 1**, but is still less than the maximum level that would still allow the stock to recover by 2032 (Section 2.2, SEDAR 7 update 2009). **Alternative 3** would allow catch level increases in both 2011 and 2012 consistent with the acceptable biological catch recommendations of the Scientific and Statistical Committee and less than the maximum level that would allow a stock recovery by 2032. Because both **Alternatives 2 and 3** make any increase contingent upon the previous year (or previous two years) staying within its total allowable catch, the likelihood that the stock will not stay within its recovery trajectory is very low. The primary benefit of **Alternative 3** is to eliminate the need for another regulatory amendment to increase the total allowable catch in 2012 assuming that catches stay within their limits.

Indirect effects of these alternatives on the biological and ecological environment are not well understood. Changes in the population size structure as a result of shifting the fishing selectivities and increases in stock abundance could lead to changes in the abundance of other reef fish species that compete with red snapper for shelter and food. Predators of red snapper could increase if red snapper abundance is increased, while species competing for similar resources as red snapper could potentially decrease in abundance if less food and/or shelter are less available. Another effect of an expanding red snapper population could be a continuation of the reestablishment of red snapper populations in historical areas of occurrence in the eastern Gulf of Mexico. Species likely to be affected by changes in red snapper abundance the most include: vermilion snapper, gray triggerfish, and gag, which all co-occur with red snapper. These effects are explored in more detail in Amendment 27/14.

The proposed action relates to the harvest of an indigenous species in the Gulf of Mexico, and proposes only to increase that harvest, consistent with the most recent stock assessment for the species. Changing allowable harvest may pose the potential to shift fishing effort from other species in the Gulf, some of which may not be indigenous. However, the activity being altered does not itself introduce non indigenous species, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non indigenous species.

3.2.3 Direct and Indirect Effects on the Economic Environment

The methods used and assumptions made to evaluate expected economic effects of proposed alternatives are detailed in the recently completed red snapper regulatory amendment (GMFMC, 2010) and are incorporated herein by reference. Therefore, the socio-economic sections included in this document are limited to a presentation and discussion of the expected effects.

3.2.3.1 Effects on the Commercial Sector

The commercial sector's allocation of the annual catch limit is implemented as a quota. Table 3.2.3.1.1 provides the commercial quotas and associated ex-vessel values, gross revenues (ex-vessel value net of 3 percent cost recovery fee), and expected changes in gross revenues for each of the alternatives considered.

Alternative 1 would maintain the current commercial red snapper quota and would not be expected to result in any change in total ex-vessel value received from red snapper harvests. Under **Alternative 1**, the annual ex-vessel value of red snapper harvested under the individual fishing quota program is estimated at approximately $12.00 million (2008 dollars) for 2011.

Preferred Alternative 2 would increase the 2011 commercial red snapper quota to approximately 3.30 million pounds. The ex-vessel value of red snapper harvests under **Preferred Alternative 2** is estimated at approximately $12.42 million. Relative to **Alternative 1**, the changes in ex-vessel value and in gross revenues expected from the implementation of **Preferred Alternative 2** are estimated to be approximately $0.41 million and $0.40 million, respectively.

Table 3.2.3.1.1: Ex-vessel values and gross revenues under alternative red snapper commercial quotas.

Year	Commercial quota million lbs (gutted weight)	Ex-vessel Value (millions)	Changes in Ex-vessel Value (millions)	Changes in Gross Revenues (millions)	Changes in Share Value (millions)	Changes in Allocation Value (millions)
2010	3.191	$12.004				
2011	3.301	$12.417	$0.413	$0.401	$1.540	$0.330
2012	3.439	$12.936	$0.932	$0.904	$1.930	$0.414

Alternative 3 would increase the 2011 commercial red snapper quota to the same level as **Preferred Alternative 2**. In addition, **Alternative 3** would increase the 2012 commercial red snapper quota to 3.44 million pounds. Relative to **Alternative 1**, the expected changes in ex-vessel value and in gross revenues anticipated under **Alternative 3** are estimated at approximately $0.93 million and $0.90 million, respectively. Relative to **Preferred Alternative 2**, which would only increase TAC in 2011, expected changes in ex-vessel value and in gross

revenues anticipated under **Alternative 3** are estimated to be approximately $0.52 million and $0.50 million, respectively.

It is important to note that the red snapper TAC, and thus the commercial quota (and recreational allocation) will only be increased if the TAC is not exceeded during the previous fishing year. It follows that, should the red snapper TAC be exceeded in 2010, the economic effects expected from **Preferred Alternative 2** would not be received by the commercial sector. Similarly, the economic effects expected to result from **Alternative 3** would not be realized if TAC is exceeded in 2010 and/or 2011. In addition, the selection of **Preferred Alternative 2** would not preclude a subsequent TAC increase in 2012. If warranted, the Council could prepare another regulatory amendment to adjust TAC for the 2012 fishing year.

Although IFQ shares are legally considered a privilege that can be revoked, they are assets that can be freely exchanged in markets and used as collateral for loans. Assuming that red snapper IFQ shares are traded in well-functioning markets, IFQ share prices should be a reflection of the discount rates and revenue streams that are expected to be derived from the IFQ shares. Detailed discussions on IFQ markets and on determinants of share prices in individual fishing quotas markets are provided in Newell et al. 2005a and 2005b, respectively. Therefore, an evaluation of potential economic effects based on changes in overall asset values would capture changes in economic effects in the longer term. In addition, short run effects could be approximated by the changes in the aggregate value of red snapper annual allocations. Average red snapper IFQ share and allocation prices are currently approximately $14 per pound and $3 per pound (2008 dollars), respectively (NMFS 2010). Based on these values, a potential commercial quota increase of approximately 110,000 pounds gutted weight (lbs gw) in 2011 would correspond to a $1.54 million increase in IFQ share value, while annual leasing of the same quantity of additional shares would be expected to yield about $330,000. Similarly, an additional 138,000 lbs gw increase in 2012 could add $1.93 million in IFQ share value and additional an $414,000 in potential lease value.

3.2.3.2 Effects on the Recreational Sector

The economic effects of the proposed alternatives on recreational anglers were evaluated in terms of expected changes in economic benefits as measured by changes in consumer surplus; Consumer surplus is the amount of money that an angler would be willing to pay for a fishing trip over and above the cost of the trip. The comparable measure of economic benefits for for-hire vessels is producer surplus; Producer surplus is the amount of money that a vessel owner earns over and above the cost of providing the trip. Net operating revenue, which is the return used to pay all labor wages, returns to capital, and owner profits, is used as the proxy for producer surplus. A detailed discussion of the methods, assumptions and limitations of the estimates presented is included in the 2010 red snapper regulatory amendment and is included herein by reference. The estimated changes in target trips, consumer surplus, and net operating revenue of the proposed alternatives relative to **Alternative 1** are provided in Table 3.2.3.2.1. All values are in 2008 dollars.

Preferred Alternative 2, which would only increase the recreational annual catch limit (ACL) in 2011**,** is estimated to result in approximately 8,894 more red snapper target trips across all

modes than **Alternative 1**. **Alternative 3,** which would increase the recreational ACL in 2011 and 2012**,** is estimated to result in approximately 19,974 more red snapper target trips across all modes than **Alternative 1**. **Preferred Alternative 2** would be expected to result in an increase in consumer surplus of approximately $480,282 relative to **Alternative 1. Alternative 3,** which considers TAC increases for 2011 and 2012, would be expected to result in an increase in consumer surplus of approximately $1.08 million relative to **Alternative 1**. **Preferred Alternative 2** would be expected to result in an increase in net operating revenue of approximately $224,720 relative to **Alternative 1,** while **Alternative 3** would be expected to result in an increase in net operating revenue of approximately $504,667. As previously indicated, red snapper TAC, and thus the recreational ACL will only be increased if the TAC is not exceeded during the previous fishing year. Therefore, should the red snapper TAC be exceeded in 2010, economic effects expected from **Preferred Alternative 2** will not be received by the recreational sector. It also follows that economic effects expected to result from **Alternative 3** would not be realized if TAC is exceeded in 2010 and/or 2011.

Table 3.2.3.2.1 Estimated changes in red snapper target trips, consumer surplus and net operating revenues. All values are in 2008 dollars.

	Sector	Trips	Consumer Surplus	Net Operating Revenues
2011	Private Anglers	7,123	$384,640	
	Charter Boats	1,393	$75,236	$206,204
	Head Boats	378	$20,405	$18,516
	Total	8,894	$480,282	$224,720
2012	Private Anglers	8,874	$479,170	
	Charter Boats	1,736	$93,727	$256,881
	Head Boats	471	$25,420	$23,067
	Total	11,080	$598,317	$279,947
2011 and 2012	Private Anglers	15,996	$863,810	
	Charter Boats	3,129	$168,963	$463,084
	Head Boats	849	$45,826	$41,583
	Total	19,974	$1,078,599	$504,667

3.2.3.3 Economic Activity Associated with Estimated Economic Effects

This section provides estimates of the economic activity associated with the potential changes in commercial ex-vessel revenues and recreational angler trips that may occur as a result of the proposed management changes. This economic activity is characterized in the form of full time equivalent (FTE) jobs, income impacts (wages, salaries, and self-employed income), output (sales) impacts (gross business sales), and value added impacts (difference between the value of goods and the cost of materials or supplies). Income and value-added impacts are not equivalent, though similarity in the magnitude of multipliers may result in roughly equivalent values. These estimates are provided to inform the decision process of the potential consequences of the proposed management actions. Methods used and assumptions made to estimate changes in economic activity reported in this section are detailed in the February 2010 red snapper regulatory amendment and are incorporated herein by reference (GMFMC, 2010).

Table 3.2.3.3.1 provides estimates of the potential change in economic activity associated with the estimated change in commercial ex-vessel revenues for **Preferred Alternative 2** and **Alternative 3** relative to **Alternative 1**. Based on an estimated increase in ex-vessel revenues of approximately $0.41 million (2008 dollars), **Preferred Alternative 2,** which would only increase TAC in 2011, would be expected to support a total of 78 FTE jobs, approximately $2.32 million in income impacts, and approximately $5.44 million in output (sales) impacts more than **Alternative 1**. **Alternative 3** would be expected to support greater increases in economic activity because it considers TAC increases in 2011 and 2012.

Table 3.2.3.3.2 provides estimates of the potential change in economic activity associated with the estimated change in recreational trips for **Preferred Alternative 2** and **Alternative 3** relative to **Alternative 1**. Based on an expected increase in angler effort of approximately 11,568 trips in 2010, **Preferred Alternative 2** would be expected to support up to 10 FTE jobs, approximately $0.94 million in output (sales) impacts, and approximately $0.53 million in value added impacts more than **Alternative 1**. **Alternative 3,** which is expected to increase angler effort by 20,749 trips in 2011 and 2012, would be expected to support up to 22 FTE jobs, approximately $0.94 million in output (sales) impacts, and approximately $0.53 million in value added impacts more than **Alternative 1**.

Table 3.2.3.3.1. Potential changes in economic activity associated with the estimated change in the commercial sector ex-vessel revenues. All values are in 2008 dollars.

Industry Sector	Preferred Alternative 2	Alternative 3
Ex-vessel revenues	$413,000	$932,000
Harvesters		
Employment impacts (FTE jobs)	10	23
Income Impacts	$340,579	$768,571
Output Impacts	$885,198	$1,997,589
Primary dealers/processors		
Employment impacts (FTE jobs)	6	14
Income Impacts	$286,373	$646,247
Output Impacts	$891,094	$2,010,894
Secondary wholesalers/distributors		
Employment impacts (FTE jobs)	5	12
Income Impacts	$280,250	$632,429
Output Impacts	$657,103	$1,482,857
Grocers		
Employment impacts (FTE jobs)	3	7
Income Impacts	$116,617	$263,165
Output Impacts	$253,694	$572,500
Restaurants		
Employment impacts (FTE jobs)	53	120
Income Impacts	$1,293,703	$2,919,446
Output Impacts	$2,750,676	$6,207,336
Total		
Employment impacts (FTE jobs)	78	176
Income Impacts	$2,317,523	$5,229,859
Output Impacts	$5,437,764	$12,271,176

Note: **Alternative 3** would increase TAC in 2011 and 2012; **Preferred Alternative 2** would only increase TAC in 2011. Changes in economic activity expected to result from the 2012 TAC increase can be derived by subtracting estimates provide for **Preferred Alternative 2** from those for **Alternative 3**.

Table 3.2.3.3.2. Potential changes in economic activity associated with the estimated change in recreational trips. All values are in 2008 dollars.

	Preferred Alternative 2	Alternative 3	Difference Alt3- Pref Alt 2
Private/Rental Sector			
Trips	7,123	15,996	8,874
Output Impact	$432,517	$971,295	$538,839
Value Added Impact	$237,685	$533,766	$296,114
Jobs	4	9	5
Charter Sector			
Trips	1,393	3,129	1,736
Output Impact	$506,419	$1,137,534	$631,115
Value Added Impact	$292,584	$657,212	$364,627
Jobs	6	13	7
All Sectors			
Output Impact	$938,936	$2,108,830	$1,169,955
Value Added Impact	$530,269	$1,190,977	$660,741
Jobs	10	22	12

Note: **Alternative 3** would increase TAC in 2011 and 2012; **Preferred Alternative 2** would only increase TAC in 2011. Changes in economic activity expected to result from the 2012 TAC increase are given by the difference between **Alternative 3** and **Preferred Alternative 2.**

3.2.4 Direct and Indirect Effects on the Social Environment

Alternative 1 would maintain the TAC at its current level and, as a result, would not be expected to result in any change in fishing behavior in the commercial sector. All customary fishing practices and associated social benefits to fishermen and associated shore-side businesses and communities could continue.

The social effects of **Alternative 1** on the recreational sector would be expected to depend on the resultant length of the fishing season, an estimate of which is not available at this time. The recreational sector has in recent years seen shorter red snapper fishing seasons as a result of sector harvest overages. Based on harvest projections, the 2010 red snapper recreational fishing season was prescribed to last 53 days (June 1 through July 23), though oil-spill related closures and projected decreased effort resulted in re-opening an additional 24 days in October and November (eight consecutive Friday-Sunday openings). The original prescribed 2010 season (June 1 through July 23) was a substantial reduction from the 2009 season, June 1 through August 15. Because of the unusual nature of the 2010 season, it is unknown at this time how 2010 performance data will be combined with data from previous seasons to determine the length of the 2011 recreational red snapper fishing season. It could be argued that the unusual

events and conditions in 2010 justify basing the 2011 season on fishery performance data prior to 2010, resulting in a season equivalent to the original 2010 season (June 1 through July 23). As such, while the 2011 season may be identical to that originally prescribed for 2010, the season would remain substantially shorter than in previous years. How recreational fishing behavior would change during such a shortened season is unknown, as 2010 performance is not a useful guide. It has been suggested that there could be a race for red snapper, with charter vessels making more, but shorter, trips targeting red snapper per day if angler demand is sufficient. This would require, however, angler flexibility to change their fishing or vacation schedules to re-schedule trips traditionally taken later in the summer to the contracted open season. Not all anglers would be expected to have this flexibility, and a net loss in red snapper target effort is a logical expectation. Private recreational fishermen would be subject to the same options and considerations. Alternatively, anglers always have the option to continue fishing as they normally would in terms of the number of trips taken and the mode fished (for-hire or private), but target other species, either from their traditional or an alternative port. While any change in behavior as a result of a shortened red snapper season would be expected to have some adverse social effects (the change would be a second best preference to the preferred red snapper fishing trip, resulting in lower benefits), not all social benefits would be lost. The selection of substitute recreational activities would also mitigate, though not eliminate, the loss of social benefits (these other recreational activities would also be second best preferences, resulting in lower social benefits).

The points discussed in the previous paragraph apply regardless of whether the 2010 red snapper TAC is exceeded. If the 2010 red snapper TAC is not exceeded, because a TAC increase is consistent with the rebuilding plan, the **Proposed Action** would be expected to result in reduced social benefits due to dissatisfaction with fisheries management by fishermen in both sectors as well as foregone social and economic benefits. The development of the current rebuilding plan considered the biologic needs and capacity of the resource and the relevant social and economic information. Decisions to rebuild a resource slower than would be expected to occur under more stringent harvest controls, within mandated restrictions of how fast or slow rebuilding must or can occur, are typically based on considerations of the social and economic effects of the rebuilding plan. Specifically, the selection of a slower rebuilding schedule when faster rebuilding is possible with more stringent harvest restrictions would be based on expectations that the social and economic benefits would be greater under the slower schedule than under a quicker rebuilding schedule. The current rebuilding schedule is designed to achieve recovery in 2032 and represents the longest rebuilding period that was legally allowed for this species (based on life history characteristics). Currently, no information exists that the effects of the oil spill require deviation from the current rebuilding plan to keep red snapper rebuilding on schedule (i.e., lower total current harvests to compensate for oil-related resource damage). Not increasing the TAC according to the rebuilding schedule may result in faster rebuilding than the current rebuilding schedule (the expectation is that lower harvests would result in faster rebuilding, but the uncertainty of future environmental conditions and natural variability of events cannot be totally discounted, reducing expectations to “may result” rather than “would result”). In the absence of information that oil spill-related resource or general environmental damage requires deviation from harvest allowances of the rebuilding plan, however, faster rebuilding would not be expected to result in increased social or economic benefits for the reasons previously discussed. Thus, effectively, if the 2010 TAC is not exceeded and subsequent information does

not demonstrate a need for lower harvests in 2011, the **Proposed Action** would be expected to result in foregone social and economic benefits relative to **Preferred Alternative 2** or **Alternative 3**

Because they are conditions required for implementing the alternatives, the following discussion of the expected effects of **Preferred Alternative 2** and **Alternative 3** are based on the assumption that the 2010 TAC is not exceeded and, for **Alternative 3**, that the 2011 TAC is not exceeded.

Both **Preferred Alternative 2** and **Alternative 3** would be expected to result in greater social benefits than **Alternative 1**. Each would increase the TAC relative to **Alternative 1**, increasing revenues and associated social benefits for the commercial sector and associated businesses and communities, decreasing the likelihood of a shortened recreational red snapper season, and increasing the opportunity for more recreational angler trips, with associated social and economic benefits, thereby lessening the need for recreational angler behavioral changes, such as the selection of alternative target species or other recreational activities. Essentially, some portion of the reductions in social and economic benefits expecting to accrue under **Alternative 1** could be avoided.

The primary difference between **Preferred Alternative 2** and **Alternative 3** are conditions in 2012. Unless subsequent action is taken to increase the TAC in 2012, under **Preferred Alternative 2**, the 2012 TAC would remain equal to the 2011 TAC. As a result, **Preferred Alternative 2** would be expected to result in reduced social and economic benefits relative to **Alternative 3**, consistent with the difference in TAC between the two alternatives (300,000 lbs). Taking subsequent action during 2011 to increase the 2012 TAC (i.e., a formal amendment; even under **Alternative 3**, administrative action would be required to formally increase the 2012 TAC), as would be required under **Preferred Alternative 2**, may result in social dissatisfaction with the management process; such management behavior could be viewed as an inefficient use of resources (i.e., the perspective could be, why tie up resources (and incur the costs) implementing two actions when the same outcome could be accomplished by a single management event). However, **Preferred Alternative 2** could be characterized as more flexible because an increase in the 2012 TAC would not be required (recall that the underlying assumption is that the 2011 TAC is not exceeded), and new information, such as information on adverse effects of the oil spill, could result in a determination than an increase in not appropriate. In light of such information, under **Alternative 3**, management action would be required to prevent a TAC increase in 2012. It is not possible to evaluate whether the social benefits of the flexibility of **Preferred Alternative 2** exceed the effects of potentially duplicative management action (subsequent management action to increase the 2012 TAC). Should an increase in the 2012 TAC be biologically allowable, however, and such increase not occur under **Preferred Alternative 2**, then **Preferred Alternative 2** would be expected to result in decreased social and economic benefits than **Alternative 3**.

The social effects associated with the commercial sector of the red snapper component of the reef fish fishery discussed above would be expected to mostly accrue to the businesses located in the communities of Destin, Fort Walton Beach, Panama City, and Pensacola Florida; Grand Bay, Alabama; Pascagoula, Mississippi; Golden Meadow, Louisiana; and Galveston and

Freeport, Texas. The relevant communities for the social effects associated with the recreational sector are Destin and Panama City, Florida; Orange Beach and Dauphin Island, Alabama; Pascagoula, Mississippi; Venice and Grand Isle, Louisiana; and Galveston and Freeport, Texas.

It is also noted that the total effects associated with the recreational sector, and their distribution, can be affected by the adoption, or absence of such, of compatible regulations by states. Florida, Alabama, and Texas have not always maintained the same recreational red snapper season as the season in the EEZ. Therefore, social effects, in magnitude and distribution, may vary according to each state's regulatory regime.

3.2.5 Direct and Indirect Effects on Administrative Environment

None of the alternatives should result in any direct or indirect effects to the administrative environment, because the type of regulations needed to manage the fishery would remain unchanged regardless of what total allowable catch is set at. The National Marine Fisheries Service law enforcement, in cooperation with state agencies, would continue to monitor regulatory compliance with existing regulations and the National Marine Fisheries Service would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels. The enforcement and administrative environments were recently enhanced with an individual fishing quota program for the commercial red snapper sector, requiring the National Marine Fisheries Service to monitor the sale of red snapper individual fishing quota shares, and a vessel monitoring system in the reef fish fishery. Recordkeeping requirements for individual fishing quota shares have improved commercial quota monitoring and prevent or limit overages from occurring. The individual fishing quota and VMS requirements have reduced the burden of monitoring compliance with commercial fishing regulations.

3.2.6 Cumulative Effects

The cumulative effects from the red snapper rebuilding plan have been analyzed in Amendment 22 and 27/14, and cumulative effects to the reef fish fishery have been analyzed in Amendments 30A, 30B, and 31, and are incorporated here by reference. The effects of setting total allowable catch in this regulatory amendment are similar to those described in the February 2010 red snapper regulatory amendment (GMFMC 2010), and are most closely aligned with the effects from with the revisions to the red snapper rebuilding plan in Amendment 27/14. This analysis found the effects on the biophysical and socioeconomic environments are positive because they would ultimately restore/maintain the stock at a level that allows the maximum benefits in yield and commercial and recreational fishing opportunities to be achieved. However, short-term negative impacts on the fisheries' socioeconomic environment have occurred and are likely to continue due to the need to limit directed harvest and reduce bycatch mortality. These negative impacts can be minimized by selecting measures that would provide the least disruption to the fishery while maintaining total allowable catch consistent with the rebuilding plan. For the recreational sector, this would mean using combinations of bag limits, size limits and closed seasons to minimize disruptions, and for the commercial sector by using a combination of size limits with the individual fishing quota program.

The cumulative effects from the Deepwater Horizon MC252 oil spill may not be known for several years. If there has been a reduction in spawning success in 2010, the impacts may not begin to manifest themselves until several years later when the fish that would have spawned in 2010 would have become large enough to enter the fishery and the adult spawning population. For red snapper, this occurs at approximately 3 years of age, so a year class failure in 2010 may not be felt by the fishery until 2013. The impacts would be felt as reduced fishing success and reduced spawning potential, and would need to be taken into consideration in the next SEDAR assessment.

An increase in the total allowable catch, combined with possible short-term increase in natural mortality to the stock from the oil spill, could negatively impact the stock. Nevertheless, absent any firm information regarding the impacts to the red snapper stock from the Deepwater Horizon MC252 oil spill, the proposed action to increase the total allowable catch would minimize socioeconomic impacts and achieve the Council's designated OY for the fishery.

There is a large and growing body of literature on past, present, and future impacts of global climate change induced by human activities. Some of the likely effects commonly mentioned are sea level rise, increased frequency of severe weather events, and change in air and water temperatures. The Environmental Protection Agency's climate change webpage provides basic background information on these and other measured or anticipated effects. Global climate changes could have significant effects on Gulf fisheries; however, the extent of these effects is not known at this time. Possible impacts include temperature changes in coastal and marine ecosystems that can influence organism metabolism and alter ecological processes such as productivity and species interactions; changes in precipitation patterns and a rise in sea level which could change the water balance of coastal ecosystems; altering patterns of wind and water circulation in the ocean environment; and influencing the productivity of critical coastal ecosystems such as wetlands, estuaries, and coral reefs (Kennedy et al. 2002). Modeling of climate change in relation to the northern Gulf hypoxic zone may exacerbate attempts to reduce the area affected by these events (Justic et al. 2003). It is unclear how climate change would affect reef fishes, and likely would affect species differently. Climate change can affect factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. In addition, the distribution of native and exotic species may change with increased water temperature, as may the prevalence of disease in keystone animals such as corals and the occurrence and intensity of toxic algae blooms. Climate change may significantly impact Gulf reef fish species in the future, but the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts would occur. Actions from this amendment are not expected to significantly contribute to climate change through the increase or decrease the carbon footprint from fishing.

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by the National Marine Fisheries Service, stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations. Landings data for the recreational sector in the Gulf of Mexico is collected through the Marine Recreational Fishery Statistics Survey (MRFSS), National Marine Fisheries Service's Head Boat Survey, and the Texas Marine Recreational Fishing Survey. MRFSS is currently being replaced by the Marine Recreational Information Program (MRIP), a program designed to improve the

monitoring of recreational fishing. Commercial data is collected through trip ticket programs, port samplers, and logbook programs. Currently, an update SEDAR assessment of Gulf of Mexico red snapper is scheduled for 2013.

4.0 REGULATORY IMPACT REVIEW

4.1 Introduction

The National Marine Fisheries Service 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 the proposed regulations are a "significant regulatory action" under the criteria provided in Executive Order (E.O.) 12866 and provides some information that may be used in conducting an analysis of impacts on small business entities pursuant to the Regulatory Flexibility Act (RFA). This RIR analyzes the impacts that the proposed management alternatives in this regulatory amendment to the Reef Fish FMP would be expected to have on the red snapper component of the reef fish fishery.

4.2 Problems and Objectives

The problems and objectives addressed by this proposed regulatory amendment are discussed in Section 1.2 of this document. In summary, based on the red snapper update assessment, the Scientific and Statistical Committee has recommended an annual catch limit greater than the current total allowable catch. Management measures considered in this regulatory amendment are intended to increase the red snapper total allowable catch and make the resulting recreational and commercial quotas consistent with goals and objectives of the Council's red snapper rebuilding plan.

4.3 Description of Fisheries

A description of the Gulf red snapper component of the reef fish fishery is provided in Sections 2.3 and 2.4 of this document.

4.4 Impacts of Management Measures

A detailed analysis of the expected impacts of all alternatives considered for this action is contained in Section 3.2.3. **Preferred Alternative 2** would increase the 2011 red snapper total allowable catch to approximately 7.185 million pounds. Relative to **Alternative 1**, **Preferred Alternative 2** would be expected to result in an increase in allocation values, consumer surplus, and net operating revenues of approximately $0.33 million, $0.48 million, and $0.22 million to commercial vessels, recreational anglers, and for-hire vessels, respectively

4.5 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 that can be expressed as costs associated with the regulations. Costs associated with this specific action would include:

Council costs of document preparation,
meetings, public hearings, and information
dissemination……....$15,000

NMFS administrative costs of document
preparation, meetings, and review ……...$10,000

TOTAL……..……...$25,000

The Council and Federal costs of document preparation are based on staff time, travel, printing, and any other relevant items where funds were expended directly for this specific action. There are no permit requirements proposed in this regulatory amendment. To the extent that there are no quota closures proposed in this regulatory amendment or other regulatory measures, no additional enforcement activity is anticipated. In addition, under a fixed budget, any additional enforcement activity due to the adoption of this regulatory amendment would likely mean a redirection of resources to enforce the new measures rather than an expenditure of new funds.

4.6 Determination of Significant Regulatory Action

Pursuant to Executive Order (E.O.) 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: (1) An annual effect of $100 million or more or adversely affect 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) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this action has been determined to not be economically significant for purposes of E.O. 12866.

5.0 REGULATORY FLEXIBILITY ACT ANALYSIS

5.1 Introduction

The purpose of the Regulatory Flexibility Act (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of various alternatives contained in the FMP or amendment (including framework management measures and other regulatory actions) and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

With certain exceptions, the RFA requires agencies to conduct an initial regulatory flexibility analysis (IRFA) for each proposed rule. The IRFA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An IRFA is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." In addition to analyses conducted for the RIR, the IRFA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; and, 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule.

5.2 Statement of the need for, objectives of, and legal basis for the rule

A discussion of the reasons why action by the agency is being considered is provided in Section 1.2 of this document. In summary, the purpose of this proposed rule is to set the red snapper total allowable catch and the resulting recreational and commercial quotas consistent with the goals and objectives of the Council's red snapper rebuilding plan and achieving the mandates of the Magnuson-Stevens Act. The objective of this amendment is to support the rebuilding of the red snapper resource in the Gulf of Mexico and allow harvest at optimum yield. The Magnuson-Stevens Act provides the statutory basis for this proposed rule.

5.3 Description and estimate of the number of small entities to which the proposed action would apply

This proposed rule, if implemented, would be expected to directly affect commercial and for-hire fishing vessels that harvest red snapper in the Gulf of Mexico. Based on logbook records, for the period 2007-2008, an average of 312 vessels per year recorded commercial red snapper landings

in the Gulf of Mexico. The total average annual ex-vessel revenues from all logbook-recorded harvests from all species for these vessels during this period was approximately $28.943 million (2008 dollars), of which approximately $9.435 million came from red snapper. For all vessels with logbook-recorded landings of red snapper, the average annual total revenue per vessel during this period was approximately $93,000 (2008 dollars).

Some fleet activity occurs in the Gulf of Mexico commercial reef fish fishery. Based on permit data, the maximum number of permits reported to be owned by the same entity is 6, though additional permits may be linked through other affiliations which cannot be identified through current data. Using the average revenue per vessel provided above, the average annual combined revenues for this entity would be approximately $558,000 (2008 dollars).

The for-hire fleet is comprised of charterboats, which charge a fee on a vessel basis, and headboats, which charge a fee on an individual angler (head) basis. A Gulf reef fish for-hire permit is required to harvest red snapper in the Gulf of Mexico. On December 17, 2010, there were 1,355 valid or renewable Gulf reef fish for-hire permits. A valid permit is a non-expired permit. Expired reef fish for-hire permits may not be actively fished, but are renewable for up to one year after expiration. Because of the extended renewal period, numerous permits may be expired but renewable at any given time of the year, resulting in the total number of permits (and associated vessels) potentially active over the course of the entire calendar year being a few hundred more than the number of active permits on a given date. For example, on December 17, 2010, there were 1,249 valid permits. Although the permit does not distinguish between headboats and charter boats, an estimated 79 headboats operate in the Gulf. It cannot be determined with available data how many of the for-hire vessels permitted to operate in the reef fish fishery harvest red snapper, so all permitted vessels are assumed to comprise the universe of potentially affected vessels. The average charterboat is estimated to earn approximately $88,000 (2008 dollars) in annual revenues, while the average headboat is estimated to earn approximately $461,000 (2008 dollars).

The Small Business Administration has established size criteria for all major industry sectors in the U.S. including fish harvesters. A business involved in fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $4.0 million (NAICS code 114111, finfish fishing) for all its affiliated operations worldwide. For for-hire vessels, the other qualifiers apply and the revenues threshold is $7.0 million (NAICS code 713990, recreational industries). Based on the average revenue estimates provided above, all commercial and for-hire vessels expected to be directly affected by this proposed rule are determined for the purpose of this analysis to be small business entities.

5.4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records

This proposed rule would not establish any new reporting, record-keeping, or other compliance requirements.

5.5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed rule

No duplicative, overlapping, or conflicting federal rules have been identified.

5.6 Significance of economic impacts on small entities

Substantial number criterion

This proposed rule, if implemented, would be expected to directly affect all commercial vessels that harvest red snapper in the Gulf of Mexico. Based on logbook records, for the period 2007-2008, an average of 312 vessels per year recorded commercial red snapper landings. These vessels are a subset of the vessels permitted to harvest commercial quantities of reef fish in the Gulf of Mexico. On January 7, 2010, 904 vessels had non-expired commercial reef fish permits, while an unknown number of additional expired permits were renewable within the one-year renewal period. Based on the number of active permits, the average number of vessels with recorded commercial red snapper landings is estimated to comprise over 30% of the total number of vessels permitted to harvest commercial quantities of reef fish in the Gulf of Mexico.

This proposed rule, if implemented, would also be expected to directly affect all for-hire vessels that harvest red snapper. On December 17, 2010, there were 1,249 valid Gulf reef fish for-hire permits. It cannot be determined with available data how many of the for-hire vessels permitted to operate in the reef fish fishery harvest red snapper, so all permitted vessels are assumed to comprise the universe of potentially affected vessels.

Significant economic impacts

The outcome of "significant economic impact" can be ascertained by examining two factors: disproportionality and profitability.

> Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities expected to be directly affected by the measures in this proposed rule are determined for the purpose of this analysis to be small business entities, so the issue of disproportionality does not arise in the present case.

Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

As a result of the increase in commercial red snapper harvests and the lengthening of the recreational red snapper fishing season, this proposed action would be expected to increase commercial ex-vessel revenues by approximately $400,000 and increase net operating revenues to for-hire businesses by up to $225,000 annually relative to the status quo. As a result, no reduction in profits for a substantial number of small entities would be expected.

5.7 Description of significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

This proposed action, if implemented, would not be expected to have a significant direct adverse economic effect on the profits of a substantial number of small entities. As a result, the issue of significant alternatives is not relevant.

6.0 OTHER APPLICABLE LAW

The Magnuson-Stevens Act (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the Exclusive Economic Zone. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making are summarized below.

Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedures Act (APA) (5 U.S.C. Subchapter II), which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, the National Marine Fisheries Service is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider, and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day waiting period from the time a final rule is published until it takes effect.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state's coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 C.F.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state's coastal zone, the National Marine Fisheries Service is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary, the National Marine Fisheries Service will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. Their determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Data Quality Act

The Data Quality Act (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that "provide policy and procedural guidance to federal agencies for ensuring

and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies." Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: (1) ensure information quality and develop a pre-dissemination review process; (2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and (3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of FMPs and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the Act, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data will also undergo quality control prior to being used by the agency and a pre-dissemination review.

Endangered Species Act

The Endangered Species Act (ESA) of 1973, as amended, (16 U.S.C. Section 1531 et seq.) requires federal agencies use their authorities to conserve endangered and threatened species. The ESA requires the National Marine Fisheries Service, when proposing a fishery action that "may affect" critical habitat or endangered or threatened species, to consult with the appropriate administrative agency (itself for most marine species, the U.S. Fish and Wildlife Service for all remaining species) to determine the potential impacts of the proposed action. Consultations are concluded informally when proposed actions may affect but are "not likely to adversely affect" endangered or threatened species or designated critical habitat. Formal consultations, including a Biological Opinion, are required when proposed actions may affect and are "likely to adversely affect" endangered or threatened species or adversely modify designated critical habitat. If jeopardy or adverse modification is found, the consulting agency is required to suggest reasonable and prudent alternatives.

Recent regulations require for-hire reef fish permitted vessels to comply with sea turtle and smalltooth sawfish release protocols, possess a specific set of release gear, and adopt guidelines for the proper care for incidentally caught sawfish. These regulations are designed to benefit sea turtle and smalltooth sawfish populations by reducing discard mortality. Other listed species and designated critical habitat in the Gulf are not likely to be adversely affected, according to the most recent (2009) biological opinion for the reef fishery. The National Marine Fisheries Service, as part of the Secretarial review process, will make a determination regarding the potential impacts of the proposed actions.

Marine Mammal Protection Act

The Marine Mammal Protection Act established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas, and on the importing of marine mammals and marine mammal products into the United States. Under the Marine Mammal Protection Act, the Secretary of Commerce (authority delegated to the National Marine Fisheries Service) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea and marine otters, polar bears, manatees, and dugongs.

Part of the responsibility that the National Marine Fisheries Service has under the Marine Mammal Protection Act involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as "depleted," and a conservation plan is developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the Marine Mammal Protection Act, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fishing efforts, and studies of pinniped-fishery interactions.

Under section 118 of the Marine Mammal Protection Act, the National Marine Fisheries Service must publish, at least annually, a List of Fisheries that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. The categorization of a fishery in the List of Fisheries determines whether participants in that fishery may be required to comply with certain provisions of the Marine Mammal Protection Act, such as registration, observer coverage, and take reduction plan requirements. The reef fish fishery is classified as a Category III fishery indicating it has minimal impacts on marine mammals (see Section 2.2.2 of this regulatory amendment).

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) regulates the collection of public information by federal agencies to ensure the public is not overburdened with information requests, the federal government's information collection procedures are efficient, and federal agencies adhere to appropriate rules governing the confidentiality of such information. The Paperwork Reduction Act requires the National Marine Fisheries Service to obtain approval from the OMB before requesting most types of fishery information from the public.

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 12866: Regulatory Planning and Review

Executive Order 12866: Regulatory Planning and Review, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, the National Marine Fisheries Service prepares a RIR for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society of proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations would have a significant economic impact on a substantial number of small entities in compliance with the RFA. A regulation is significant if it a) 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 and communities; b) creates a serious inconsistency or otherwise interferes with an action taken or planned by another agency; c) materially alters the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or d) raises novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order. The National Marine Fisheries Service has preliminarily determined that this action will not meet the economic significance threshold of any criteria.

E.O. 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations

Executive Order 12898 requires federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. This executive order is generally referred to as environmental justice (EJ).

Information on the counties and communities expected to be most affected by this proposed action was examined to identify the potential for EJ concern. Specifically, the rates of minority populations and the percentage of the population that was below the poverty line are presented. The threshold for comparison that is used is 1.2 times the state average such that, if the value for the county or community is greater than or equal to 1.2 times the state average, then the county or community is considered an area of potential EJ concern. Census estimated data for the year 2006-2008 was used and is listed below for each state and the counties where communities were identified as being reliant upon red snapper. County population estimates are used because census estimate data are not provided for geographies with a population below 20,000 and most fishing communities along the Gulf coast fall under that threshold.

The 2006-2008 estimate of the minority rate (interpreted as non-white, the inverse of non-Hispanic white alone) for Florida is 39.3%, while 12.6% of the total population was estimated to be below the poverty line. These values translate into EJ thresholds of approximately 47.1% and 15.1% for minority and poverty rates, respectively. None of the counties or communities identified as red snapper areas in Florida equal or exceed the EJ thresholds for minorities; however, Escambia County slightly exceeds the poverty threshold, with an estimated poverty rate of 15.2%.

Alabama has an estimated minority rate of 31.3%, while 16.3% of the total population was estimated to be below the poverty line. These values translate into EJ thresholds of approximately 37.6% and 19.6% for minority and poverty rates, respectively. Mobile County exceeds the EJ threshold for minorities with a 60.6% minority rate. None of the counties or communities identified as red snapper areas in Alabama equal or exceed the EJ threshold for poverty, although Mobile County comes close with a 19.4% poverty rate.

In Mississippi, the estimated minority rate is 41.1%, while 21.0% of the total population is estimated to be below the poverty line. These values translate into EJ thresholds of approximately 49.3% and 25.2% for minority and poverty rates, respectively. None of the counties or communities identified as red snapper areas in Mississippi equal or exceed the EJ thresholds.

Louisiana has an estimated minority rate of 37.7%, while 18.5% of the total population was estimated to be below the poverty line. These values translate into EJ thresholds of approximately 45.2% and 22.2% for minority and poverty rates, respectively. None of the parishes identified as red snapper areas in Louisiana equal or exceed the EJ thresholds.

In Texas, the estimated minority rate of 31.3%, while 16.3% of the total population was estimated to be below the poverty line. These values translate into EJ thresholds of approximately 37.6% and 19.6% for minority and poverty rates, respectively. All of the Texas counties identified as red snapper areas exceed the EJ minority threshold and Matagorda exceeds the poverty threshold. Exceeding the threshold for minorities is, in part, a result of the high number of Hispanics that live in the coastal counties.

Although counties or communities have been identified that are near or exceed the EJ thresholds, due to the nature of the proposed action in this amendment, it is unlikely that any populations

will be adversely affected. The preferred action is an increase in the total allowable harvest of a popular food fish. As a result, the effects of the action are expected to be beneficial for all fishermen, businesses, and associated communities that participate in the red snapper component of the reef fish fishery.

In order to examine EJ issues below the community level, fishermen census data would be required. Such information has not been collected and there has been little detailed research conducted among red snapper or reef fish fishermen to examine detailed information at the household level. Past research has indicated that most individuals that participate in the reef fish fishery are middle-aged males (Waters 1996)[5]. Although there has not been recent research into the ethnic character of red snapper fishermen, the majority of captains and crew are white non-Hispanic. Research conducted among North Carolina fishermen (Cheveront 2003) [6] provides a demographic description that may be typical of most fisheries within the southeast, with the possible exception of the Gulf shrimp fishery and some fisheries in the Florida Keys and Texas. Cheveront (2003) identifies the majority of participants as white, middle-aged males. It is not known how many fishermen in Texas would be classified as minorities, but it is likely that there are more minority fishermen in Texas than in other states as the demographic descriptions for Texas counties shows significant Hispanic populations. At this time, there is no detailed demographic information on the crew of commercial red snapper vessels.

Household income levels among participants in the red snapper component of the reef fish fishery vary considerably, with less than half of the household income coming from commercial fishing for the average fishing household (Waters 1994). Although dated, Waters (1994) is the most recent research on commercial vessels in the reef fish fishery that includes estimates of household income. Waters (1994) reported that 14% of commercial reef fish fishery participants reported household income levels of less than $10,000; however income levels and household size were not analyzed to determine where those levels would fall within poverty guidelines.

With regard to subsistence fishing, the red snapper component of the reef fish fishery is primarily prosecuted in offshore waters. As a result, any red snapper subsistence fishing, if such exists, would have to occur from fishing vessels. Some commercial fishermen may keep fish for their own consumption and recreational fishermen do the same, particularly in the case of red snapper due to its popularity as a food fish. There has been little to no research conducted on the subsistence fishing pattern of any of these groups; however, an increase in TAC would be expected to provide benefits to subsistence fishermen, including those with EJ considerations.

Overall, the proposed action should have beneficial consequences for any EJ populations. Unfortunately, it is not possible to estimate effects at the community or household level without better data. It is assumed that the benefits of this proposed action would be distributed among any EJ populations proportionate with their current involvement with the resource, yet without

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[5] Waters, James R. 1996. An Economic Survey Of Commercial Reef Fish Vessels In The U.S. Gulf Of Mexico. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, 101 Piver's Island Road, Beaufort, NC 28516.

[6] Chevront, Brian. 2003. A Social and Economic Analysis of Commercial Fisheries in North Carolina: Beaufort Inlet to The South Carolina State Line. Division of Marine Fisheries. North Carolina Department of Environment and Natural Resources, P.O. Box 769, Morehead City, NC 28557-0769

more detailed research on these populations and their fishing behavior and consumption it is not possible to outline the precise effects of this action.

E.O. 12962: Recreational Fisheries

This Executive Order requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods including, but not limited to, developing joint partnerships; promoting the restoration of recreational fishing areas that are limited by water quality and habitat degradation; fostering sound aquatic conservation and restoration endeavors; and evaluating the effects of federally-funded, permitted, or authorized actions on aquatic systems and recreational fisheries, and documenting those effects. Additionally, it establishes a seven-member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The Council also is responsible for developing, in cooperation with federal agencies, States and Tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

E.O. 13089: Coral Reef Protection

The Executive Order on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, the National Marine Fisheries Service approved and implemented Generic Amendment 3 for Essential Fish Habitat, which established additional habitat areas of particular concern (HAPCs) and gear restrictions to protect corals throughout the Gulf (see Section 2.1 of this regulatory amendment). There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that

was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of the National Marine Fisheries Service, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too).

No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

E.O. 13158: Marine Protected Areas

This Executive Order requires federal agencies to consider whether their proposed action(s) will affect any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural or cultural resource within the protected area.

There are several marine protected areas, HAPCs, and gear-restricted areas in the eastern and northwestern Gulf (see Section 2.1 of this regulator amendment). In regard to ecologically critical areas in the Gulf, areas such as the Flower Gardens and the Tortugas Marine Sanctuaries are closed to fishing, Madison Swanson and Steamboat Lumps ecologically-critical areas are closed to bottom fishing. Fishing activity already occurs in the vicinity of the U.S.S. Hatteras, located in federal waters off Texas, which is listed in the National Register of Historic Places; but this proposed action would not substantially increase fishing activity over that exhibited in other years. Therefore, there would be no additional impacts on these components of the environment from the proposed action. The action in the regulatory amendment would not affect any areas reserved by federal, state, territorial, tribal or local jurisdictions.

Essential Fish Habitat

The amended Magnuson-Stevens Act included a new habitat conservation provision known as Essential Fish Habitat that requires each existing and any new FMPs to describe and identify Essential Fish Habitat for each federally managed species, minimize to the extent practicable impacts from fishing activities on Essential Fish Habitat that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that Essential Fish Habitat. To address these requirements the Council has, under separate action, approved an EIS (GMFMC 2004b) to address the new Essential Fish Habitat requirements contained within the Magnuson-Stevens Act. Section 305(b)(2) requires federal agencies to obtain a consultation for any action that may adversely affect Essential Fish Habitat. An Essential Fish Habitat consultation will be conducted for this action.

7.0 LIST OF PREPARERS

Name	Expertise	Responsibility	Agency
Mr. Steven Atran	Biologist	Introduction , Purpose and Need, Environmental Consequences, and Management Alternatives	GMFMC
Dr. Assane Diagne	Economist	Economic analyses and Environmental Consequences	GMFMC
Dr. Stephen Holiman	Economist	Economic and social analyses	SERO

8.0 LIST OF AGENCIES CONSULTED

Gulf of Mexico Fishery Management Council
NOAA Southeast Fishery Science Center
NOAA Southeast Regional Office Protected Resources Division
NOAA Southeast Region General Counsel
NOAA Southeast Region Sustainable Fisheries Division

9.0 LITERATURE CITED

Brooks, G. 2010. Commercial Fisherman/Gulf of Mexico IFQ. personal communication

Chevront, Brian. 2003. A Social and Economic Analysis of Commercial Fisheries in North Carolina: Beaufort Inlet to The South Carolina State Line. Division of Marine Fisheries. North Carolina Department of Environment and Natural Resources, P.O. Box 769, Morehead City, NC 28557-0769

GMFMC. 1989. Amendment number 1 to the fishery management plan for the reef fish fishery of the Gulf of Mexico (includes environmental assessment, regulatory impact review, and regulatory flexibility analysis). Gulf of Mexico Fishery Management Council, Tampa, Florida 33607. 356 p.

GMFMC. 2004a. Amendment 22 to the fishery management plan for the reef fish fishery of the Gulf of Mexico, U.S. waters, with supplemental environmental impact statement, regulatory impact review, initial regulatory flexibility analysis, and social impact assessment. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, Florida 33607.

GMFMC. 2004b. Environmental Impact Statement for the Generic Essential Fish Habitat Amendment to the following fishery management plans of the Gulf of Mexico (Gulf): Shrimp Fishery of the Gulf of Mexico, Red Drum Fishery of the Gulf of Mexico, Reef Fish Fishery of the Gulf of Mexico, Stone Crab Fishery of the Gulf of Mexico, Coral and Coral Reef Fishery of the Gulf of Mexico, Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic, Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, Florida 33607. 118 pp.

GMFMC. 2007. Final Amendment 27 to the Reef Fish Fishery Management Plan and Amendment 14 to the Shrimp Fishery Management Plan. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607. 490 pp with appendices.

GMFMC. 2010. Final Regulatory Amendment to the Reef Fish Fishery Management Plan to Set Total Allowable Catch for Red Snapper. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL 33607. 78 pp with appendices.

Justic, D., N. N. Rabalais, and R. E. Turnera. 2003. Simulated responses of the Gulf of Mexico hypoxia to variations in climate and anthropogenic nutrient loading. Journal of Marine Systems 42:115-126.

Kennedy, V. S., R. R. Twilley, J. A. Kleypas, J. H. Cowan, Jr., S. R. Hare. 2002. Coastal and Marine Ecosystems & Global Climate Change: Potential Effects on U.S. Resources. Pew Center on Global Climate Change. 52 p.

NMFS. 2010. 2009 Gulf of Mexico Red Snapper Individual Fishing Quota Annual Report. SERO-LAPP-2010-06. National Marine Fisheries Service, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701. 24 pp. Available at: http://sero.nmfs.noaa.gov/sf/pdfs/2009%20Red%20Snapper%20IFQ%20Annual%20Report%20-11-3-10.pdf

NMFS. 2010a. 2010 Recreational Red Snapper Quota Closure Analysis. SERO-LAPP-2010-01. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701. 8 pp. Available at: http://sero.nmfs.noaa.gov/sf/pdfs/SERO-LAPP-2010-01%20Gulf%20Red%20Snapper%20Quota%20Closure_4-22-10%20FINAL.pdf

NMFS. 2010b. 2010 Recreational Red Snapper Quota Closure Analysis. SERO-LAPP-2010-04. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701. 8 pp. Available at: ftp://ftp.gulfcouncil.org/Briefing_Book_2010_08/B%20-%2014%28a%29%20SERO-LAPP-2010-04%20Gulf%20Red%20Emergency%20Reopening%208-13-10.pdf

Newell, R.G., J.N. Sanchirico and S. Kerr. 2005a. Fishing Quotas Markets. Journal of Environmental Economics and Management 4:437-462

Newell, R.G., KL. Papps and J.N.Sanchirico. 2005b. Asset Pricing in Created Markets for Fishing Quotas. Resources for the Future. RFF DP 05-46. 30pp

SEDAR 7. 2005. Stock assessment report of SEDAR 7 Gulf of Mexico Red Snapper. SEDAR (http://www.sefsc.noaa.gov/sedar/), Charleston, South Carolina. 480 pp.

SEDAR 7 Update. 2009. Stock Assessment of Red Snapper in the Gulf of Mexico - SEDAR Update Assessment. Report of the Update Assessment Workshop, SEFSC, Miami, Florida. 111 pp.

Waters, J.R. 1996. An Economic Survey of Commercial Reef Fish Vessels in The U.S. Gulf Of Mexico. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, 101 Piver's Island Road, Beaufort, NC 28516