Tab B, No. 9
1/14/14

Regional Management of Recreational Red Snapper

Final Draft for Amendment 39
to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico

Including Draft Environmental Impact Statement, Fishery Impact Statement, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

February 2014

This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA10NMF4410011.

This page intentionally blank

Gulf of Mexico Reef Fish Amendment 39
Draft Environmental Impact Statement (DEIS) Cover Sheet

Regional Management of Recreational Red Snapper Amendment 39 to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico, including a Draft Environmental Impact Statement (DEIS).

Abstract:

This DEIS is prepared pursuant to the National Environmental Policy Act to assess the environmental impacts associated with a regulatory action. The DEIS analyzes the impacts of a reasonable range of alternatives intended to address approaches to regional management for the recreational harvest of red snapper, including delegating limited management authority to the Gulf of Mexico states. This may include the authority to establish size limits, bag limits, seasons, closed areas, and sub-allocations for the private and for-hire vessels. The purpose of this action is to provide flexibility in the management of the recreational red snapper component in the reef fish fishery by reorganizing the federal fishery management strategy, modifying the for-hire permit provisions, and developing AMs for recreational overages to better account for biological, social, and economic differences among the regions of the Gulf.

Responsible Agencies:

National Marine Fisheries Service
(Lead Agency)
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701
727-824-5305
727-824-5308 (fax)
http://sero.nmfs.noaa.gov
Contact: Cynthia Meyer
cynthia.meyer@noaa.gov

Gulf of Mexico Fishery Management Council
2203 North Lois Avenue, Suite 1100
Tampa, Florida 33607
813-348-1630
813-348-1711 (fax)
http://www.gulfcouncil.org
Contact: Ava Lasseter
ava.lasseter@gulfcouncil.org

Type of Action

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

Filing Dates with EPA
Notice of intent (NOI) to prepare EIS published: May 13, 2013
Draft environmental impact statement (DEIS) filed with EPA:
DEIS comment period ended:
EPA comments on DEIS:

DEIS TABLE OF CONTENTS

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
ACT	annual catch target
ALS	Accumulated Landings System
AM	accountability measure
BP	British Petroleum
Council	Gulf of Mexico Fishery Management Council
DEIS	Draft Environmental Impact Statement
EEZ	exclusive economic zone
EFH	Essential Fish Habitat
EFP	exempted fishing permit
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Endangered Species Act
FMP	Fishery Management Plan
Gulf	Gulf of Mexico
HBS	Southeast Headboat Survey
IFQ	individual fishing quota
lbs	pounds
LDWF	Louisiana Department of Wildlife and Fisheries
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
mp	million pounds
MRFSS	Marine Recreational Fisheries Survey and Statistics
MRIP	Marine Recreational Information Program
MSST	minimum stock size threshold
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NS	national standard guidelines
OFL	overfishing limit
PDF	probability density function
SAV	submerged aquatic vegetation
SEAMAP	Southeast Area Monitoring and Assessment Program
Secretary	Secretary of Commerce
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office of NMFS
SSB	spawning stock biomass
SSC	Scientific and Statistical Committee
SPR	spawning potential ratio
TAC	total allowable catch
TL	total length
TPWD	Texas Parks and Wildlife Department
VEC	valued environmental components

VOC	volatile organic compounds
ww	whole weight
YPR	yield per recruit

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

This section provides a summary of the actions under consideration that collectively build upon one another to establish a regional management program for recreational red snapper fishing. Action 1 provides two ways in which to enact regional management. One, authority for establishing regionally specific management measures could remain with the Gulf of Mexico Fishery Management Council, which could assign different management measures for the identified regions. The Gulf of Mexico Fishery Management Council currently has the authority to enact regionally specific management measures, as is done for commercial king mackerel. Selecting this alternative would signal the Council's intent to enact regionally specific management measures for recreational red snapper fishing. Alternately, authority could be delegated to the identified regions to determine their regulations, as provided in the Magnuson-Stevens Fishery Conservation and Management Act. A copy of the text for this delegation provision from 16 U.S.C. §1856(a)(3) is provided in Appendix D. Under delegation, regional authorities would be able to specify management measures within the parameters of the preferred alternatives selected under Action 4. To maintain the delegation of recreational red snapper harvest, the management measures established by a region must remain consistent with the fishery management plan and Magnuson Stevens Fishery Conservation and Management Act. Thus, the delegation is effective unless the region is notified that its laws and regulations are inconsistent and fails to correct the inconsistencies.

Action 3 specifies how the recreational red snapper quota will be apportioned among the states or groups of states as selected in Action 2. Action 4 identifies the management measures that may be delegated to the regional level including the timing (season start and end dates) and structure (e.g., continuous or weekends only) of the fishing season, bag limits, size limits, and area closures.

Action 5 addresses the provision requiring federally permitted for-hire vessels to comply with more restrictive federal fishing regulations when fishing in state waters. This regulation was implemented in 2009 as part of the approval of Reef Fish Amendment 30B (GMFMC 2008b). The intent of the regulation was to constrain effort and catch when and if individual states had longer or different fishing seasons than those established in federal waters, and to improve enforceability and reduce the potential to exceed allowable catches. At that time, the Gulf of Mexico Fishery Management Council anticipated that the red snapper stock would continue to increase and rebuild, and the seasons would be longer. However, regardless of the stock increasing and rebuilding, the seasons have been progressively shorter over the past few years. With shortened season lengths, this provision has greatly impacted the charter vessel/headboat federal permit holders.

A recreational quota would remain for the entire Gulf of Mexico. Action 6 provides alternatives for post-season accountability measures, which would specify the action to be taken if the Gulf-wide quota is exceeded. The post-season accountability measures could be applied Gulf-wide or to the individual regions that exceeded their quota. In-season, when a regional quota is projected to be reached, the retention of red snapper would be prohibited in that region to avoid triggering the selected post-season accountability measure. At the Gulf-wide level, the total recreational quota would also need to be monitored, and when projected to be reached, retention of red

snapper by the recreational sector would be prohibited for the entire Gulf of Mexico even if a region has remaining quota.

Finally, Action 7 addresses the federal default management measures that are the portions of the Gulf-wide federal regulations governing recreational red snapper harvest in the Code of Federal Regulations (50 CFR Part 622), which would become active if delegation is suspended or a state opts out of regional management. These federal default regulations would be inactive while the delegation is in effect. However, if a region's delegation is suspended or a region chooses not to participate in delegation, then federal default management measures would be effective for that region. Federal default regulations could be altered through the Generic Framework Procedure (GMFMC 2011b). Current federal regulations would serve as the default management measures including a 2-fish per angler bag limit, 16-inch total length minimum size limit, and a June 1 season opening that closes when the quota is reached or projected to be met.[1] There are not current regulations concerning the specific establishment of areas closed for the recreational harvest of red snapper or sub-allocating the quota; these will not be included in the default management measures. Additional regulations pertaining to the recreational harvest of red snapper are provided in Appendix G. Because the National Marine Fisheries Service does not have the authority to close portions of the exclusive economic zone off a region which has met its quota or had its delegation suspended, the National Marine Fisheries Service would be required to close the entire exclusive economic zone when the Gulf-wide quota is met or projected to be reached.

FISHERY IMPACT STATEMENT

[This statement is completed after selection of all preferred alternatives.]

[1] Recreational red snapper management measures are codified as follows in the Federal Register: season opening 50 CFR 622.34(b); size limit 50 CFR 622.37(a); and bag limit 50 CFR 622.38(b)(3).

CHAPTER 1. INTRODUCTION

1.1 Background

Currently, the recreational harvest of red snapper in the Gulf of Mexico (Gulf) exclusive economic zone (EEZ) is constrained by a 2-fish bag limit, 16-inch total length (TL) minimum size limit, and a fishing season that begins on June 1 and closes when the quota is projected to be caught. Additional federal regulations pertaining to recreational red snapper,[2] such as permit requirements and gear restrictions, are provided in Appendix G. Since 1996, the recreational fishing season for red snapper has become progressively shorter (Table 1.1.1). Shorter seasons have continued despite an annual increase in the quota since 2010, as the quota continues to be caught in a shorter amount of time. For 2013, the federal season length was projected to be 28 days and was closed on June 29. The results of the benchmark assessment (SEDAR 31 2013), released shortly before the start of the season, allowed for an increase in the recreational and commercial quotas. With these increases, the National Marine Fisheries Service (NMFS) opened a supplementary recreational season for October 1 through 14.

Table 1.1.1. Recreational red snapper seasons, quotas, and landings.

Year	Season dates	Number of Days	Recreational Quota	Recreational Landings
1996	January 1 – December 31	365	4.47 mp	4.346 mp
1997	January 1 – November 27	330	4.47 mp	6.008 mp
1998	January 1 – September 30	272	4.47 mp	4.258 mp
1999	January 1 – August 29	240	4.47 mp	3.999 mp
2000	April 21 – October 31	194	4.47 mp	3.932 mp
2001	April 21 – October 31	194	4.47 mp	4.468 mp
2002	April 21 – October 31	194	4.47 mp	5.383 mp
2003	April 21 – October 31	194	4.47 mp	4.847 mp
2004	April 21 – October 31	194	4.47 mp	4.996 mp
2005	April 21 – October 31	194	4.47 mp	4.084 mp
2006	April 21 – October 31	194	4.47 mp	4.021 mp
2007	April 21 – October 31	194	3.185 mp	4.440 mp
2008	June 1 – August 4	65	2.45 mp	3.712 mp
2009	June 1 – August 14	75	2.45 mp	4.625 mp
2010	June 1 – July 23; Oct 1 – Nov. 21 (Fri, Sat., & Sun.)	77	3.403 mp	2.239 mp
2011	June 1 – July 18	48	3.866 mp	4.603 mp
2012	June 1 – July 16	46	3.959 mp	5.146 mp

Quotas and landings are in millions of pounds (mp) whole weight. Source: Southeast Fisheries Science Center (SEFSC) annual catch limit dataset, including landings from the Marine Recreational Information Program (MRIP), Texas Parks and Wildlife Department (TPWD), and the Southeast Headboat Survey (HBS) (May 2013).

[2] Recreational red snapper refers to red snapper harvested by the recreational sector.

Fishermen from different areas of the Gulf have requested more flexibility in recreational red snapper management so that regulations provide greater socioeconomic benefits to their particular area. Therefore, the Gulf of Mexico Fishery Management Council (Council) is considering regional management as a way to provide greater flexibility in the management of recreational red snapper. Here, regional management refers to allowing regulations to be different for identified regions of the Gulf, in contrast to uniform regulations applied to the entire EEZ. This document considers two alternatives for implementing regional management (Action 1): 1) delegation of authority to regions to specify management measures and 2) Council-implemented regionalization, in which the Council specifies the management measures to be used in each region. Such regionally specific management measures may be more appropriate to the fishing preferences of local fishermen. For example, regional regulations could accommodate different tourist seasons or rough weather conditions, thereby optimizing fishing opportunities around the Gulf.

Gulf of Mexico Fishery Management Council

- Responsible for conservation and management of fish stocks
- Consists of 17 voting members, 11 of whom are appointed by the Secretary of Commerce, the National Marine Fisheries Service Regional Administrator, and 1 representative from each of the 5 Gulf states marine resource agencies
- Responsible for developing fishery management plans and amendments, and recommends actions to National Marine Fisheries Service for implementation

National Marine Fisheries Service

- Responsible for preventing overfishing while achieving optimum yield
- Responsible for ensuring compliance with other applicable federal, state, and local laws and regulations
- Implements regulations

Regional management of the recreational red snapper harvest is intended to enable regions to adopt management measures that better fit their needs. However, proposed regional measures must achieve the same conservation goals as the federal management measures in existence at a given time (i.e., constrain the catches of participating fishermen to the region's allocation of the total recreational quota). Red snapper would remain a federally managed species. The Council and NMFS would continue to oversee management of the stock. This includes continuing to comply with the mandate to ensure the red snapper annual recreational quota is not exceeded and that conservation objectives are achieved. The Scientific and Statistical Committee would continue to determine the acceptable biological catch (ABC), while the Council and NMFS would determine the total recreational red snapper quota which would be allocated among the regions. All federal regulations for the harvest of red snapper would remain effective, excluding those management measures selected in Action 4. NMFS would retain authority for the remaining management components, provided in Appendix G, including implementing quota

adjustments, regulating permits, and managing the commercial red snapper individual fishing quota (IFQ) program.

There are benefits and challenges to adopting regional management. The benefits include providing regional level flexibility in the design of management measures. The consideration of regional differences in regulations may allow for optimization of social and economic benefits. For example, the distance from shore that anglers must travel to fish and the optimal times of year for fishing due to weather conditions or tourist seasons may vary, favoring different fishing seasons around the Gulf. The challenges of a regional management approach include a more complex regulatory program, because the single quota would need to be divided and managed separately for each region. Regional management also requires cooperation among federal and state marine resource managers. Effort shifting between regions may reduce the effectiveness of regionalized management. Also, the geographic distribution of the stock may change as the stock rebuilds, resulting in a pattern of landings that may not reflect the original allocation that is distributed. Monitoring catches on a regional level may be more costly than on a Gulf-wide level and require increased sample sizes for data collection. There may also be enforcement concerns, especially at regional boundaries, should fishing seasons and bag limits vary between regions.

History of Council Discussion on Regional Management

The Council has explored the concept of regional management for red snapper for several years. Regional management was discussed by the Ad Hoc Recreational Red Snapper Advisory Panel at its October 2008 meeting, and the Red Snapper Advisory Panel at its December 2009 meeting. Staff presented papers exploring red snapper regional management to the Council at the January 2009, August 2010, and October 2010 meetings (http://www.gulfcouncil.org/resources/briefing_book_archive.php).

In June 2012, the Louisiana Department of Wildlife and Fisheries presented a proposal to the Council for a recreational red snapper regional management pilot program. The Council requested that Louisiana provide further details of their proposed regional management plan for red snapper, and instructed staff to begin developing a plan amendment for regional management of recreational red snapper. At the August 2012 meeting, the Council requested development of a scoping document for regional management of recreational red snapper, which was then discussed at the October 2012 meeting. Scoping meetings were held in January 2013 (Appendix C). The Council reviewed an options paper at its April 2013 meeting, and the first public hearing draft at its June 2013 meeting.

At the February 2013 meeting, the Council passed a motion granting NMFS the authority to reduce the recreational red snapper season in the EEZ off a Gulf state that implements less restrictive regulations for their state-water seasons. This reduction of the federal season was to compensate for the additional harvest that would occur in state waters as a result of the incompatible regulations. In response to the Council's motion, NMFS implemented a temporary emergency rule for the 2013 season (SERO 2013a) and announced the resulting state-specific seasons. On May 31, 2013, the U.S. District Court in Brownsville, Texas, voided the emergency rule. As a result, a Gulf-wide federal recreational red snapper season was established in the EEZ

off of all five Gulf states. For 2013, the season length was 28 days. A supplemental red snapper season opened from October 1 through 14, 2013.

In this plan amendment, the analytical baseline for the actions, excluding Action 7, will be based on the current federal regulations constraining harvest including the 2-fish bag limit, 16-inch TL minimum size limit, and June 1 fishing season start date.[3] NMFS determines the length of the season based on the amount of the quota, the average weight of fish landed, and the estimated catch rates over time. Per the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), NMFS closes all federal waters for the recreational harvest of red snapper when the quota is projected to be met to ensure the entire recreational harvest, including the harvest in state waters, does not exceed the recreational quota.

1.2 Requirements of the Delegation Provision

If delegation of recreational red snapper management is selected and approved (Action 1, Preferred Alternative 2), then the management measures delegated to the individual states or groups of states must be consistent with the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (FMP), including the rebuilding plan, and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Consistency with the FMP requires, among other things, rebuilding declining reef fish stocks, monitoring the reef fish fishery, conserving reef fish habitats and increasing fish habitats, and minimizing conflicts between user groups.

The Magnuson-Stevens Act (16 U.S.C. §1856(a)(3)) outlines the procedure in the case of a state's regulations not being consistent with the FMP (Appendix D). If NMFS determines that a state's regulations are not consistent with the FMP, NMFS shall promptly notify the state and the Council of the determination and provide an opportunity for the region to correct any inconsistencies identified in the notification. If, after notice and opportunity for corrective action, the region does not correct the inconsistencies identified by NMFS, then the delegation to the region shall not apply until NMFS and the Council find that the region has corrected the inconsistencies.

In application, the response times between NMFS' determination of inconsistency and the implementation of corrective action by the state would be case specific. The timelines for correction of inconsistencies would be decided by NMFS on a case by case basis, as it determines whether inconsistencies exist. The timeline for the region's response would be dependent on the nature of the inconsistency. Due to the short season lengths and high catch rates for the recreational harvest of red snapper, the implementation of corrective actions may need to occur very quickly. Under such circumstances, the region would need to establish a process to implement corrective actions very quickly.

[3] Recreational red snapper management measures are codified as follows in the *Federal Register*: season opening 50 CFR 622.34(b); size limit 50 CFR 622.37(a); and bag limit 50 CFR 622.38(b)(3).

As a hypothetical example, if the region implemented the delegated management measures shortly before the season opened, any notification of inconsistency and the implementation of corrective action would need to occur quickly. To accomplish this, the region would need to have the authority to close the season and adjust the bag limit perhaps without having an opportunity to discuss the issue at a formal commission meeting. Alternatively, if the region implemented regulations several months before the opening of the red snapper recreational season, then a longer response time would be possible. This scenario may also allow for the discussion of the issue at a formal commission meeting. These scenarios exemplify the need for case-by-case timelines for the region's response to a notification of inconsistency.

Action 7 provides alternatives to specify the federal default regulations during the suspension of delegation. In addition, it also includes federal default regulations if a region chooses to opt out of delegation. Under delegation, existing federal regulations for those management measures to be delegated to the regions (Action 4) would be suspended to allow the regions to set those management measures. The current Action 4 preferred alternatives with existing federal regulations[4] are the season opening, size limit, and bag limit. In this case, it would be necessary to determine which federal default regulations would apply during the suspension or opting out of delegation. Without default measures, there would be no respective federal regulations for the management measures otherwise delegated to the region (season opening, size limit, and bag limit).

If a region is determined to be inconsistent by NMFS and does not implement corrective action, then the delegation would be suspended until the identified inconsistencies are corrected. In this situation, without default regulations in place, NMFS would need to close the Gulf EEZ off that region, until the inconsistency is corrected. If the federal default regulations are implemented for a region, NMFS would publish a notice with the Office of the Federal Register announcing such an action. Thus, default regulations must be established to continue fishing in the regions remaining consistent with the FMP.

A region may decide to opt out of delegation and request the federal default measures be applied to the adjacent EEZ (Figure 1.1.1) for the recreational harvest of red snapper. To opt out of delegation, the region should send a letter to NMFS requesting the federal default regulations be applied to their region for the fishing year. A season length would be calculated by NMFS based on the region's quota as apportioned in Action 3. Inherently, if only one region opts-out, then it would still essentially be constrained by the terms of delegation as per the regional area and quota apportionment.

Under delegation, the EEZ could potentially remain open year-round, and anglers' access to harvesting red snapper from the EEZ would be constrained by the management measures established for their region. Each region would prohibit further landings after its portion of the quota has been caught. Under certain conditions, the EEZ off a given region could be closed. To be consistent with national standard 4 (NS 4) of the Magnuson-Stevens Act, these closures should apply to all recreational vessels. Actions 4 and 7 include preferred alternatives that specify conditions for closing an area of the EEZ. Action 4's Preferred Alternative 6 proposes to allow a region to establish closed areas within the EEZ adjacent to the region. Action 7 would

[4] Ibid.

apply NMFS' default regulations to the EEZ off a region should that region's delegation authority be suspended (Preferred Alternative 2, Preferred Option a) or the region chooses not to participate in regional management (Preferred Alternative 3).

As referred to in these alternatives, the areas in the EEZ off a region are described in Figure 1.1.1 and the corresponding boundary description. The boundaries represent the jurisdictional lines as described below. If the Council chooses to combine states into region, then the outermost state boundaries would be used to define the geographic region. In addition, the Council could choose to establish new jurisdictional lines to define regions.

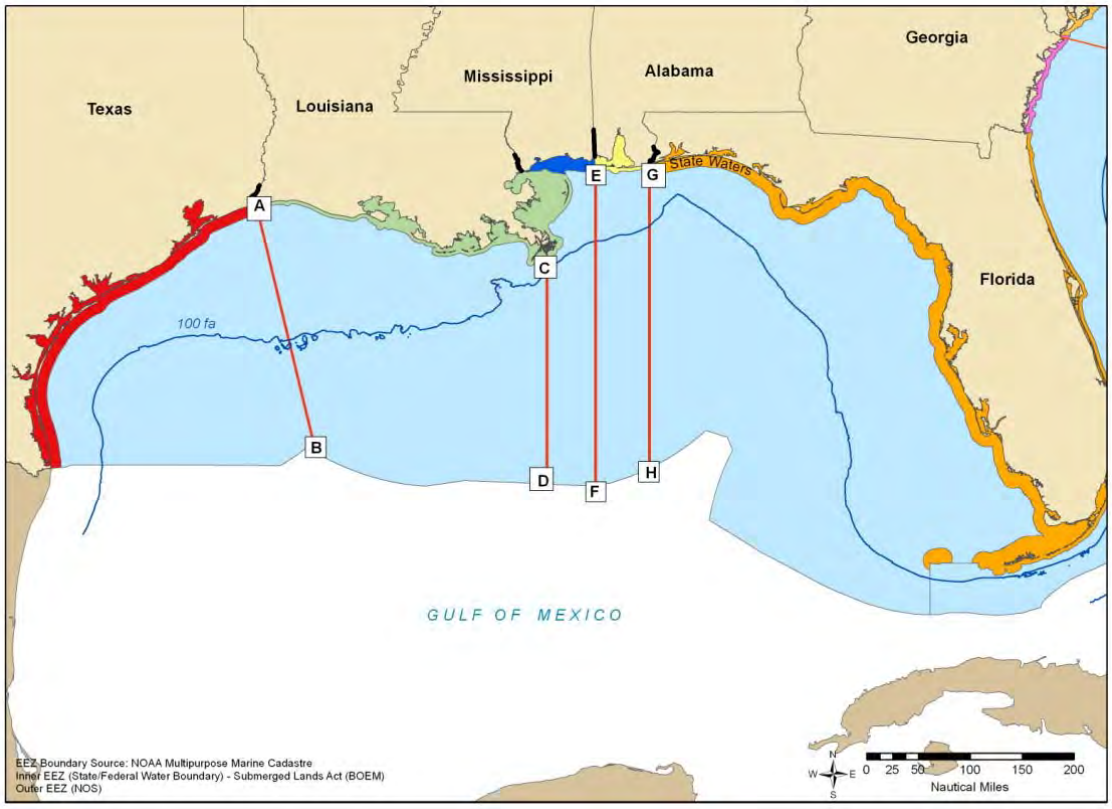

Figure 1.1.1. Map of state waters and the EEZ with established and proposed boundaries between states. These boundaries were agreed upon at the February 2013 Council meeting.

Boundary Description for Figure 1.1.1

The boundaries in Figure 1.1.1 were agreed upon by the representatives from each state marine resource agency at the February 2013 Council meeting. All lines begin at the boundary between state waters and the EEZ. Line A-B, defining the EEZ off Texas, is already codified as a line from 29°32.1' N latitude, 93°47.7' W longitude to 26°11.4' N latitude, 92°53.0' W longitude, which is an extension of the boundary between Louisiana and Texas (50 CFR 622.2). Likewise, line G-H, defining the EEZ off Florida, is codified as a line at 87°31.1' W longitude extending

directly south from the Alabama/Florida boundary (50 CFR 622.2). The other two lines have not been codified, but were negotiated between the adjacent states prior to the February 2013 meeting. Line E-F is a line at 88°23.1' W longitude extending directly south from the boundary between Alabama and Mississippi.

Line C-D is a line at 89°10.0' W longitude extending directly south from the South Pass Light in the Mississippi River delta in Louisiana. Unlike the other lines, this line is not based on the boundary between Louisiana and Mississippi because doing so would be impracticable. Louisiana has jurisdiction over the Chandeleur Islands, which extend into waters south of Mississippi. A line based on the state waters boundary just north of the islands could result in inequitable impacts on Mississippi anglers as it would identify federal waters that are off both Mississippi and Louisiana as being exclusively off Louisiana. A line based on the state land boundary would be even further west and would reduce the size of the EEZ off Louisiana. Therefore, this line was considered a fair compromise by representatives of both states.

1.3 Purpose and Need

The purpose of this action is to provide flexibility in the management of the red snapper recreational component in the reef fish fishery by reorganizing the federal fishery management strategy, modifying the for-hire permit provisions, and developing AMs for recreational overages to better account for biological, social, and economic differences among the regions of the Gulf.

The need is to adhere to the NSs of the Magnuson-Stevens Act and to reconsider fishery management within the context of the regions of the Gulf. This reconsideration is intended to better prevent overfishing while achieving, on a continuing basis, the optimum yield from the recreational red snapper component of the Gulf reef fish fishery (NS 1); take into account and allow for variations among, and contingencies in the fisheries, fishery resources, and catches (NS 6); and provide for the sustained participation of the fishing communities of the Gulf and to the extent practicable, minimize adverse economic impacts on such communities (NS 8).

1.4 History of Management

This history of management covers events pertinent to recreational red snapper and the Council's consideration of regional management for the recreational harvest of red snapper. A complete history of management for the FMP is available on the Council's website: http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management.php
Prior to 1997, the recreational red snapper season was open year-round. Catch levels were controlled through minimum size limits and bag limits. The Sustainable Fisheries Act of 1996 required the establishment of quotas for recreational and commercial red snapper that, when reached, result in a prohibition on the retention of fish caught by each sector, respectively, for the remainder of the fishing year. From 1997 through 1999, NMFS implemented the recreational quota requirement through an in-season monitoring process that projected closing dates a few weeks in advance. For the years 1997 through 1999, the recreational red snapper season was closed earlier each year (Table 1.1.1). In 1999, an emergency rule temporarily raised the

recreational red snapper minimum size limit from 15 to 18 inches TL towards the end of the season from June 4 through August 29 in an attempt to slow down the retained harvest rate. Without this emergency rule, the season would have closed on August 5. However, the rule resulted in a large increase in dead discards and the size limit was allowed to revert back to 15 inches TL the following year. Additional details regarding the seasons and regulation changes for red snapper are presented in Hood et al. (2007).

A February 2000 regulatory amendment (GMFMC 2000) replaced the system of in-season monitoring and closure projections with a fixed season based on a pre-season projection of when the recreational quota would be reached. The season for 2000 and beyond was initially set at April 15 through October 31, with a 16-inch TL minimum size limit, 4-fish bag limit, and zero bag limit of red snapper by the captain and crew of for-hire vessels. Shortly before the regulatory amendment was submitted to NMFS, the Council, at the request of representatives of the for-hire industry, withdrew the zero bag limit proposal for captain and crew. NMFS recalculated the season length under the revised proposal, and as a result, implemented the regulatory amendment with a recreational fishing season of April 21 through October 31. This recreational fishing season remained in effect through 2007.

In 2008, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007) revised the rebuilding plan for red snapper. For the recreational sector, the rule implemented a June 1 through September 30 fishing season in conjunction with a 2.45 million pound (mp) recreational quota, 16-inch TL minimum size limit, 2-fish bag limit, and zero bag limit for captain and crew of for-hire vessels. The implementing regulations for this amendment created the June 1 through September 30 season by establishing fixed closed seasons of January 1 through May 31, and October 1 through December 31.

The amendment also addressed differences in shrimp and red snapper fishing effort between the western and eastern Gulf, and the impacts of fishing on the red snapper rebuilding plan. The Council considered options for modifying recreational red snapper fishing effort, including different season opening dates and weekend only or consecutive seasons, for the following regions: Texas and the rest of the Gulf; east and west of the Mississippi River; and maintaining consistent Gulf-wide regulations. The Council ultimately opted to maintain consistent Gulf-wide regulations, with a recreational season from June 1 through September 15. Early versions of the amendment proposed establishing regulations for commercial red snapper fishing for the eastern and western Gulf. The action was considered but rejected because establishing different regulations would compromise the objectives of the IFQ program and reduce the flexibility and efficiency of IFQ program participants.

The Southeast Data Assessment and Review (SEDAR) 7 red snapper assessment provided an option to set two regional total allowable catches with the Mississippi River as the dividing line (SEDAR 7 2005; SEDAR 7 Update 2009). These assessments assume there are two sub-units of the red snapper stock within this region, separated commercially by the Mississippi River (shrimp statistical grids 12 and 13) and recreationally at the Mississippi/Louisiana state line. The most information collected and developed thus far is based on the assessment process and follows this particular split, which is included as an alternative for regional management.

The Sustainable Fisheries Act required the NMFS Regional Administrator to close the recreational red snapper season when the quota is projected to be met. When Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007) was submitted to NMFS, the Council requested that the five Gulf states adopt compatible regulations in state waters. Florida adopted a compatible 2-fish bag limit, but maintained its state red snapper fishing season of April 15 through October 31, 78 days longer than the federal fishing season. Texas also maintained its 4-fish bag limit and year-round fishing season in its state waters. Prior to the start of the 2008 season, NMFS recalculated its projections for the recreational red snapper season in light of the state regulations, and projected that there would be a 75% probability that the recreational quota would not be exceeded if the season closed on August 5. As a result, NMFS set the 2008 season to be June 1 through August 4. In 2009, NMFS again recalculated its projections for the season length prior to the start of the recreational season and announced that the recreational season would be June 1 to August 15.

A February 2010 regulatory amendment (GMFMC 2010) increased the total allowable catch from 5.0 mp to 6.945 mp, which increased the recreational quota from 2.45 mp to 3.403 mp. However, NMFS estimated that in 2009, the recreational sector overharvested its quota by approximately 75%. In recalculating the number of days needed to fill the recreational quota, even with the quota increase, NMFS projected that the 2010 season would need to be shortened to June 1 through July 24, and published notice of those dates prior to the start of the recreational fishing season.

In April 2010, 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 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 coastal Gulf, resulted in a much lower catch than had been projected. After the recreational season closed on July 24, NMFS estimated that 2.3 mp of the 3.4 mp recreational quota remained unharvested (NMFS 2010). However, due to the fixed October 1 through December 31 closed season, NMFS could not reopen the recreational season without an emergency rule to suspend the closure. Consequently, the Council requested an emergency rule to provide the NMFS 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).

A January 2011 regulatory amendment (GMFMC 2011a) increased the red snapper total allowable catch to 7.185 mp, with a 3.521 mp recreational quota and a 3.664 mp commercial quota. The final rule also established a 48-day recreational red snapper season, running June 1 through July 19. On August 12, 2011, NMFS published an emergency rule that, in part, increased the recreational red snapper quota by 345,000 lbs for the 2011 fishing year and provided the agency with the authority to reopen the recreational red snapper season later in the year, if the recreational quota had not been filled by the July 19 closing date. However, based on available recreational landings data through June, NMFS calculated that 80% of the recreational quota had been caught. With the addition of July landings data plus Texas Parks and Wildlife Department survey data, NMFS estimated that 4.4 to 4.8 mp were caught, well above the 3.865 mp quota. Thus, no unused quota was available to reopen the recreational fishing season.

A March 2012 regulatory amendment (GMFMC 2012d) increased the commercial and recreational quotas and removed the fixed recreational season closure date of October 1. The recreational season opened June 1 through July 11. However, the north-central Gulf experienced extended severe weather during the first 26 days of the 2012 recreational red snapper fishing season, including Tropical Storm Debby. Because of the severe weather, NMFS extended the season by six days and closed on July 17.

A March 2013 framework action (GMFMC 2013a) increased the commercial and recreational red snapper quotas from a combined 8.08 mp to 8.46 mp. This was the result of new rebuilding projections based on the 2009 update assessment (SEDAR 7 Update 2009) that were revised to account for actual landings during 2009-2012. The resulting sector allocations were 4.315 mp (commercial) and 4.145 mp (recreational). NMFS published the final rule increasing the quota based on state-specific recreational red snapper seasons, which NMFS had previously announced it would do in a March 2013 emergency rule. On May 31, 2013, the U.S. District Court in Brownsville, Texas voided the emergency rule, and the Gulf-wide federal recreational red snapper season was established from June 1 through June 28. In July, the Council reviewed a new benchmark assessment (SEDAR 31 2013) which showed that the red snapper stock was rebuilding faster than projected, partly due to strong recruitment in some recent years. Combined with a new method for calculating the ABC, the SSC increased the ABC for 2013 to 13.5 mp, but warned that the catch levels would have to be reduced in future years if recruitment returned to average levels. After incorporating a buffer to reduce the possibility of having to later reduce the quota, the Council further increased the 2013 commercial and recreational quotas to a combined 11.0 mp (5.61 mp and 5.39 mp, respectively) (GMFMC 2013b). This increase occurred too late to extend the June recreational season, so the Council requested that NMFS reopen the recreational season on October 1 for whatever number of days would be needed to harvest the additional quota. NMFS estimated that the additional recreational quota would take 14 days to be caught and announced a supplemental season of October 1 through 14.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 –Regional Management

Alternative 1: No Action – Retain current federal regulations for management of recreational red snapper[5] in the Gulf of Mexico (Gulf) exclusive economic zone (EEZ).

Preferred Alternative 2: Establish a regional management program that delegates authority to a state or group of states to establish certain management measures for the harvest of an assigned portion of the recreational red snapper quota.

Preferred Option a: Allow delegation to sunset after 5 calendar years of the program. If selected, delegation may be extended through the standard open framework process, requiring a three-quarters majority vote.

Option b: Allow delegation to sunset after 10 calendar years of the program. If selected, delegation may be extended through the standard open framework process, requiring a three-quarters majority vote.

Alternative 3: Establish a regional management program indicating the Gulf of Mexico Fishery Management Council's (Council) intent to specify distinct recreational red snapper management measures for selected regions.

Discussion:
Alternative 1 (**no action**) would retain current management measures for the recreational harvest of red snapper in the Gulf of Mexico (Gulf) exclusive economic zone (EEZ). Currently, these measures include a 2-fish per angler per day bag limit, a 16-inch total length (TL) minimum size limit, and a June 1 fishing season start date.[6] **Preferred Alternative 2** and **Alternative 3** propose different approaches to regional management for recreational red snapper. Under either alternative, red snapper would remain under federal management jurisdiction, subject to Gulf-wide closure when the annual recreational quota is met. Essentially, while a state or states would be given some management authority, it is not the complete authority advocated for by some supporters of regional management. Only those management measures selected in Action 4 would be delegated, and thus eligible for modification at the regional level. Any management measures implemented by a state must adhere to the goals of the rebuilding plan and be consistent with federal and other applicable laws.

Under **Preferred Alternative 2**, regional management is defined as the delegation of limited management authority to a state or contiguous states, which would then establish appropriate management measures to constrain recreational harvest to the assigned portion of the recreational red snapper quota. The Magnuson-Stevens Fishery Conservation and Management Act

[5] Recreational red snapper refers to red snapper harvested by the recreational sector.
[6] Recreational red snapper management measures are codified as follows in the *Federal Register*: season opening 50 CFR 622.34(b); size limit 50 CFR 622.37(a); and bag limit 50 CFR 622.38(b)(3). The regulations are also provided in Appendix G.

(Magnuson-Stevens Act) allows for the delegation of management to a state to regulate fishing vessels beyond their state waters, provided its regulations are consistent with the fishery management plan (FMP; Appendix D). The delegation of management authority to the states (**Preferred Alternative 2**) requires a three-quarters majority vote of the voting members of the Gulf of Mexico Fishery Management Council (Council) members.

If **Preferred Alternative 2** is selected, it is possible that not all states will participate. Non-participating states or regions would be required to adhere to the federal default management measures (Action 7). Because participating states would still receive their allocation (Action 3), a non-participating state's season length would be determined based on the remaining quota balance after subtracting the quota for participating states. Thus, the non-participating state's season length would be projected based on the amount of quota it would have received if participating.

From a regulatory perspective, **Alternative 3** is indistinguishable from **Alternative 1**; the Council currently has the authority to establish regional management measures and retains this authority under **Alternative 1** (**no action**). However, this authority has not been used for recreational red snapper management. Thus, **Alternative 3** is provided as an alternative so that **Alternative 1** may be discussed as status quo (recreational red snapper regulations are currently Gulf-wide), while **Alternative 3**, if selected, would indicate the Council's intent to specify regional effort constraints for recreational red snapper.

Alternative 3 signifies the Council's intent to depart from traditional Gulf-wide management and assign different management measures for regions selected in Action 2. In contrast to the delegation option (**Preferred Alternative 2**), the Council would decide on the management measures to be used in each region. It is assumed that the state representatives would provide input as to their state's preferred management measures. **Alternative 3** would allow for discussion and debate among Council representatives of all Gulf states and constituencies regarding the proposed regulations of each region or state. Thus, **Alternative 3** would grant less management authority directly to the states or regions than **Preferred Alternative 2**, but would maintain the traditional Council process in which different interests may be evaluated and discussed.

Should **Preferred Alternative 2** be implemented, the Council would need to develop a new plan amendment should it decide to modify or end delegation. Approving a plan amendment to modify the delegation would require a three-quarters majority vote, while a simple majority would be required to approve a plan amendment that ends delegation. The process to implement a plan amendment requires time, so the Council should begin this process as soon as desired modifications are identified. At any time, a region or regions could opt out and not participate in regional management. Although delegation would be inactive and such a region would fish under the default regulations, related actions in this amendment would remain effective. If one or more regions opt out of delegation, the regulations implementing the preferred alternatives selected under Actions 5, 6, and 7 would remain effective, and applicable toward those regions that have opted out of delegation, until modified through a plan amendment.

To avoid the need to develop a plan amendment to end delegation, the Council could adopt a sunset provision concurrent with program implementation (**Alternative 2**, **Preferred Option a** and **Option b**) that would end the delegation and all associated actions in this amendment at a specified time. Should a sunset provision be adopted and the Council decides subsequently to continue the delegation, the Council could continue the delegation using the standard open framework procedure; passing this action would require a three-quarters majority vote among voting Council members. The Council could still end or modify the delegation at any time by initiating a plan amendment, just as if a sunset option had not been selected. A decision to continue the delegation by removing the sunset or to modify the delegation would require a three-quarters majority vote. A simple majority vote would be needed to approve a plan amendment to end delegation before it automatically sunsets, or to rescind delegation after the Council removes the sunset and continues the delegation. Table 2.1.1 summarizes the options available to the Council should they wish to make changes to delegated regional management following implementation, and compares the options available whether or not a sunset option is chosen. The vote required to pass each document is also noted. A summary of the document and corresponding vote needed by the Council to make changes to delegation is provided in Table 2.1.1. Sunset options are not considered for Council-controlled regional management (**Alternative 3**) as the normal Council process would be used to make and modify provisions to the program; these decisions require a simple majority vote.

Table 2.1.1. Comparison of documents to be developed, and vote needed to pass, if the Council decides to modify, end, or continue delegation following implementation of this plan amendment, with or without selection of a sunset option.

	If the Council wants to:		
	Modify Delegation	**End Delegation**	**Continue Delegation**
Sunset Option (a or b) selected	Plan amendment (3/4 majority vote)	No action necessary	Standard Open Framework Action (3/4 majority vote)
No Sunset Option (a or b) was selected	Plan amendment (3/4 majority vote)	Plan amendment (simple majority vote)	No action necessary

The sunset options under **Alternative 2** propose timelines for ending the delegation. An option need not be selected as preferred. If no option is selected, no sunset date for delegation will be established. Under **Preferred Option a** the delegation would end after 5 years and under **Option b** delegation would end after 10 years. For both options, the delegated authority would expire at the end of the fifth or tenth calendar year of the program, regardless of the implementation date of this amendment. For example, if this amendment were to be implemented in May 2014 with **Preferred Option a** selected as preferred, delegated authority would end December 31, 2018. Ending delegation means that management authority is removed from the states and returned to the National Marine Fisheries Service (NMFS). All regulations associated with all actions in this plan amendment would expire at the sunset date, including any accountability measures.

2.2 Action 2 – Establish Regions for Management

Alternative 1: No Action – Retain current federal regulations for management of recreational red snapper in the Gulf EEZ.

Alternative 2: Establish an east (Florida, Alabama, Mississippi) and west (Louisiana, Texas) region and allow for different management measures for each region.

Preferred Alternative 3: Establish five regions representing each Gulf state.

Alternative 4: Allow each state or group of contiguous states to determine its own region through submission of a regional management proposal.

Alternative 5: Establish an east (Florida, Alabama) and west (Mississippi, Louisiana, Texas) region and allow for different management measures for each region.

Discussion:
Under **Alternative 1** (**no action**), management measures would remain the same for the recreational harvest of red snapper in the entire Gulf EEZ. Currently those regulations specify a June 1 fishing season start date, a 16-inch TL minimum size limit, and a 2-fish per angler per day bag limit. Additionally, captain and crew are prohibited from retaining a bag limit while under charter. The remaining alternatives propose to divide the Gulf into regions, using the boundaries specified in Figure 1.1.1.

Alternatives 2 and **5** would establish two regions: eastern and western Gulf. In both alternatives, Florida and Alabama make up the eastern region, and Louisiana and Texas make up the western region. The alternatives differ in that Mississippi is part of the eastern region under **Alternative 2**, and is part of the western region in **Alternative 5**. Because **Alternatives 2** and **5** include more than one state in a region, the states sharing a region would need to agree on the set of shared management measures and to close the region's red snapper season when the quota is reached or projected to be reached.

In addition, **Alternative 2** would divide the Gulf into regions that most closely approximate the eastern and western sub-units used in the red snapper stock assessment, thereby affording the opportunity to adopt regional management measures based on the differences in biological abundance. The Red Snapper Benchmark Assessment (SEDAR 31 2013) estimated that the western Gulf sub-unit would carry a disproportionate burden of stock recovery. This is true for two reasons, first because it is currently estimated to have higher stock biomass and second because the average fishing mortality rate at age is estimated to be lower in the western Gulf compared to the eastern Gulf (SEDAR 31 2013). Therefore, the eastern and western sub-units of the red snapper stock are projected to rebuild at different rates based on current estimates of population abundance. However, the ultimate result of increasing fishing pressure on the eastern sub-unit compared to the western sub-unit is that the eastern component is projected to continue to be prosecuted on mostly small, young fish which is projected to result in a truncated population age distribution.

A red snapper larval transport study in the northern Gulf examined the potential for repopulating the eastern Gulf stock through larval transport from the more populous western stock (Johnson et al. 2009). Red snapper larval abundance was determined to be twice as great over the Louisiana-Texas shelf as over the Mississippi-Alabama shelf and four times as great over the Mississippi-Alabama shelf as over the west Florida shelf (Hanisko et al. 2007). Hanisko et al. (2007) compared the larval abundance from fall plankton studies in the eastern Gulf and determined the area off Mississippi/Alabama was disproportionately smaller than off west Florida, but accounted for half the abundance of red snapper larvae in the eastern Gulf.

A problem with using the sub-units of the stock assessment is that the dividing line used in the assessment does not fall precisely along a state boundary. Thus, there would be a difference in using the proportion of the red snapper suggested by the stock assessment that could be taken from each sub-unit (Action 3, Alternative 4), and the proportion of aggregated states' landings coinciding with the selection of **Alternative 2**, which most closely approximates the boundary used in the stock assessment, and **Alternative 5**, which extends the western region's boundary to include Mississippi. Although the regional boundary under **Alternative 5** is further to the east than **Alternative 2** (and thus deviates further from the sub-units of the stock assessment), including Mississippi in the same region as Louisiana rectifies the issue that the eastern portion of Louisiana's state water boundary essentially obstructs Mississippi's access to the EEZ from its state waters (Figure 1.1.1).

Preferred Alternative 3 would establish each Gulf state as its own region. This alternative would provide the most flexibility to individual states to determine their choice of management measures. **Alternative 4** would not specify regions but enable the states to decide for themselves whether they wanted to join together and share management measures as a unified region. **Alternative 4** may only be selected if delegation is selected under Action 1 (Preferred Alternative 2), and allows the regional management program to be modeled after summer flounder management in the Atlantic states. Under **Alternative 4**, there could be up to five regions. Should a state fail to implement regional regulations consistent with the FMP, that state would harvest red snapper under the federal default management measures (Action 7).

Generally, establishing more regions (such as under **Preferred Alternative 3** or **Alternative 4**) will mean a more subdivided quota and entail more complicated management. For example, under current management, state and federal waters Gulf-wide are open during the red snapper season. By allowing regions to set their own fishing seasons, some regions of the Gulf could be open while others are closed. Bag limits and size limits may also vary among regions. Therefore, enforcement will be conducted dockside, primarily. At sea enforcement could be most complicated near the boundaries between regions with different management measures, as it could be difficult for enforcement agents to determine which region's jurisdiction applies to a recreational vessel. In these cases, it is assumed that enforcement agents would consider the most liberal of the regions' management measures in place at the time, to serve as guidelines for determining regulatory compliance. For example, if no region has a bag limit greater than four red snapper per person per day, then a vessel possessing red snapper in excess of this bag limit, regardless of where in the EEZ it is fishing, could be in violation if stopped by enforcement agents.

There are also issues with using the Marine Recreational Information Program (MRIP) catch estimates for states where species are infrequently sampled. This may occur if a given species is rarely captured or if there are relatively few sample locations in a state. These situations increase proportional variability, resulting in additional scientific or management uncertainty that could affect the use of these data. These problems can be mitigated by increasing: 1) the intensity of sampling, 2) spatial extent of the sample frame (e.g., Gulf-wide variability is less than estimates for individual states), or 3) lengthening the time-period used to develop catch estimates (i.e., wave-length). In practice, each of these measures has impediments. For example, funding may be inadequate to support additional monitoring and temporal or spatial resolution may not match management needs. This should be considered when developing management frameworks. In addition, Texas Parks and Wildlife Department (TPWD) uses its own survey for estimating catches, using a different methodology than MRIP. Also, Louisiana Department of Wildlife and Fisheries announced on September 5, 2013 that the state will no longer participate in MRIP. If regional management is established at the state level, this could create a question of whether the catch estimates for Texas and Louisiana are comparable to those of the other states.

2.3 Action 3 – Apportioning the Recreational Red Snapper Quota among Regions

Alternative 1: No Action – Retain current federal regulations for management of recreational red snapper in the Gulf EEZ, which includes setting a Gulf-wide recreational red snapper quota.

Alternative 2: Apportion the recreational red snapper quota among regions selected in Action 2, based on the average of historical landings for the years:

Option a: 1986-2012
Option b: 1996-2012
Option c: 2006-2012
Option d: 50% from 1986-2012 and 50% from 2006-2012

Alternative 3: In calculating regional apportionments, exclude from the selected time series:
Option a: 2006 landings
Option b: 2010 landings

Alternative 4: Establish eastern and western recreational red snapper quotas, divided at the Mississippi River, based on the regional acceptable biological catches (ABCs) resulting from the separate east Gulf and west Gulf stock assessments.

Alternative 5: Apportion the recreational red snapper quota among the Gulf states based on 50% of the average of historical landings from 1986-2011 and 50% of the average of historical landings from 2006-2011, excluding landings from 2010, and rounding the resulting proportions to whole numbers.

Discussion:
The adoption of regional management for the recreational red snapper quota will require the quota to be apportioned, or allocated, among the selected regions. Allocation is an inherently controversial issue because a limited resource is divided among competing user groups, each of which benefits from receiving the largest portion possible. Allocation decisions would need to follow the Principles and Guidelines for Allocation adopted by the Council (Appendix E).

At this time no preferred alternative exists for this action and it will be identified in the Final Environmental Impact Statement. The data for this action are currently being reviewed and the states are debating the apportionments. The Council and NMFS welcome public and state input to determine the preferred alternative. Ultimately, the preferred alternative for this action may influence the preferred alternatives in the other actions.

Alternative 1 (**no action**) would maintain a single red snapper quota for the recreational sector. Currently, there is no expressed state allocation; the proportion of the total recreational landings made up by each state varies from year to year, as seen in Table 2.3.1. **Alternatives 2**, **4**, and **5** propose methods for apportioning the recreational red snapper quota. Regardless of the alternative selected, in some years, each state's landings exceed their average. This means that

requiring the states to constrain their catches to a percentage of the total quota could restrict the fluctuations in annual landings that occur in some years.

Table 2.3.1. Percentage of annual recreational red snapper landings by state (1986-2012), based on whole weight (ww) of fish.

Year	Alabama	Florida	Louisiana	Mississippi	Texas
1986	10.9%	53.7%	17.7%	0.1%	17.7%
1987	17.6%	42.0%	12.9%	2.5%	25.1%
1988	15.6%	29.1%	31.7%	0.7%	22.9%
1989	16.5%	15.0%	21.7%	10.5%	36.3%
1990	39.8%	20.8%	14.2%	2.8%	22.3%
1991	28.6%	15.7%	31.9%	5.9%	17.9%
1992	31.3%	7.9%	23.8%	15.8%	21.1%
1993	27.9%	17.2%	22.1%	12.1%	20.8%
1994	30.1%	13.7%	20.4%	7.6%	28.2%
1995	30.2%	9.7%	27.0%	2.7%	30.4%
1996	30.8%	17.6%	16.1%	3.7%	31.8%
1997	37.5%	14.1%	16.5%	9.3%	22.6%
1998	27.9%	27.8%	14.5%	3.7%	26.1%
1999	38.1%	28.5%	15.7%	3.9%	13.8%
2000	28.4%	35.1%	18.1%	1.1%	17.4%
2001	41.3%	39.2%	6.1%	2.0%	11.5%
2002	39.2%	37.8%	6.1%	3.5%	13.4%
2003	36.9%	35.7%	8.8%	5.8%	12.9%
2004	25.7%	56.2%	5.7%	0.8%	11.5%
2005	26.0%	47.3%	11.9%	0.1%	14.7%
2006	18.0%	50.1%	14.9%	0.6%	16.4%
2007	18.8%	58.6%	12.6%	0.1%	9.8%
2008	14.3%	59.5%	15.7%	1.0%	9.5%
2009	18.6%	52.2%	14.0%	1.4%	13.8%
2010	12.2%	64.8%	2.5%	0.4%	20.2%
2011	41.1%	39.1%	7.6%	1.1%	11.2%
2012	28.1%	41.5%	14.8%	3.7%	12.0%

Source: Southeast Fisheries Science Center (SEFSC) annual catch limit dataset, including MRIP, TPWD, and Southeast Headboat Survey (HBS) landings. Alabama and the Florida Panhandle HBS landings are initially reported to the same headboat fishing area. Landings have been assigned to each state based on the HBS vessel landing records (May 2013). Actual landings are provided in the Appendix (Table F-1).

Alternative 2 includes four options for apportioning the recreational quota using averages of historical landings for varying time series (Table 2.3.2). **Alternative 3** provides options for excluding particular years from the historical landings averages, due to impacts that affected recreational fishing opportunities during or immediately preceding those years (e.g., fishing

closures following the Deepwater Horizon MC252 oil spill). **Alternative 3** may only be selected if an option under **Alternative 2** is selected as preferred; additionally, one or both options under **Alternative 3** may be selected as preferred. The two years provided were discussed at a joint meeting of the five Gulf states' respective heads of their natural resource departments. Hurricane Katrina struck late in the fishing season of 2005, therefore landings from 2006 are proposed for exclusion. The Deepwater Horizon MC252 oil spill began in April 2010, prior to the opening of the 2010 recreational red snapper season (see Figure 3.3.1 for the extent of the fishing closures). **Option a** would exclude landings from 2006 from each time series (Table 2.3.3), and **Option b** would exclude landings from 2010 from the time series (Table 2.3.4). Resulting averages for landings if both options are selected are provided in Table 2.3.5. The exclusion of landings from 2006 (**Option a**), 2010 (**Option b**), or both (**Options a** and **b**) could be selected alongside any preferred option in **Alternative 2**.

Table 2.3.2. Resulting proportions of the recreational red snapper quota that could be apportioned to each state based on four options (Alternative 2) of historical landings time series.

Alternative 2	Years	Alabama	Florida	Louisiana	Mississippi	Texas
Option a	1986-2012	28.2%	33.9%	15.4%	4.1%	18.4%
Option b	1996-2012	29.3%	40.3%	12.0%	2.7%	15.7%
Option c	2006-2012	22.5%	51.0%	12.4%	1.3%	12.8%
Option d	50% (1986-2012), 50% (2006-2012)	25.4%	42.5%	13.9%	2.7%	15.6%

Note: Actual landings on which Tables 2.3.2 – 2.3.5 are based can be found in the Appendix (Table F-1).

Table 2.3.3. Resulting proportions of the recreational red snapper quota that could be apportioned to each state based on four options (Alternative 2) of historical landings time series, excluding landings from 2006.

Alternative 2 with Alternative 3 Option a	Years	Alabama	Florida	Louisiana	Mississippi	Texas
Option a	1986-2012	28.6%	33.3%	15.4%	4.2%	18.5%
Option b	1996-2012	30.0%	39.7%	11.8%	2.9%	15.7%
Option c	2006-2012	23.3%	51.2%	12.0%	1.4%	12.2%
Option d	50%:50%	25.9%	42.3%	13.7%	2.8%	15.3%

Table 2.3.4. Resulting proportions of the recreational red snapper quota that could be apportioned to each state based on four options (Alternative 2) of historical landings time series, excluding landings from 2010.

Alternative 2 with Alternative 3 Option b	Years	Alabama	Florida	Louisiana	Mississippi	Texas
Option a	1986-2012	28.5%	33.3%	15.6%	4.2%	18.4%
Option b	1996-2012	29.9%	39.5%	12.2%	2.8%	15.6%
Option c	2006-2012	23.4%	49.8%	13.2%	1.4%	12.1%
Option d	50%:50%	25.9%	41.8%	14.4%	2.7%	15.2%

Table 2.3.5. Resulting proportions of the recreational red snapper quota that could be apportioned to each state based on four options (Alternative 2) of historical landings time series, excluding landings from 2006 and 2010.

Alternative 2 with Alternative 3 Options a & b	Years	Alabama	Florida	Louisiana	Mississippi	Texas
Option a	1986-2012	28.9%	32.6%	15.7%	4.3%	18.5%
Option b	1996-2012	30.5%	38.9%	12.1%	2.9%	15.5%
Option c	2006-2012	24.4%	49.8%	12.9%	1.5%	11.4%
Option d	50%:50%	26.6%	41.5%	14.2%	2.9%	14.8%

Alternative 4 considers apportioning the quota based on the projected yields for the ABC for the eastern and western Gulf, as derived from the updated projections from the 2009 assessment (Linton 2012a), and may be selected as preferred if Alternatives 2 or 5 are selected as preferred in Action 2. The resulting apportionments of the ABC from that assessment would be 48.5% for the eastern and 51.5% for the western Gulf (Linton 2012a). The eastern and western Gulf yield projections were not provided in the most recent 2013 benchmark stock assessment (SEDAR 31 2013); a request for these data has been submitted to the Southeast Fisheries Science Center (SEFSC).

As discussed in the previous action, all options for creating regions fall along state boundaries. Although the eastern and western regions proposed under Action 2's Alternative 2 most closely approximate the eastern and western components used in the stock assessment and **Alternative 4**, they do not overlap exactly. There would be a difference in using the proportion of red snapper suggested by the stock assessment that could be taken from each sub-unit (**Alternative 4**), and the proportion of aggregated states' landings coinciding with the selection of Action 2's Alternative 2. Nevertheless, **Alternative 4** would provide a biologically based apportionment for regional management. Action 2's Alternative 5 would also divide the Gulf into eastern and western regions, but its regional boundary, between Mississippi and Alabama, deviates further from the eastern and western components of the stock assessment than Action 2's Alternative 2.

The heads of the five Gulf states' respective marine resources departments developed an equation on which the regional allocations could be based (**Alternative 5**). Each state's

apportionment of the recreational quota would be determined using 50% of the average proportions of historical landings from 1986-2011 and 50% from 2006-2011, excluding landings from 2010, and rounding to whole percentages. Landings from 2010 were excluded due to the disruptions to recreational fishing following the Deepwater Horizon MC252 oil spill and subsequent fishing closures.

It is possible that one or more states may opt out and not participate in regional management. If only one state opts out, the remaining four states would still receive their portion of the quota, as specified in the selected preferred alternative. This means that a single non-participating state's landings would be restricted to the remaining balance of the quota, equivalent to the share it would receive if participating in regional management. Should more than one state choose to opt out, the participating states would still receive their respective portions of the quota. The quota which would have been distributed to each non-participating state would be pooled and NMFS would estimate the length of the fishing season based on the aggregate quota. Those states would then fish under the federal default regulations and a shared fishing season (Action 7).

An additional issue may arise for individual regions to monitor and constrain catches to their apportioned quota. NMFS regularly issues exempted fishing permits (EFPs) for research or activities which would otherwise be considered fishing. Fish harvested under an EFP are exempt from specific regulations such as bag limits, size limits, and fishing seasons. Because the fish landed under a research activity EFP are normally accounted for in the stock assessment process, before any quotas or allocations are established, these fish are not deducted from the quota. However, there are instances where NMFS may determine that an EFP is specific to a fishing quota or allocation, and may require the regions to account for those fish during a fishing season. If a quantity of fish under an EFP is required to be monitored and accounted for by regions under regional management, the region will be responsible for accounting for these landings, along with their other monitoring to assure they do not exceed their portion of the quota.

Recently, some groups of fishermen have expressed interest in trying out alternative management programs through submission of an EFP. The Headboat Cooperative EFP was recommended for approval by the Council in April 2012, before development began on the regional management amendment. Thus, it was not possible to consider potential impacts from the EFP on regional management at the time the Council reviewed the EFP. Although the Headboat Cooperative will be granted a relatively small amount of the recreational red snapper quota (148,089 lbs ww),[7] participating vessels will be allowed to transfer quota across state lines. This may complicate a region's ability to monitor and account for red snapper landed under the EFP. NMFS will work with the regions to provide the information necessary to monitor their regional landings so they can constrain landings to their apportioned quota. Should red snapper landed under the Headboat Cooperative EFP occur after a region has determined that its quota has been landed, it is possible that the region will exceed its quota. Although the preferred alternative in Action 6 specifies that a regional overage must be deducted from the region's quota the following year (if the Gulf-wide quota is also exceeded), selection of Preferred Option b delays implementation of the overage adjustment until after the EFP has expired. Thus, the Headboat Cooperative EFP is not expected to impact the regional management program. Also, Section 407(d)(1) (16U.S.C. §1883(d) of the Magnuson-Stevens Act remains applicable and

[7] http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/reef_fish/2013/headboat_efp/

NMFS will prohibit the retention of red snapper caught during the rest of the year once the recreational quota is reached. This provision applies even if members of the Headboat Cooperative have remaining quota.

After an EFP is submitted to NMFS, the Council has the opportunity for review and comment. To maintain maximum flexibility at the regional level, the Council will consider EFPs on a case by case basis in terms of the potential impacts on a region's ability to account for their portion of the red snapper quota and determine the most appropriate way to monitor and account for any quota assigned under the EFP. The Council could then make recommendations to NMFS, including to approve or disapprove the EFP. NMFS will consider the Council's recommendations when deciding whether to approve an EFP and how to account for any quota assigned under an EFP.

2.4 Action 4 – Regional Management Measures

*Note: This action is only applicable if delegation is selected, Alternative 2 in Action 1.

Alternative 1: No Action – Retain current federal regulations for management of recreational red snapper in the Gulf EEZ which includes a 2-red snapper per angler per day bag limit, a 16-inch TL minimum size limit, and a June 1 opening season start date.

Preferred Alternative 2: Allow individual regions to set recreational red snapper season start and end dates and season structure.

Preferred Alternative 3: Allow individual regions to set recreational bag limits from 0 to 4 red snapper per angler per day.

Preferred Alternative 4: Allow individual regions to establish recreational red snapper minimum size limits from 14 inches to 18 inches TL.

Preferred Alternative 5: Allow individual regions to establish a maximum recreational red snapper size limit.

Preferred Alternative 6: Allow individual regions to establish closed areas within the EEZ adjacent to their region.

Preferred Alternative 7: Allow individual regions to establish sub-allocations for the private and for-hire (charter and headboat) sub-sectors.

Discussion:
Regional management would allow for management measures (such as bag limits and minimum size limits) to vary around the Gulf, enabling the establishment of recreational red snapper management measures most suited to a given region. Regional management may not result in additional fishing days. However, providing flexibility to the regions to establish management measures most appropriate locally is expected to result in social and economic benefits by providing optimal fishing opportunities for a region's share of the quota.

Usually, an action includes a range of alternatives to establish a specific management measure or harvest level. In this action, the alternatives propose the boundaries within which each management measure may be implemented. These boundaries provide the maximum amount of flexibility for each management measure, that when combined with other effort controls, could reasonably be expected to constrain catches to within a region's portion of the quota.

This action only applies if delegation is adopted in Action 1 (Preferred Alternative 2), as it specifies the regulations to be delegated. Under delegation, a region would have the authority to adopt management measures within the range of each preferred alternative, provided the mix of adopted measures remains consistent with the current red snapper rebuilding plan, including the prevention of overfishing. Furthermore, the adopted management measures must be compatible with the region's projected season length and apportioned quota. This means that the selected

suite of management measures must be reasonably expected to constrain the region's harvest to its portion of the Gulf-wide recreational quota, to avoid the region's regulations being deemed inconsistent. Corrective action is required should a region's regulations be deemed inconsistent, to avoid revocation of delegated authority.

The selected suite of management measures to be established for a region could consist of numerous combinations of the preferred alternatives and the respective ranges provided within them. Although there is flexibility in the assemblage of management measures to be adopted for a region, under delegation, each region must establish its season dates and structure, bag limit, and minimum size limit (**Preferred Alternatives 2-4**). Use of the remaining preferred alternatives (maximum size limit; open and closed areas; sub-allocations) would be at the discretion of each region. If a region does not establish (or establishes outside the range specified) a season, bag limit, and minimum size limit, then NMFS will deem the region's regulations inconsistent (see Appendix D). If the inconsistency is not resolved and NMFS suspends the region's delegation, the selected default regulations will go into effect (Action 7) for the region's portion of the EEZ.

Alternative 1 (**no action**) would retain a single set of recreational management measures for red snapper throughout the Gulf. Currently, these measures include a 2-red snapper per angler per day bag limit, a 16-inch TL minimum size limit, and a June 1 opening season start date. These measures represent the analytical baseline for this action. NMFS projects and announces annually when the recreational fishing season will close, basing the length of the season on the amount of the quota, the average weight of fish landed, and the estimated catch rates over time. NMFS projected the 2013 recreational red snapper quota would be reached within 28 days and the sector was closed on June 29.

A benchmark stock assessment was conducted on red snapper by the Southeast Data, Assessment, and Review (SEDAR) process in 2012 and 2013 (SEDAR 31 2013). In May 2013, the Council's Scientific and Statistical Committee (SSC) met to review the assessment and produced recommendations for the overfishing limit and ABC for 2013-2015. An interim Council meeting was held in July to determine the change in the 2013 recreational and commercial quotas. The Council selected an 11 million pound (mp) ww quota for 2013 resulting in a commercial quota of 5.610 mp ww and a recreational quota of 5.390 mp ww. Based on analysis in the Framework Action the Council determined the recreational sector could have a supplemental fall season and voted to re-open the recreational sector continuously. NMFS recently announced a 14-day fall recreational red snapper fishing season starting October 1 (http://sero.nmfs.noaa.gov/fishery_bulletins/documents/pdfs/2013/fb13-073_gulf_rs_quota_increase_rec_re-opening.pdf.)

Preferred Alternative 2 would allow different recreational red snapper season start and end dates, and season structure to be established for individual regions. Varying the fishing season dates around the Gulf has received support by various groups and regions. For example, the Red Snapper Advisory Panel unanimously passed a motion at their December 2009 meeting to open the recreational red snapper season on the second Saturday of April. The rationale for this proposal was largely due to the number of hurricanes occurring early in the summer. Even if boats could get out on the water following a hurricane, lodging may not be available due to

damages at hotels and businesses. The Red Snapper Advisory Panel also noted that families often plan summer trips and book fishing trips even if red snapper season is closed.

Preferred Alternative 2 also allows for modification of the season structure around the Gulf. For example, a region may wish to have all or part of its fishing season occur on weekends or weekdays only, instead of opening the recreational season June 1 and allowing the fishing season to remain open continually until the quota is projected to be met. The Louisiana Department of Wildlife and Fisheries (LDWF) has modified its recreational red snapper fishing regulations in state waters from a continuous structure to weekends (i.e., Friday, Saturday, and Sunday) only, with the exception of holidays when Mondays are also classified as the weekend.

Preferred Alternative 3 would allow individual regions the flexibility to establish bag limits. If the Council specifies or delegates management measures to the regions, the bag limit could be increased up to 4 red snapper per angler per day, with any variation in-between. These bag limits are considered the only reasonable range given the red snapper stock is overfished and in a rebuilding plan. If the Council delegated a bag limit greater than 4 fish per angler per day the probability of exceeding the overfishing limit would increase, potentially compromising the red snapper rebuilding plan, an undesirable outcome of this management plan.

An individual region may need to close the recreational harvest of red snapper by setting the bag limit at 0 red snapper per angler per day. It should be noted the Council has also considered fractional bag limits to increase the length of the fishing season for greater amberjack (GMFMC 2008a) and red snapper (GMFMC 2013a), but fractional bag limits were not utilized for either species. Based on comments during public hearings and Advisory Panel meetings, the Council determined fractional bag limits would be difficult to enforce and would disproportionately affect the for-hire industry. However, if regions wanted to consider fractional bag limits for recreational red snapper, they could if **Preferred Alternative 3** remains selected.

Because the red snapper stock is overfished and in a rebuilding plan the Council has not considered delegating a bag limit any greater than 4 red snapper per angler per day because the season length would be further shortened based on analysis presented to the Reef Fish Committee and Council in early 2013 (SERO 2012c). The Council has discussed at numerous meetings 2012-2013 methods for increasing the fishing season length, therefore delegating recreational bag limits greater than 4 fisher per angler per day would be contradictory to these discussions and efforts (SERO 2012c; GMFMC 2013b).

Based on the 2011 recreational trip limit analysis when a 2 fish per angler per trip was in effect on 59% of the trips the average number of red snapper landed was 1.5 to 2 fish per person (Table 2.4.1). It should be noted, if regional authorities continued the current methods for estimating the length of the season and the overall recreational quota is not substantially increased, an increase in bag limit is estimated to fill the recreational quota faster, leading to a shorter recreational red snapper fishing season, regardless of how the regions are defined. Currently, TPWD allows a bag limit in state waters of as many as 4 red snapper per angler per day. The LDWF has also established state regulations to allow anglers fishing in state waters to harvest 3 red snapper per angler per day. It is possible, after implementation of regional management that this range of bag limits could be revisited as with other aspects of this amendment to the FMP.

Table 2.4.1. The average number of red snapper per angler per trip in 2011 (expressed as a percentage) landed from the Gulf (n = 121,653 angler trips). In 2011 the recreational bag limit was 2 fish per angler per day.

Average # of red snapper landed per angler per trip	Percentage All Modes
0.00-0.50	16%
0.51-1.00	12%
1.01-1.50	13%
1.51-2.00	59%

Note: 1 fish per 2 anglers = 0.5 fish per angler.
Source: SERO 2012c.

Preferred Alternative 4 would allow individual regions to establish recreational red snapper minimum size limits from 14 to 18 inches TL, with any variation in-between. Currently, the minimum size limit for red snapper is 16 inches TL in the Gulf for recreational anglers and for all Gulf states except Texas. In the state waters off Texas the current recreational red snapper minimum size limit is 15 inches TL. The Council expressed their intent to establish limitations on minimum size limits at their April and June 2013 Council meeting due to biological concerns such as high-grading and discard mortality. Because red snapper is still under a rebuilding plan and stock assessments must take into account minimum size limits for each sector and gear type, the Council was only comfortable delegating the current range of minimum size limits. It is possible, after implementation of regional management that this range of minimum size limits could be revisited as with other aspects of this amendment to the FMP.

Because discard mortality plays a large factor in considering minimum and maximum size limits in the Gulf, the Council or regions may want to consider reducing the minimum size limit to 14 inches TL. This minimum size limit is similar to the current commercial minimum size limit of 13 inches TL; however, the Council did decide to delegate a minimum size limit below 14 inches TL to the regions. One of the original reasons the Council decided to allow the commercial sector to harvest red snapper at 13 inches TL was due to the number dead discards (GMFMC 2007). The commercial sector is estimated to have greater discard mortality rates than the recreational sector due to gear types and depth fished (GMFMC 2007; SEDAR 7 2005; SEDAR 31 2013). Other considerations with delegating minimum size limits below 14 inches TL included growth overfishing, meaning the fish is harvested before yield is maximized. For example, based on the recent yield-per-recruit (YPR) analysis conducted by SEFSC in 2013, yield is maximized at 15 inches TL. Due to the status of the red snapper stock and selectivity patterns, minimum size limits from 14 to 18 inches TL are considered effective and are included in **Preferred Alternative 4** as a range that can be delegated to the regions. It should be noted that spawning potential ratio (SPR) increases for red snapper as the minimum size limit increases (http://gulfcouncil.org/docs/Presentations/Gulf%20Red%20Snapper%20Size%20Limit%20Analysis%20-%20Presentation.pdf).

The Council did not consider minimum size limits greater than 18 inches TL because of concerns about bycatch and bycatch mortality. The Council requested an interim rule during the June

through August 1999 recreational red snapper fishing season, that increased the minimum size limit from 15 to 18 inches TL (64 FR 30455-Interim Rule Red Snapper). The Council requested this increase in minimum size limit to slow harvest and increase the recreational fishing season length by 24 days. The interim rule was initially supported by fishermen; however, the Council received numerous complaints from fishermen after the season about releasing dead red snapper. Consequently, since that time the Council has not considered raising the red snapper minimum size limit above 18 inches TL.

Preferred Alternative 5 would allow individual regions to establish maximum recreational red snapper size limits in the Gulf. Because the average size of red snapper landed has increased in recent years, the quota has been met earlier, resulting in shorter fishing seasons. Thus, the Council or regions may want to consider establishing a maximum size limit for the recreational sector. Based on length-weight relationship of red snapper used during SEDAR 7 (2005) and SEDAR 31 (2013), a 16-inch TL red snapper is estimated to weigh 2 lbs ww and a 28-inch TL red snapper is estimated to weigh 11 lbs ww (Figure 2.4.1).

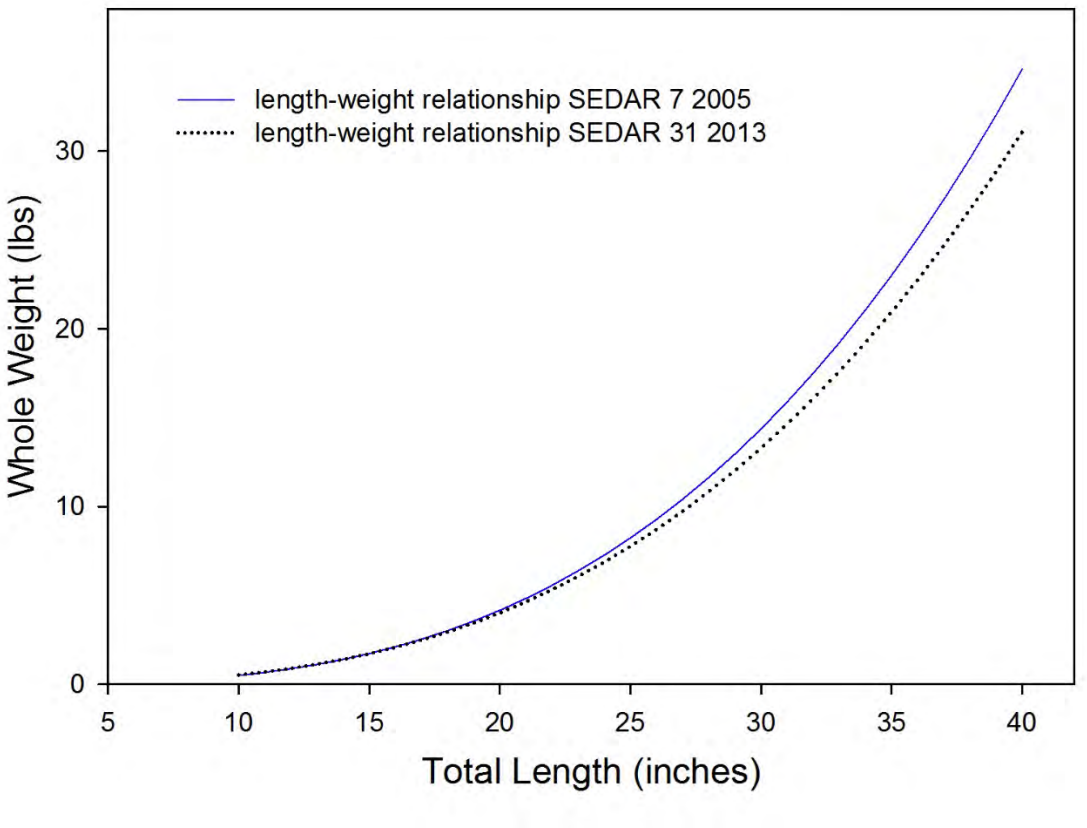

Figure 2.4.1. Red snapper length-weight relationship. Source: Conversion factors from SEDAR 7 2005, Appendix 1, Table 12 and SEDAR 31 2013, page 89 of the assessment report.

The average size of recreational red snapper landed in 2012 was 8 lbs ww and approximately 24 inches TL based on SERO (2012b). To reduce the average size of recreational red snapper

landed, regional authorities could establish maximum size limits such as 30 inches TL, a 13-14 lbs ww fish, to reduce the number of pounds landed per angler (Figure 2.4.1). A maximum size limit could be selected to protect older more fecund female red snapper from being removed from the population. For example, based on age (size) and fecundity, red snapper less than 25 inches TL (~ age 6) contribute significantly less spawning potential to the population. Larger older females produce more eggs and spawn more frequently throughout the season than younger, smaller red snapper (Collins et al. 2001; Porch et al. 2013-SEDAR 31-AW03).
If **Preferred Alternatives 4** and **5** are both selected, the Council or regions could establish a slot limit. For example, all fish landed would need to be between 16 to 30 inches TL. The Council and regional authorities would need to specify red snapper landed need to be within the minimum and maximum size ranges or below the maximum size limit. Discard mortality would likely be greater for larger red snapper and has been found to be correlated with depth. There are numerous considerations that the regional authorities may want to consider before modifying size limits.

Discard mortality of red snapper could increase if individual regional authorities choose to modify seasons (**Preferred Alternative 2**), bag limits (**Preferred Alternative 3**), minimum size limits (**Preferred Alternative 4**), or to introduce maximum size limits (**Preferred Alternative 5**), or closed areas (**Preferred Alternative 6**). Recreational discard mortality of red snapper was estimated by eastern and western region in SEDAR 7 (2005) and in SEDAR 31 (2013). The report found regardless of study methodology or eastern versus western Gulf, a consistent trend among discard mortality data was suggested by a positive correlation between depth and release mortality. The release mortality for recreational caught red snapper was averaged by eastern and western Gulf and estimated at 21% (Table 6.5 in SEDAR 7 2005). The most recent stock assessment estimated discard mortality for the recreational sector at 10% for the eastern and western Gulf (SEDAR 31 2013). However, the data workshop report noted that release mortality was related less to region and more on a combination of factors including, but not limited to, depth, thermal stress, venting versus non-venting, and handling time (http://www.sefsc.noaa.gov/sedar/download/SEDAR%2031%20Data%20Workshop%20Report%20FINAL_sizereduced.pdf?id=DOCUMENT).

Preferred Alternative 6 would allow a region to restrict recreational vessels from harvesting red snapper from a designated part of the EEZ adjacent to their region (Figure 1.1.1), during a specified time of the year. Authority already rests with the states to establish closures within their state waters and to prohibit landings in their state waters. The intent of this alternative is to provide the regions with flexibility to spatially control where their apportioned part of the quota is harvested within their region. For example, Florida may want to establish different fishing seasons for the Panhandle and west Florida due to variations in weather conditions or tourism seasons. This alternative would not allow regions to establish marine protected areas within their portion of the EEZ nor restrict commercial vessels from harvesting red snapper from these areas.

The authority to close areas of a region's EEZ (**Preferred Alternative 6**) could unintentionally allow, or prohibit, some harvest of red snapper to occur. These issues could be most problematic near state boundaries. For example, a region could use this alternative to prohibit recreational vessels from retaining red snapper from its portion of the EEZ (Figure 1.1.1) while allowing its state waters to remain open. This use of the closed area alternative could be expected to extend

the fishing season by constraining the harvest coming from part of the region's jurisdiction. To provide a hypothetical example, say Alabama were to close its portion of the EEZ but allow state waters to remain open, while Florida and Mississippi have both their state waters and federal portion of the EEZ open (Figure 2.4.2). Under this scenario, vessels from Alabama would not be prohibited from harvesting red snapper from the EEZ off Florida and Mississippi, and landing in Alabama, provided they do not transit through Alabama's portion of the EEZ. Although Alabama intended to extend its fishing season by constraining where harvest may occur (only in its state waters), the additional harvest from the EEZ off neighboring Mississippi or Florida could result in Alabama's quota being caught faster. Conversely, vessels from Mississippi and Florida, where the red snapper season is open in both state and federal waters, would be prohibited from retaining red snapper from Alabama's portion of the EEZ, even though those fish would only count against the quota of the state where landed, i.e., Mississippi or Florida. Thus, this hypothetical use of the closed area alternative unintentionally allowed for greater landings by Alabama anglers and unintentionally restricted fishing opportunities for Mississippi and Florida's anglers.

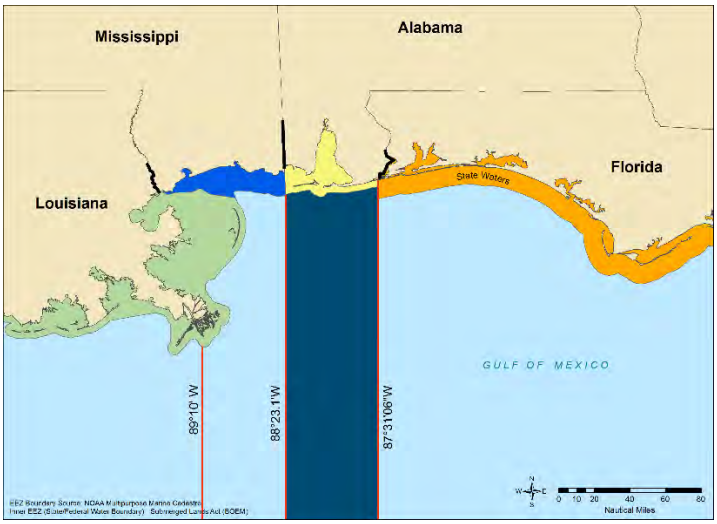

Figure 2.4.2. Visualization of the hypothetical example described for Preferred Alternative 6. The dark shaded area represents Alabama's portion of the EEZ (see Figure 1.1.1).

Preferred Alternative 7 would allow regions to further divide their portion of the recreational red snapper quota (Action 3) into separate allocations for private anglers and the for-hire fleet (charter vessels and headboats). A region choosing to use this provision would need to determine 1) the portion of its regional quota to be assigned to each sub-sector and, 2) the regulations to be applied to each sub-sector. Historical landings could be used as a criterion for apportioning the regional quota. Because this is an allocation decision, use of this provision must adhere to national standard 4 and the Council's Allocation Policy (Appendix E). After establishing separate quotas, different management measures could be applied to each sub-sector, provided they remain within the boundaries of the respective preferred alternative. For example, a region could establish different bag limits for private vessels and for-hire vessels. The use of this alternative could increase concerns for enforcement and quota monitoring.

2.5 Action 5 – For-Hire Vessels Federal Permit Restrictions

Alternative 1: No action – Retain current federal regulations for management of recreational red snapper in the Gulf EEZ. If federal regulations for Gulf reef fish are more restrictive than state regulations, a person aboard a charter vessel or headboat for which a charter vessel/headboat permit for Gulf reef fish has been issued must comply with such federal regulations regardless of where the fish are harvested.

Preferred Alternative 2: Exclude the provision requiring the vessels with Gulf charter vessel/headboat permit for Gulf reef fish to comply with the more restrictive of federal recreational red snapper regulations when fishing in state waters.

Discussion:
The purpose of this action is to modify the Gulf charter vessel/headboat permit for Gulf reef fish to provide more flexibility for developing recreational fishing regulations for red snapper. Currently, vessels with a Gulf charter vessel/headboat permit for Gulf reef fish must comply with the more restrictive federal reef fish regulations when fishing in state waters where state regulations are more lenient (**Alternative 1**). For example, if a state's waters are open for the recreational harvest of red snapper and federal waters are closed, a vessel with a Gulf charter vessel/headboat permit would not be able to harvest red snapper from state waters. This provision was implemented in Reef Fish Amendment 30B (GMFMC 2008b). The original purpose of this action was to improve federal regulatory compliance and encourage states to establish consistent regulations by applying this provision to commercial and for-hire vessels in the Gulf. By requiring the federal permit holders to comply with more restrictive federal reef fish regulations when fishing in state waters, the probability of overages occurring are reduced by restricting fishing effort.

At the time of implementation, the Council anticipated the red snapper stock would continue to increase and rebuild, and the seasons would be longer. In contrast, regardless of the stock increasing and rebuilding, the seasons have been progressively shorter over the past few years. With shortened season lengths, this provision has greatly impacted the charter vessel/headboat federal permit holders, especially in states that have less restrictive seasons, size limits, or bag limits, etc. for state waters. Under this scenario, federally permitted for-hire vessels are prohibited from retaining red snapper in open state waters, while passengers on non-federally permitted for-hire vessels are allowed to retain red snapper from state waters. For-hire vessels with and without a federal permit at the same marina may need to explain that some vessels can harvest red snapper while others may not due to this provision. However, a person who chooses to hold a limited access Gulf charter vessel/headboat permit has access to an activity that others do not, and in exchange for that access, the permit holder agrees to comply with the permit conditions. A permit holder may terminate or transfer the permit at any time.

In relation to the other actions, with implementation of delegation, this action may not be necessary. Currently, the Council is developing a framework action to further analyze this action in a broader scope to include more reef fish species than red snapper. However, in the context of Amendment 39 and regional management, these are the only reasonable alternatives to apply to red snapper. Delegation would allow the regions to set regulations that would be consistent in

both their state waters and adjacent EEZ. In this case, the for-hire vessels would be able to fish throughout the regional waters. If delegation is suspended, or a region opts out of delegation, then **Alternative 1** would likely have effects similar to status quo. This action could be implemented even without the implementation of delegation. However, in terms of constraining harvest, this provision is a mechanism currently being used to constrain recreational harvest, and removing it could increase the potential for exceeding the quota.

By excluding this provision for the harvest of red snapper (**Preferred Alternative 2**), the fishing effort in state waters by the federally permitted charter vessels and headboats would likely increase under the current recreational red snapper management regulations. Without delegation, the subsequent increase of fishing effort in state waters would further shorten the season in federal waters. As of March 2013, there are 1,356 vessels with a Gulf charter vessel/headboat permit for reef fish, although a large proportion of these are homeported in a state that has not adopted inconsistent regulations (e.g., Alabama). The distribution of the charter fleet is discussed in section 3.1. The potential fishing effort shift from these vessels would need to be evaluated to determine impacts on the recreational fishing season. Examples of the potential fishing effort shift are inferred from a recent NMFS report (NMFS 2013). Based on 2012 landings data, NMFS determined that charter vessels and headboats landed 2% of the red snapper in state waters and 18% in federal waters during the 2012 45-day season. If the state regulations are consistent with the federal regulations, or delegation is established (Action 1), then effort shifting to state waters would not be expected. In addition, if the state regulations are inconsistent, such as allowing harvest while federal waters are closed, it is reasonable to assume that for-hire vessels would fish in state waters with **Preferred Alternative 2**. For example, in 2013, the state recreational seasons for red snapper were 365 days for Texas, 88 days for Louisiana, and 44 days for Florida. Alabama and Mississippi had season lengths consistent with the federal season. The Gulf-wide season length would have been 34 days if all states adopted consistent regulations. Taking into account inconsistent regulations, the original 2013 Gulf-wide season was 28 days. If **Preferred Alternative 2** was applied, and those states (i.e., Texas, Louisiana, and Florida) retain inconsistent regulations, the Gulf-wide federal season would have been 15 days. This estimate would vary and be dependent on the extent of inconsistency by states.

2.6 Action 6 – Post-Season Accountability Measures (AMs) Adjusting for Regional Overages

Alternative 1: No action – Retain current federal regulations for management of recreational red snapper in the Gulf EEZ. Do not reduce the recreational quota if landings exceed the recreational quota in the prior fishing year.

Alternative 2: If the combined recreational landings from all regions exceed the recreational sector quota, then NMFS will file a notification with the Office of the Federal Register to reduce the Gulf-wide recreational sector quota in the following year by the amount of the quota overage in the prior fishing year.

Option a: Apply the quota adjustment beginning one year after the implementation of the plan.

Option b: Apply the quota adjustment beginning two years after the implementation of the plan.

Preferred Alternative 3: If a region exceeds the apportioned regional quota, then NMFS will file a notification with the Office of the Federal Register to reduce the regional quota in the following year by the amount of the regional quota overage in the prior fishing year.*

Option a: Apply the quota adjustment beginning one year after the implementation of the plan.

Preferred Option b: Apply the quota adjustment beginning two years after the implementation of the plan.

Alternative 4: If the combined recreational landings from all regions exceed the recreational sector quota, then the recreational quotas for the following year would be based on buffers calculated by the annual catch limit (ACL)/annual catch target (ACT) control rule.

Option a: Apply the quota adjustment beginning one year after the implementation of the plan.

Option b: Apply the quota adjustment beginning two years after the implementation of the plan.

*If the total landings from all regions do not exceed the Gulf-wide recreational quota in that year, the region's quota would not need to be reduced to account for the region's overage.

Discussion:

The purpose of this action is to consider AMs to correct or mitigate any overages during a specific fishing year (50 CFR 600.310(g)). Implementation of AMs is expected to promote regional management measures that better ensure harvest is restricted to a region's allocation, thus avoiding mitigation actions the following year. Section 407(d) of the Magnuson-Stevens Act requires that the Council ensure the FMP (and its implementing regulations) have conservation and management measures that establish a separate quota for recreational fishing (private and for-hire vessels) and prohibit the retention of red snapper caught for the remainder of the fishing year once that quota is reached. The national standard 1 guidelines identify two types of AMs: in-season and post-season. These AMs are not mutually exclusive and should be

used together where appropriate. This section considers alternatives to implement post-season AMs for the recreational sector of the red snapper component of the reef fish fishery.

Alternative 1 (**no action**), would not establish post-season AMs. Therefore, this alternative is inconsistent with national standard 1 guidance and would not provide protections if landings for the recreational sector exceed the quota. Currently, there are no AMs (i.e., in-season or post-season) defined in the federal regulations for the recreational harvest of red snapper, and thus, no overage adjustments either. Recently, the Council has followed an informal process to consider any quota overages. However, this process results in continuously requesting the SSC to review updated landings and resulting yield stream projections to account for any underages or overages and determine the ABC for red snapper each year, which is calculated by the SEFSC. Then, the Council requests the development of a framework action to apply the revised ABC and updated sector quotas. For example, in 2010, there was an underage in landings due to reduced fishing effort associated with the Deepwater Horizon MC252 oil spill. The SSC reviewed and evaluated the underage in landings and adjusted their ABC recommendation resulting in a fall recreational red snapper season.

Alternative 2, **Preferred Alternative 3**, and **Alternative 4** would apply the quota adjustments beginning in the year of implementation of this action. This action (**Alternative 2** and **Alternative 4)** could be implemented regardless of the selection of delegation or Council regional management and provide a post-season AM for the recreational sector of the red snapper fishery. Two options are provided for each of these alternatives. **Option a** would apply the quota adjustment beginning one year after the implementation of the plan. **Preferred Option b** would apply the quota adjustment beginning in two years after the implementation of the plan. These options allow opportunity for the regions to modify their management strategies without the quota being adjusted for the first or second year of regional management, respectively. In the case of a quota overage prior to the quota adjustments being effective, the SEFSC would take overages or underages into consideration while updating the yield stream projections, as described above.

The post-season AMs proposed under **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4** would only be triggered if the Gulf-wide recreational quota is exceeded. **Alternative 2** would establish a Gulf-wide post-season overage adjustment to the recreational sector quota and may negatively impact regions that did not exceed their regional quotas. Although the possibility of triggering an overage adjustment would encourage regions to constrain harvest to the region's quota, the Gulf-wide approach of **Alternative 2** may be perceived as resulting in inequity across regions. For example, if a particular region greatly exceeded their regional quota, then the necessary overage adjustment may restrict the length of the following year's fishing season both in the region with the overage and the other regions which did not exceed their regional quotas. If this occurs, this may reduce the flexibility provided to the regions under regional management.

Preferred Alternative 3, **Option b**, with the apportionment of regional quotas, would prevent the overage adjustment from negatively impacting regions that constrain harvest and do not exceed their regional quota. However, if a region's overage is greater than the following year's regional quota, then the region may not have a recreational red snapper season. The overage adjustments would need to be taken into account when regions develop their management

strategy, including the length of the fishing season for the following year. **Preferred Alternative 3**, **Option b** would encourage a region to constrain harvest to the regional quota to ensure that the overage adjustment is not applied to the recreational season for the following year. In turn, regardless of a region exceeding its quota, an overage adjustment would only need to be applied if the Gulf-wide recreational sector quota was exceeded.

Alternative 4 would apply a buffer to the total recreational quota for the following year if the current year's landings exceed the sector quota. The amount of the buffer, as a percent reduction, would correspond to the preferred method of applying ABCs and catch targets or quotas in the Generic ACL/AM Amendment (GMFMC 2011b). The purpose of the buffer is to reduce the likelihood of the ABC being exceeded in the event that landings exceed the quota. With delegation selected in Action 1, the calculations for 2016 would be based on the 2015 landings. Beginning in 2018, the calculation would be based on the most recent four years. For example, the recreational sector has exceeded its ABC in four of the last five years, 33% in 2008, 95% in 2009, 18% in 2011 (or by 11% if the 345,000-lb supplemental allocation is included), and 47% in 2012. Based on these overages, the ACL/ACT control rule would result in a buffer of 18% for the recreational sector. When applied to the recreational sector quota, this results in a quota of 4.42 mp for 2013 instead of 5.39 mp.

To compare the alternatives, Table 2.6.1 provides a hypothetical example of the various post-season AMs applied to the 2012 landings data. In the example, all five states would have exceeded the hypothetical regional quotas. Under **Alternative 1**, the Gulf-wide quota would be 5.39 mp without the post-season adjustments. For **Alternative 2** and **Preferred Alternative 3**, the Gulf-wide quota would be reduced by 1.187 mp to adjust for the 2012 overage resulting in a quota of 4.20 mp. However, under this scenario, given that **Option b** is selected as preferred with **Preferred Alternative 3**, the post-season AM would not have been applied in 2013. **Alternative 4** would result in a Gulf-wide quota of 4.42 mp with the application of the ACL/ACT control rule. **Alternatives 2** and 4 would affect the regional quotas differently than **Preferred Alternative 3**, **Option b**. **Alternatives 2** and **4** would decrease each regional quota based on the Gulf-wide overage regardless of the region that exceeded its quota. **Preferred Alternative 3**, **Option b** affects only the region that exceeded its quota and reduces the regional quota by the amount of the region's overage the previous year.

To prevent overfishing and maintain the objectives and goals of the rebuilding plan, AMs would need to be implemented with regional management. Currently, the recreational red snapper landings are calculated from MRIP including the for-hire charter survey, HBS, and the TPWD charter and private/rental creel survey. The MRIP data are obtained in 2-month intervals. The HBS is based on logbooks. The TPWD creel survey is provided annually. The temporal resolution of these data collection programs would limit the ability to apply in-season AMs. In addition, the final data are not usually available until the spring of the following year which would limit the application of post-season AMs. This would prevent annual projections from being calculated before some regions open harvest. For example, Texas has a year-round season in state waters and it would not be feasible to calculate the 2013 quota apportionment for the start of the season if the 2012 final landings are not received until February or March 2013.

Table 2.6.1. An example of applying post-season AMs to the 2012 landings based on hypothetical regional quota apportionments. The resulting 2013 regional quotas by state are provided for the alternatives. The quotas and landings are provided in mp.

	Alabama (30%)	Florida (38%)	Louisiana (14%)	Mississippi (3%)	Texas (15%)	Total
2012 Regional Quota	1.19	1.50	0.55	0.12	0.59	3.96
2012 Landings	1.44	2.14	0.76	0.19	0.62	5.15
2012 Overage	0.26	0.63	0.21	0.07	0.02	1.19
Regional Quotas for 2013 with Applied Post-Season AMs						
Alternative 1	1.62	2.05	0.75	0.16	0.81	5.39
Alternative 2	1.26	1.60	0.59	0.13	0.63	4.20
Preferred Alternative 3 (no option selected)	1.36	1.42	0.54	0.09	0.79	4.20
Option a	1.62	2.05	0.75	0.16	0.81	5.39
Option b	1.62	2.05	0.75	0.16	0.81	5.39
Alternative 4	1.33	1.68	0.62	0.13	0.66	4.42

2.7 Action 7 – Establishing Default Regulations

*Note: This action is only applicable if delegation is selected, Alternative 2 in Action 1.

Alternative 1: No Action – Do not specify federal default regulations in the event that delegation does not apply.

Preferred Alternative 2: During the suspension of delegation, the recreational harvest of red snapper in the EEZ off such region would be:

Preferred Option a: restricted to the NMFS default regulations.
Option b: prohibited until the delegation is reinstated.

Preferred Alternative 3: If a region opts out of delegation, the NMFS default regulations would apply for recreational harvest of red snapper in the EEZ off such region.

Discussion:
The term default regulations refer to the Gulf-wide regulations governing the recreational harvest of red snapper in the Code of Federal Regulations (50 CFR Part 622). To implement delegation, the current federal regulations in the Code of Federal Regulations (50 CFR Part 622) would need to be suspended while consistent delegation is in effect. Federal default regulations for the recreational harvest of red snapper then would be necessary for the management measures delegated to the regions as specified in Action 4. This action is only applicable with delegation in place. During a time in which the region's delegation is suspended, or if a region opts out of delegation, federal default regulations would apply. Currently, the federal regulations concerning bag limit, size limit, and season length include a 2-fish bag limit, minimum size limit of 16 inches TL, and season opening June 1 and closing when the recreational quota is reached or projected to be met. Although the current federal regulations are the "No Action" Alternative in Actions 1 through 6, a different "No Action" Alternative is being considered for Action 7 to allow for a more meaningful analysis and comparison among Alternatives.

Action 7 considers Alternative 1, the No Action Alternative, not specifying federal default regulations in the event that delegation does not apply. This No Action is necessary for consideration because the current federal regulations will serve as the default regulations for **Preferred Alternatives 2** and **3.** These regulations have been established and revised over time through framework and regulatory amendments, which considered many ranges of reasonable alternatives and those analyses support utilizing the current federal regulations as the federal default measures. Therefore, this action does not consider what the federal default measures will be, but if and under what circumstances they will be implemented should delegation be suspended, or one or more regions opts out. The federal default measures related to Action 4, Preferred Alternatives 6 would be that no closed area would be established in the EEZ for the recreational harvest. The federal default measures related to Action 4, Preferred Alternative 7 would be that no sub-allocations for the private and for-hire (charter and headboat) sub-sectors would exist. Federal default regulations can be revised through the Generic Framework Procedure (GMFMC 2011b). As per the Magnuson-Stevens Act, it would still be necessary for NMFS to prohibit the recreational harvest of red snapper if the Gulf-wide recreational quota is reached or projected to be met.

Alternative 1 would not specify federal default regulations to replace the management measures delegated in Action 4 in the event delegation is suspended or the region opts out of the delegation. Without delegation this action would be inapplicable and would move to Appendix A: Considered but Rejected. With delegation, the federal regulations for the management measures selected in Action 4 would be suspended. However, if the delegation is suspended or a region opts out, then federal default measures would be necessary. Thus, selection of **Alternative 1** would mean that no federal regulations would be in place to control recreational harvest if the delegation were to no longer be active. Therefore, **Alternative 1** would likely result in an inconsistency determination from NMFS and without the implementation of corrective action by the region, the Gulf EEZ could be closed if the recreational red snapper harvest exceeds or is projected to exceed the quota.

Preferred Alternative 2 pertains to the federal default regulations when delegated authority is suspended and would apply only to the EEZ off that region (Figure 1.1.1). These regulations would apply to all recreational vessels fishing in the EEZ of the affected region. **Preferred Alternative 2** could allow for the possibility of some recreational harvest of red snapper to continue while the delegation is suspended (**Preferred Option a**) under the federal default regulations. If the delegation is suspended, then NMFS would publish a notice in the *Federal Register* to implement the federal default regulations (**Preferred Option a**) or prohibit the recreational harvest of red snapper (**Option b**) in the region's adjacent EEZ (Figure 1.1.1). If NMFS determines the region's quota has already been reached, then recreational harvest of red snapper would be prohibited.

Preferred Alternative 3 would be necessary if a region decides to opt out of delegation for a fishing year. If all regions participate in delegation, then this alternative is not necessary, but if a region chooses to opt out of delegation, then federal default regulations would be necessary. A region may decide not to participate in the delegation and request the federal default measures be applied to the adjacent EEZ for the recreational harvest of red snapper. This would constitute the region opting out of the delegation. To opt out of delegation, the region would send a letter requesting the federal default regulations be applied to their region for the fishing year. NMFS would publish a notice in the *Federal Register* to implement the federal default regulations in the region's adjacent EEZ (Figure 1.1.1). The season length would be calculated by NMFS based on the region's quota as apportioned in Action 3. Inherently, if only one region opts out, then they would still essentially be constrained by the terms of delegation as per the regional area and quota apportionment. If more than one region opted out of delegation, their regional quotas could be combined into a single quota, and then NMFS would calculate the season for those portions of the EEZ no longer managed by the regions. It would be expected that these regions would adopt regulations consistent with the federal default regulations that would apply to all recreational vessels in the EEZ off such region. In turn, if a region does not set the bag limit, minimum size limit, or season length, then it is assumed that the region is opting out of delegation and the federal default management measures would apply.

CHAPTER 3. AFFECTED ENVIRONMENT

The actions considered in this environmental impact statement (EIS) would affect recreational fishing for red snapper in federal and state waters of the Gulf of Mexico (Gulf). Descriptions of the physical, biological, economic, social, and administrative environments were completed in the EIS for Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007), the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2004a), and the Generic Annual Catch Limits/Accountability Measures (ACL/AM) Amendment (GMFMC 2011b). Below, information on each of these environments is summarized or updated, as appropriate.

3.1 Description of the Red Snapper Component of the Reef Fish Fishery

A description of the fishery and affected environment relative to red snapper was last fully discussed in joint Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007). This section updates the previous description to include additional information since publication of that EIS.

General Features

Commercial harvest of red snapper from the Gulf began in the mid-1800s (Shipp 2001). In the 1930s, party boats built exclusively for recreational fishing began to appear (Chester 2001). The commercial sector operates under an individual fishing quota (IFQ) program. In 2011, 362 vessels participated in the IFQ program (NMFS 2012a). The recreational sector operates in three modes, charter boats, headboats, and private vessels. In 2012 private vessels accounted for 61.1% of recreational red snapper landings, followed by charter boats (24.8%) and headboats (14.1%). On a state-by-state basis, Florida accounted for the most landings (41.5%), followed by Alabama (28.1%), Louisiana (14.8%), Texas (12.0%), and Mississippi (3.7%) (Table 3.1.1).

Table 3.1.1. Recreational red snapper landings in 2012 by state and mode.

State	Landings (lbs whole weight)				% by State
	Charter	Headboat	Private	All Modes	
FL (west)	641,437	205,114	1,289,253	2,135,804	**41.5%**
AL	359,469	72,199	1,013,460	1,445,128	**28.1%**
MS	997	5,894	182,767	189,658	**3.7%**
LA	236,302	21,999	501,704	760,005	**14.8%**
TX	39,128	419,671	157,726	616,525	**12.0%**
Total	**1,277,333**	**724,077**	**3,144,911**	**5,147,120**	
% by Mode	**24.8%**	**14.1%**	**61.1%**		**100%**

Source: NMFS 2013.

The red snapper stock has been found to be in decline or overfished in every stock assessment conducted, beginning with the first assessment in 1986 (Parrack and McClellan 1986).

Implemented in 1990, Amendment 1 (GMFMC 1989) established the first red snapper rebuilding plan. From 1990 through 2009, red snapper harvest was managed through the setting of an annual total allowable catch (TAC), which has been divided into allocations of 51% commercial, and 49% recreational. Beginning in 2010, TAC was phased out in favor of an ACL. The red snapper rebuilding plan has not formally adopted the use of the term ACL. However, by allocating the acceptable biological catch (ABC) between the commercial and recreational sectors, and then setting quotas for each sector that do not exceed those allocations, the terminology and approaches used in the red snapper rebuilding plan are consistent with the use of ACLs, and optionally annual catch targets as discussed in the national standard 1 guidelines. Such alternative terminology is allowed under the guidelines.

Also in 1990, Amendment 1 established a commercial red snapper quota of 2.65 million pounds (mp) whole weight (ww). There was no explicit recreational allocation specified, only a bag limit of 7 fish and a minimum size limit of 13 inches total length. Based on the 51:49 commercial to recreational sector allocation, the commercial quota implied a TAC of about 6.0 mp in 1990, followed by explicit TACs of 4.0 mp in 1991 and 1992, 6.0 mp in 1993 through 1995, and 9.12 mp from 1996 through 2006. The TAC was reduced to 6.5 mp in 2007 and 5.0 mp in 2008 and 2009.

In 2010, the ABC was increased to 6.945 mp. In 2011, it was initially raised to 7.185 mp, and then increased in August by another 345,000 lbs (7.530 mp total) which was allocated to the recreational sector. In 2012 the ABC was raised to 8.080 mp. A scheduled increase in 2013 to 8.690 mp was cancelled due to an overharvest in 2012 by the recreational sector. After an analysis of the impacts of the overharvest on the red snapper rebuilding plan, the 2013 ABC was increased to 8.460 mp. In July 2013, the Council reviewed a new benchmark assessment (SEDAR 31 2013) which showed that the red snapper stock was rebuilding faster than projected, partly due to strong recruitment in some recent years. Combined with a new method for calculating the ABC, the Scientific and Statistical Committee (SSC) increased the ABC for 2013 to 13.5 mp, but warned that the catch levels would have to be reduced in future years if recruitment returned to average levels. After incorporating a buffer to reduce the possibility of having to later reduce the quota, the Gulf of Mexico Fishery Management Council (Council) further increased the 2013 commercial and recreational quotas to a combined 11.0 mp (5.61 mp and 5.39 mp respectively) (GMFMC 2013b). This increase occurred too late to extend the June recreational season, so the Council requested that the National Marine Fisheries Service (NMFS) reopen the recreational season on October 1 for whatever number of days would be needed to harvest the additional quota. NMFS estimated that the additional recreational quota would take 14 days to be caught, and therefore announced a supplemental season of October 1 through 14.

Both the commercial and recreational sectors have had numerous allocation overruns. Table 3.1.2 shows a comparison of quotas and actual harvests from 1990 through 2012. The recreational sector has had allocation overruns in 14 out of 22 years in which an allocation was specified, while the commercial sector has had overruns in 10 of 23 years. However, the commercial sector has not had overruns since 2005. Since 2007 commercial harvest of red snapper has operated under an IFQ program.

Table 3.1.2. Red snapper landings and overage/underage by sector, 1986-2012. Landings are in mp ww. Commercial quotas began in 1990. Recreational allocations began in 1991.

	Recreational			Commercial			Total		
Year	**Alloc. Quota**	**Actual landings**	**Difference**	**Quota**	**Actual landings**	**Difference**	**Quota**	**Actual landings**	**Difference**
1986	na	2.770	na	na	3.700	na	na	6.470	na
1987	na	1.814	na	na	3.069	na	na	4.883	na
1988	na	2.568	na	na	3.960	na	na	6.528	na
1989	na	2.656	na	na	3.098	na	na	5.754	na
1990	na	1.614	na	3.1	2.650	-0.450	na	4.264	na
1991	1.96	2.358	+0.398	2.04	2.213	+0.173	4.0	4.571	+0.571
1992	1.96	3.899	+1.939	2.04	3.106	+1.066	4.0	7.005	+3.005
1993	2.94	5.687	+2.747	3.06	3.374	+0.314	6.0	9.061	+3.061
1994	2.94	5.299	+2.359	3.06	3.222	+0.162	6.0	8.521	+2.521
1995	2.94	4.814	+1.874	3.06	2.934	-0.126	6.0	7.748	+1.748
1996	4.47	4.346	-0.124	4.65	4.313	-0.337	9.12	8.659	-0.461
1997	4.47	6.008	+1.538	4.65	4.810	+0.160	9.12	10.818	+1.698
1998	4.47	4.258	-0.212	4.65	4.680	+0.030	9.12	8.938	-0.182
1999	4.47	3.999	-0.471	4.65	4.876	+0.226	9.12	8.875	-0.245
2000	4.47	3.932	-0.538	4.65	4.837	+0.187	9.12	8.769	-0.351
2001	4.47	4.468	-0.002	4.65	4.625	-0.025	9.12	9.093	-0.027
2002	4.47	5.383	+0.913	4.65	4.779	+0.129	9.12	10.162	+1.042
2003	4.47	4.847	+0.377	4.65	4.409	-0.241	9.12	9.256	+0.136
2004	4.47	4.996	+0.526	4.65	4.651	+0.001	9.12	9.647	+0.527
2005	4.47	4.084	-0.386	4.65	4.096	-0.554	9.12	8.180	-0.940
2006	4.47	4.021	-0.449	4.65	4.649	-0.001	9.12	8.670	-0.450
2007	3.185	4.440	+1.255	3.315	3.183	-0.132	6.5	7.623	+1.123
2008	2.45	3.712	+1.262	2.55	2.484	-0.066	5.0	6.196	+1.196
2009	2.45	4.625	+2.175	2.55	2.484	-0.066	5.0	7.109	+2.109
2010	3.403	2.239	-1.164	3.542	3.392	-0.150	6.945	5.631	-1.314
2011	3.866	4.602	+0.736	3.664	3.594	-0.070	7.53	8.196	+0.666
2012	3.959	5.146	+1.187	4.121	4.036	-0.085	8.08	9.182	+1.102

Sources: For recreational landings, Southeast Fisheries Science Center (SEFSC) including landings from the Marine Recreational Information Program (MRIP), Texas Parks and Wildlife Department (TPWD), and the Southeast Headboat Survey (HBS) (May 2013). For commercial landings, Southeast Data Assessment and Review (SEDAR) 31 Data Workshop Report (1990-2011), commercial quotas/catch allowances report from NMFS/Southeast Regional Office (SERO) IFQ landings website (2012 commercial): http://sero.nmfs.noaa.gov/sf/ifq/CommercialQuotasCatchAllowanceTable.pdf.
Commercial quotas/landings in gutted weight were multiplied by 1.11 to convert to ww. Values highlighted in red are those where landings exceeded quotas.

Recreational Red Snapper Sector

Red snapper are an important component of the recreational sector's harvest of reef fish in the Gulf. Recreational red snapper fishing includes charter boats, headboats (or party boats), and private anglers fishing primarily from private or rental boats. As with the commercial fishery, red snapper are primarily caught with hook-and-line gear in association with bottom structures. Recreational red snapper harvest allocations since 1991 have been set at 49% of the TAC, or 1.96 mp in 1991 and 1992, 2.94 mp for 1993 through 1995, and 4.47 mp from 1996 through 2006. In 2007, the recreational quota was reduced to 3.185 mp. It was reduced again to 2.45 mp in 2008 and 2009. Since 2010, the recreational quota has been increased each year: 3.403 mp in 2010, 3.866 mp in 2011, and 3.959 mp in 2012 (Table 3.1.3).

Before 1984, there were no restrictions on the recreational harvest of red snapper. In November 1984, a 12-inch total length size limit was implemented, but with an allowance for five undersized fish per person. In 1990, the undersized allowance was eliminated, and the recreational sector was managed through bag and size limits with a year-round open season. In 1997, the recreational red snapper allocation was converted into a quota with accompanying quota closure should the sector exceed its quota. Recreational quota closures occurred in 1997, 1998, and 1999, becoming progressively shorter each year even though the quota remained a constant 4.47 mp.

A fixed recreational season of April 21 through October 31 (194 days) was established for 2000 through 2007. However, NMFS returned to variable length seasons beginning in 2008. Under this management approach, due to a lag in the reporting of recreational catches, catch rates over the course of the season were projected in advance based on past trends and changes in the average size of a recreationally harvested red snapper. The recreational season opened each year on June 1 and closed on the date when the quota was projected to be reached. In 2008, the season length was reduced from 194 days to 65 days in conjunction with a reduction in quota to 2.45 mp. The season length then increased to 75 days in 2009. In 2010, the recreational red snapper season was originally projected to be 53 days. However, due to reduced effort and large emergency area closures resulting from the Deepwater Horizon MC252 oil spill, catches were below projections, and a one-time supplemental season of weekend only openings (Friday, Saturday, and Sunday) was established from October 1 through November 22. This added 24 fishing days to the 2010 season for a total of 77 days. In 2011, the season was reduced to 48 days despite an increase in the quota, due to an increase in the average size of a recreationally harvested fish. In 2012 the season was initially scheduled to be 40 days, but was extended to 46 days to compensate for the loss of fishing days due to storms (Table 3.1.3).

During the six years when the recreational harvest was an allocation, not a quota (1991 – 1996), actual recreational harvests in pounds of red snapper exceeded the allocation every year except 1996. During the period when the recreational harvest was managed as a quota (1997 – 2012), actual recreational harvest in pounds of red snapper exceeded the quota in 9 out of 16 years, including 5 of the last 6 years (Table 3.1.3). Historical recreational landings estimates have recently been revised to reflect changes in methodology under the Marine Recreational Information Program (MRIP).

Table 3.1.3. Red snapper recreational landings vs. allocation/quota and days open 1986-2012. Landings are in mp ww. Recreational allocations began in 1991, and became quotas in 1997.

Year	Alloc. Quota	Actual landings	Difference	% over or under	Days open
1986	na	2.770	na		365
1987	na	1.814	na		365
1988	na	2.568	na		365
1989	na	2.656	na		365
1990	na	1.614	na		365
1991	1.96	2.358	+0.398	+20%	365
1992	1.96	3.899	+1.939	+99%	365
1993	2.94	5.687	+2.747	+93%	365
1994	2.94	5.299	+2.359	+80%	365
1995	2.94	4.814	+1.874	+64%	365
1996	4.47	4.346	-0.124	-3%	365
1997	4.47	6.008	+1.538	+34%	330
1998	4.47	4.258	-0.212	-5%	272
1999	4.47	3.999	-0.471	-11%	240
2000	4.47	3.932	-0.538	-12%	194
2001	4.47	4.468	-0.002	0%	194
2002	4.47	5.383	+0.913	+20%	194
2003	4.47	4.847	+0.377	+8%	194
2004	4.47	4.996	+0.526	+12%	194
2005	4.47	4.084	-0.386	-9%	194
2006	4.47	4.021	-0.449	-10%	194
2007	3.185	4.440	+1.255	+39%	194
2008	2.45	3.712	+1.262	+52%	65
2009	2.45	4.625	+2.175	+89%	75
2010	3.403	2.239	-1.164	-34%	53 + 24 = 77
2011	3.866	4.602	+0.736	+19%	48
2012	3.959	5.146	+1.187	+30%	46

Data sources: Southeast Fisheries Science Center (SEFSC) including landings from MRIP, Texas Parks and Wildlife Department (TPWD), and the Southeast Headboat Survey (HBS) (May 2013). Values highlighted in red are those where landings exceeded quotas.

For-hire vessels have operated under a limited access system with respect to the issuance of new for-hire permits for fishing reef fish or coastal migratory pelagics since 2003. A total of 3,340 reef fish and coastal migratory pelagic charter permits were issued under the moratorium, and they are associated with 1,779 vessels. Of these vessels, 1,561 have both reef fish and coastal migratory pelagics permits, 64 have only reef fish permits, and 154 have only coastal migratory pelagics permits. About one-third of Florida charter boats targeted three or less species; two-thirds targeted five or less species; and 90% targeted nine or less species. About 40% of these charter boats did not target particular species. The species targeted by the largest proportion of Florida charter boats were king mackerel (46%), grouper (29%), snapper (27%), dolphin (26%),

and billfish (23%). In the eastern Gulf, the species receiving the most effort were grouper, king mackerel, and snapper. About 25% of Florida headboats targeted three or fewer species; 75% targeted four or fewer species; and 80% targeted five or fewer species. About 60% of headboats did not target any particular species. The species targeted by the largest proportion of Florida headboats are snapper and other reef fish (35%), red grouper (29%), gag grouper (23%), and black grouper (16%). In the eastern Gulf, the species receiving the most effort were snapper, gag, and red grouper (Sutton et al. 1999).

The majority of charter boats in Alabama, Mississippi, Louisiana, and Texas reported targeting snapper (91%), king mackerel (89%), cobia (76%), and tuna (55%). The species receiving the largest percentage of effort by charter boats in the four-state area were snapper (49%), king mackerel (10%), red drum (6%), cobia (6%), tuna (5%), and speckled trout (5%). The majority of headboat operators reported targeting snapper (100%), king mackerel (85%), shark (65%), tuna (55%), and amberjack (50%). The species receiving the largest percentage of total effort by headboats in the four-state area were snapper (70%), king mackerel (12%), amberjack (5%), and shark (5%) (Sutton et al. 1999).

Commercial Red Snapper Sector

In the Gulf, red snapper are primarily harvested commercially with hook-and-line and bandit gear, with bandit gear being more prevalent. Longline gear captures a small percentage of total landings (< 5%). Longline gear is prohibited for the harvest of reef fish inside of 50 fathoms west of Cape San Blas. East of Cape San Blas, longline gear is prohibited for harvest of reef fish inside of 20 fathoms, with a seasonal shift in the longline boundary to 35 fathoms during June through August to protect foraging sea turtles.

Between 1990 and 2006, the principal method of managing the commercial sector for red snapper was with quotas set at 51% of TAC and seasonal closures after each year's quota was filled. The result was a race for fish in which fishermen were compelled to fish as quickly as possible to maximize their catch of the overall quota before the season was closed. The fishing year was characterized by short periods of intense fishing activity with large quantities of red snapper landed during the open seasons rather than lower levels of activity with landings spread more uniformly throughout the year. The result was short seasons and frequent quota overruns (Table 3.1.4). From 1993 through 2006, trip limits, limited access endorsements, split seasons and partial monthly season openings were implemented in an effort to slow the race for fish. At the beginning of the 1993 season, 131 boats qualified for red snapper endorsements on their reef fish permits that entitled them to land 2,000 lbs of red snapper per trip.

In 2007, an IFQ program was implemented for the commercial red snapper sector. Each vessel that qualified for the program was issued an allocation of a percentage of the commercial quota based on historical participation. The allocations were issued as shares representing pounds of red snapper, which the fishermen could harvest, sell or lease to other fishermen, or purchase from other fishermen. Beginning in 2007, the commercial red snapper season is no longer closed, but a commercial vessel cannot land red snapper unless it has sufficient allocation in its vessel account to cover the landing poundage. As a result, there have not been any quota

overruns under the IFQ program (Table 3.1.4). The red snapper IFQ program is currently undergoing a 5-year review to determine if changes are needed to the program.

Table 3.1.4. Commercial red snapper harvest vs. days open, by sector, 1986-2012.

Year	Quota	Actual landings	Days Open (days that open or close at noon are counted as half-days) ("+" = split season)
1986	na	3.700	365
1987	na	3.069	365
1988	na	3.960	365
1989	na	3.098	365
1990	3.1	2.650	365
1991	2.04	2.213	235
1992	2.04	3.106	52½ + 42 = 94½
1993	3.06	3.374	94
1994	3.06	3.222	77
1995	3.06	2.934	50 + 1½ = 51½
1996	4.65	4.313	64 + 22 = 86
1997	4.65	4.810	53 + 18 = 71
1998	4.65	4.680	39 + 28 = 67
1999	4.65	4.876	42 + 22 = 64
2000	4.65	4.837	34 + 25 = 59
2001	4.65	4.625	50 + 20 = 70
2002	4.65	4.779	57 + 24 = 81
2003	4.65	4.409	60 + 24 = 84
2004	4.65	4.651	63 + 32 = 95
2005	4.65	4.096	72 + 48 = 120
2006	4.65	4.649	72 + 43 = 115
2007	3.315	3.183	IFQ
2008	2.55	2.484	IFQ
2009	2.55	2.484	IFQ
2010	3.542	3.392	IFQ
2011	3.664	3.594	IFQ
2012	4.121	4.036	IFQ

Sources: SEDAR 31 Data Workshop Report (1990-2011 landings), commercial quotas/catch allowances report from NMFS/Southeast Regional Office IFQ landings website (2012 landings): http://sero.nmfs.noaa.gov/sf/ifq/CommercialQuotasCatchAllowanceTable.pdf.
Commercial quotas/landings in gutted weight were multiplied by 1.11 to convert to ww. Values highlighted in red are those where landings exceeded quotas.

3.2 Description of the Physical Environment

The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean

by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.2.1). Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54º F to 84º F (12º C to 29º C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73 º F through 83º F (23-28º C) including bays and bayous (Figure 3.2.1) between 1982 and 2009, according to satellite-derived measurements (NODC 2012: http://accession.nodc.noaa.gov/0072888). In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

The physical environment for Gulf reef fish, including red snapper, is also detailed in the EIS for the Generic EFH Amendment and the Generic ACL/AM Amendment (refer to GMFMC 2004a; GMFMC 2011b).

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions; coral reefs, rock outcroppings, and gravel bottoms; oilrigs; and other artificial structures (GMFMC 2004b). Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010).

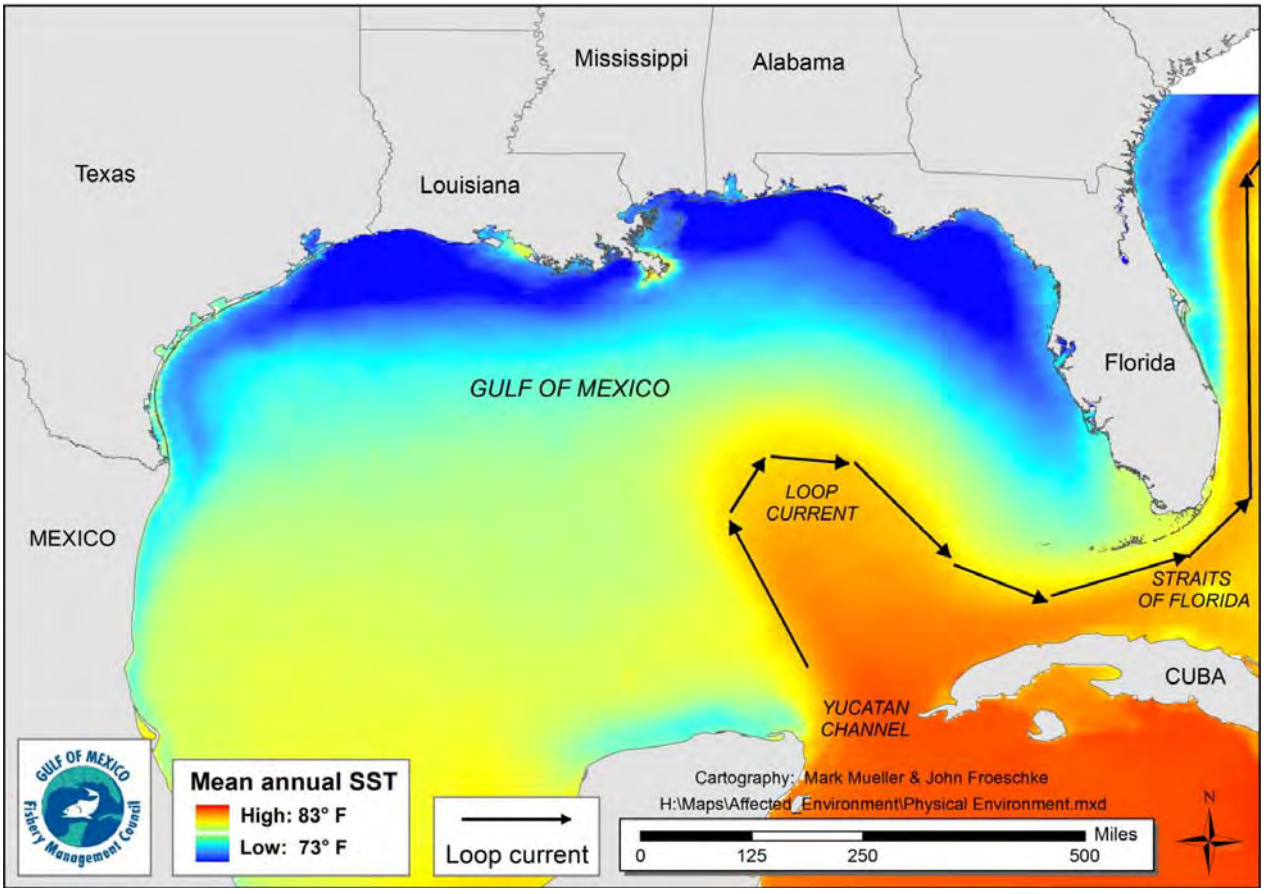

Figure 3.2.1. Physical environment of the Gulf including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (http://accession.nodc.noaa.gov/0072888)

3.3 Description of the Biological/Ecological Environment

The biological environment of the Gulf, including the species addressed in this amendment, is described in detail in the final EIS for the Generic EFH Amendment (GMFMC 2004a) and is incorporated here by reference.

Red Snapper Life History and Biology

Red snapper demonstrate the typical reef fish life history pattern (Table 3.3.1). Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom. Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Adult females mature as early as two years and most are mature by four years (Schirripa and Legault 1999). Red snapper have been aged up to 57 years. Until recently, most caught by the directed fishery were 2- to 4-years old (Wilson and Nieland 2001), but a recently completed stock assessment suggests that the age and size of red snapper in the directed fishery has increased in recent years (SEDAR 31 2013). A more complete description of red snapper life history can be found in the EIS for the Generic EFH Amendment (GMFMC 2004a).

Status of the Red Snapper Stock

Southeast Data Assessment and Review (SEDAR) 31 Benchmark Stock Assessment

Commercial harvest of red snapper from the Gulf began in the mid-1800s (Shipp 2001). In the 1930s, party boats built exclusively for recreational fishing began to appear (Chester 2001). The first stock assessment conducted by NMFS in 1986 suggested that the stock was in decline (Parrack and McLellan 1986) and since 1988 (Goodyear 1988) the stock biomass has been found to be below threshold levels.

The most recent red snapper stock assessment was completed in 2013 (SEDAR 31 2013). The primary assessment model selected for the Gulf red snapper stock evaluation assessment was Stock Synthesis (Methot 2010). Stock Synthesis is an integrated statistical catch-at-age model which is widely used for stock assessments in the United States and throughout the world. Commercial landings data included commercial handline and longline landings from the accumulated landings system from 1964 through 2011. For landings between 1880 and 1963, previously constructed historical landings were used. Total annual landings from the IFQ program for years 2007-2011 were used to reapportion 2007-2011 accumulated landings system data across strata. Recreational landings data included the MRIP/Marine Recreational Fishery Statistics Survey (MRFSS) from 1981-2011, Southeast Headboat Survey for 1981-2011, and Texas Parks and Wildlife Department survey. For the years 2004-2011, MRIP landings are available. For earlier years, MRFSS data were calibrated to MRIP estimates using a standardized approach for calculating average weight that accounts for species, region, year, state, mode, wave, and area.

Standardized indices of relative abundance from both fishery dependent and independent data sources were included in the model. The fishery dependent indices came from the commercial handline fleet, recreational headboats, and recreational private/for-hire sectors. Fishery

independent indices came from the Southeast Area Monitoring and Assessment Program (SEAMAP) bottom trawl survey, SEAMAP reef fish video survey, NMFS bottom longline survey, and the SEAMAP plankton survey.

Red snapper discards in the Gulf were calculated from data collected by the self-reported commercial logbook data and the NMFS Gulf reef fish observer program. In addition to these directed fisheries discards, estimates of red snapper bycatch from the commercial shrimp fleet were also generated.

The results of the SEDAR 31 assessment, including an assessment addendum that was prepared after a review of the SEDAR Assessment Panel Report by the SEDAR Review Panel, was presented to the SSC in May 2013. Under the base model, it was estimated that the red snapper stock has been overfished since the 1960s.

Current (2011) stock status was estimated relative to two possible proxies for F_{MSY}: $F_{SPR26\%}$ (i.e., the fishing mortality rate that would produce an equilibrium spawning potential ratio (SPR) of 26%) and F_{MAX}, which corresponded to $F_{SPR20.4\%}$ (i.e., the fishing mortality rate that would produce an equilibrium SPR 20.4%). A proxy of $F_{SPR26\%}$ was previously used as the overfishing and F_{MSY} proxy in SEDAR 7 and the SEDAR 7 update assessment in 2009. F_{MAX} was evaluated as an alternative proxy because at high spawner-recruit steepness values near 1.0, such as the value of 0.99 fixed in the red snapper assessment, F_{MAX} approximates the actual estimate of F_{MSY}. However, the actual estimate of F_{MSY} is sensitive to the parameters of the spawner-recruit relationship. The SSC did not have confidence in using the direct F_{MSY} estimate due to the fact that the spawner-recruit function is poorly estimated and data exist for a very limited range of potential spawning stock biomass (SSB) for the stock. In addition, the SSC felt that the equivalent SPR for F_{MAX} (20.4%) was inappropriately low for species with life history parameters similar to red snapper. The SSC felt that the $F_{SPR26\%}$ proxy, while still somewhat low for species with life history parameters similar to red snapper, was more realistic than the 20.4% SPR associated with $F_{MAX.}$ Furthermore, the $F_{SPR26\%}$ proxy is consistent with the current fishery management plan (FMP) and rebuilding plan for red snapper.

Although the red snapper stock continues to recover, spawning stock biomass is estimated to remain below both the minimum stock size threshold (MSST) and the spawning stock size associated with maximum sustainable yield ($SSB_{MSY\ proxy}$) using either proxy described above. Therefore, the SSC concluded that the stock remains overfished. With respect to overfishing, the current fishing mortality rate (geometric mean of 2009-2011) was estimated to be below both F_{MSY} proxies. Therefore, the SSC estimated the stock is not currently experiencing overfishing.

Based on an evaluation to the Tier 1 P* spreadsheet used for the ABC control rule, the SSC determined that the P* (probability of overfishing) should equal 0.427. This P* is applied to a probability density function (PDF) to determine an ABC that takes into account scientific uncertainty in the setting of the overfishing limit (OFL). In order to capture more of the scientific uncertainty, the SSC decided to use a weighted average of PDFs constructed for the base model (50% weighting), a high M model that assumed a higher natural mortality rate for age-o and age-1 red snapper (25% weighting), and a lower M model that assumed a lower natural mortality rate for age-o and age-1 red snapper (25% weighting). These model runs were

selected because they bracket the range of plausible results obtained from the base run and 15 alternative state model runs. Based on the results of the P* = 0.427 applied to the weighted average PDF, the SSC set the following ABCs: 13.5 mp ww in 2013; 11.9 mp in 2014; 10.6 mp in 2015. A red snapper update assessment scheduled for 2014 is expected to re-evaluate the ABC for 2015 and beyond.

Definition of Overfishing

In January 2012, the Generic ACL/AM Amendment (GMFMC 2011b) became effective. One of the provisions in this amendment was to redefine overfishing. In years when there is a stock assessment, overfishing is defined as the fishing mortality rate exceeding the maximum fishing mortality threshold. In years when there is no stock assessment, overfishing is defined as the catch exceeding the OFL. Even though the recreational harvest exceeded its quota in 2012, the total catch (recreational and commercial combined) remained below the OFL. Therefore, as of 2012, overfishing is no longer occurring in the red snapper stock. Note that, because the overfishing threshold is now re-evaluated each year instead of only in years when there is a stock assessment, this status could change on a year-to-year basis.

General Information on Reef Fish Species

The National Ocean Service collaborated with NMFS and the Council to develop distributions of reef fish (and other species) in the Gulf (SEA 1998). The National Ocean Service obtained fishery-independent data sets for the Gulf, including SEAMAP, and state trawl surveys. Data from the Estuarine Living Marine Resources Program contain information on the relative abundance of specific species (highly abundant, abundant, common, rare, not found, and no data) for a series of estuaries, by five life stages (adult, spawning, egg, larvae, and juvenile) and month for five seasonal salinity zones (0-0.5, 0.5-5, 5-15, 15-25, and >25 parts per thousand). National Ocean Service staff analyzed these data to determine relative abundance of the mapped species by estuary, salinity zone, and month. For some species not in the Estuarine Living Marine Resources Program database, distribution was classified as only observed or not observed for adult, juvenile, and spawning stages.

In general, reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. Habitat types and life history stages are summarized in Table 3.3.1 and can be found in more detail in GMFMC (2004a). In general, both eggs and larval stages are planktonic. Larvae feed on zooplankton and phytoplankton. Exceptions to these generalizations include the gray triggerfish that lay their eggs in depressions in the sandy bottom, and gray snapper whose larvae are found around submerged aquatic vegetation (SAV). Juvenile and adult reef fish are typically demersal, and are usually associated with bottom topographies on the continental shelf (<328 feet; <100 m) which have high relief, i.e., coral reefs, artificial reefs, rocky hard-bottom substrates, ledges and caves, sloping soft-bottom areas, and limestone outcroppings. However, several species are found over sand and soft-bottom substrates. Juvenile red snapper are common on mud bottoms in the northern Gulf, particularly from Texas to Alabama. Also, some juvenile snappers (e.g. mutton, gray, red, dog, lane, and yellowtail snappers) and groupers (e.g. goliath grouper, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems

(GMFMC 1981). More detail on hard bottom substrate and coral can be found in the FMP for Corals and Coral Reefs (GMFMC and SAFMC 1982).

Table 3.3.1. Summary of habitat utilization by life history stage for species in the Reef Fish FMP.

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Red Snapper	Pelagic	Pelagic	Hard bottoms, Sand/ shell bottoms, Soft bottoms	Hard bottoms, Sand/ shell bottoms, Soft bottoms	Hard bottoms, Reefs	Sand/ shell bottoms
Queen Snapper	Pelagic	Pelagic	Unknown	Unknown	Hard bottoms	
Mutton Snapper	Reefs	Reefs	Mangroves, Reefs, SAV, Emergent marshes	Mangroves, Reefs, SAV, Emergent marshes	Reefs, SAV	Shoals/ Banks, Shelf edge/slope
Blackfin Snapper	Pelagic		Hard bottoms	Hard bottoms	Hard bottoms, Shelf edge/slope	Hard bottoms, Shelf edge/slope
Cubera Snapper	Pelagic		Mangroves, Emergent marshes, SAV	Mangroves, Emergent marshes, SAV	Mangroves, Reefs	Reefs
Gray Snapper	Pelagic, Reefs	Pelagic, Reefs	Mangroves, Emergent marshes, Seagrasses	Mangroves, Emergent marshes, SAV	Emergent marshes, Hard bottoms, Reefs, Sand/ shell bottoms, Soft bottoms	
Lane Snapper	Pelagic		Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Mangroves, Reefs, Sand/ shell bottoms, SAV, Soft bottoms	Reefs, Sand/ shell bottoms, Shoals/ Banks	Shelf edge/slope
Silk Snapper	Unknown	Unknown	Unknown	Unknown	Shelf edge	
Yellowtail Snapper	Pelagic		Mangroves, SAV, Soft bottoms	Reefs	Hard bottoms, Reefs, Shoals/ Banks	
Wenchman	Pelagic	Pelagic			Hard bottoms, Shelf edge/slope	Shelf edge/slope
Vermilion Snapper	Pelagic		Hard bottoms, Reefs	Hard bottoms, Reefs	Hard bottoms, Reefs	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Gray Triggerfish	Reefs	Drift algae, *Sargassum*	Drift algae, *Sargassum*	Drift algae, Reefs, *Sargassum*	Reefs, Sand/ shell bottoms	Reefs, Sand/ shell bottoms
Greater Amberjack	Pelagic	Pelagic	Drift algae	Drift algae	Pelagic, Reefs	Pelagic
Lesser Amberjack			Drift algae	Drift algae	Hard bottoms	Hard bottoms
Almaco Jack	Pelagic		Drift algae	Drift algae	Pelagic	Pelagic
Banded Rudderfish		Pelagic	Drift algae	Drift algae	Pelagic	Pelagic
Hogfish			SAV	SAV	Hard bottoms, Reefs	Reefs
Blueline Tilefish	Pelagic	Pelagic			Hard bottoms, Sand/ shell bottoms, Shelf edge/slope, Soft bottoms	
Tilefish (golden)	Pelagic, Shelf edge/ Slope	Pelagic	Hard bottoms, Shelf edge/slope, Soft bottoms	Hard bottoms, Shelf edge/slope, Soft bottoms	Hard bottoms, Shelf edge/slope, Soft bottoms	
Goldface Tilefish	Unknown					
Speckled Hind	Pelagic	Pelagic			Hard bottoms, Reefs	Shelf edge/slope
Yellowedge Grouper	Pelagic	Pelagic		Hard bottoms	Hard bottoms	
Atlantic Goliath Grouper	Pelagic	Pelagic	Mangroves, Reefs, SAV	Hard bottoms, Mangroves, Reefs, SAV	Hard bottoms, Shoals/ Banks, Reefs	Reefs, Hard bottoms
Red Grouper	Pelagic	Pelagic	Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	Hard bottoms, Reefs	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Warsaw Grouper	Pelagic	Pelagic		Reefs	Hard bottoms, Shelf edge/slope	
Snowy Grouper	Pelagic	Pelagic	Reefs	Reefs	Hard bottoms, Reefs, Shelf edge/slope	
Black Grouper	Pelagic	Pelagic	SAV	Hard bottoms, Reefs	Hard bottoms, Mangroves, Reefs	
Yellowmouth Grouper	Pelagic	Pelagic	Mangroves	Mangroves, Reefs	Hard bottoms, Reefs	
Gag	Pelagic	Pelagic	SAV	Hard bottoms, Reefs, SAV	Hard bottoms, Reefs	
Scamp	Pelagic	Pelagic	Hard bottoms, Mangroves, Reefs	Hard bottoms, Mangroves, Reefs	Hard bottoms, Reefs	Reefs, Shelf edge/slope
Yellowfin Grouper			SAV	Hard bottoms, SAV	Hard bottoms, Reefs	Hard bottoms

Source: Adapted from Table 3.2.7 in the final draft of the EIS from the Generic EFH Amendment (GMFMC 2004a) and consolidated in this document.

Status of Reef Fish Stocks

The Reef Fish FMP currently encompasses 31 species (Table 3.3.2). Eleven other species were removed from the FMP in 2012 through the Generic ACL/AM Amendment (GMFMC 2011b). Stock assessments and stock assessment reviews have been conducted for 13 species and can be found on the Council (www.gulfcouncil.org) and SEDAR (www.sefsc.noaa.gov/sedar) websites. The assessed species are:

- Red Snapper (SEDAR 7 2005; SEDAR 7 Update 2009; SEDAR 31 2013)
- Vermilion Snapper (Porch and Cass-Calay 2001; SEDAR 9 2006a; SEDAR 9 Update 2011a)
- Yellowtail Snapper (Muller et al. 2003; SEDAR 3 2003; O'Hop et al. 2012)
- Mutton Snapper (SEDAR 15A 2008)
- Gray Triggerfish (Valle et al. 2001; SEDAR 9 2006b; SEDAR 9 Update 2011b)
- Greater Amberjack (Turner et al. 2000; SEDAR 9 2006c; SEDAR 9 Update 2010)
- Hogfish (Ault et al. 2003; SEDAR 6 2004a)
- Red Grouper (NMFS 2002; SEDAR 12 2007; SEDAR 12 Update 2009)
- Gag (Turner et al. 2001; SEDAR 10 2006; SEDAR 10 Update 2009)
- Black Grouper (SEDAR 19 2010)
- Yellowedge Grouper (Cass-Calay and Bahnick 2002; SEDAR 22 2011a)
- Tilefish (Golden) (SEDAR 22 2011b)
- Atlantic Goliath Grouper (Porch et al. 2003; SEDAR 6 2004b; SEDAR 23 2011)

The NMFS Office of Sustainable Fisheries updates its Status of U.S. Fisheries Report to Congress on a quarterly basis utilizing the most current stock assessment information. The most recent update can be found at: (http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm). The status of both assessed and unassessed stocks as of the writing of this report is shown in Table 3.3.2.

Table 3.3.2. Species of the Reef Fish FMP grouped by family.

Common Name	Scientific Name	Stock Status
Family Balistidae – Triggerfishes		
Gray Triggerfish	*Balistes capriscus*	Overfished, no overfishing
Family Carangidae – Jacks		
Greater Amberjack	*Seriola dumerili*	Overfished, no overfishing
Lesser Amberjack	*Seriola fasciata*	Unknown
Almaco Jack	*Seriola rivoliana*	Unknown
Banded Rudderfish	*Seriola zonata*	Unknown
Family Labridae - Wrasses		
Hogfish	*Lachnolaimus maximus*	Unknown
Family Malacanthidae - Tilefishes		
Tilefish (Golden)	*Lopholatilus chamaeleonticeps*	Not overfished, no overfishing
Blueline Tilefish	*Caulolatilus microps*	Unknown
Goldface Tilefish	*Caulolatilus chrysops*	Unknown
Family Serranidae - Groupers		
Gag	*Mycteroperca microlepis*	Overfished, no overfishing
Red Grouper	*Epinephelus morio*	Not overfished, no overfishing
Scamp	*Mycteroperca phenax*	Unknown
Black Grouper	*Mycteroperca bonaci*	Not overfished, no overfishing
Yellowedge Grouper	**Hyporthodus flavolimbatus*	Not overfished, no overfishing
Snowy Grouper	**Hyporthodus niveatus*	Unknown
Speckled Hind	*Epinephelus drummondhayi*	Unknown
Yellowmouth Grouper	*Mycteroperca interstitialis*	Unknown
Yellowfin Grouper	*Mycteroperca venenosa*	Unknown
Warsaw Grouper	**Hyporthodus nigritus*	Unknown
**Atlantic Goliath Grouper	*Epinephelus itajara*	Unknown
Family Lutjanidae - Snappers		
Queen Snapper	*Etelis oculatus*	Unknown
Mutton Snapper	*Lutjanus analis*	Not overfished, no overfishing
Blackfin Snapper	*Lutjanus buccanella*	Unknown
Red Snapper	*Lutjanus campechanus*	Overfished, no overfishing
Cubera Snapper	*Lutjanus cyanopterus*	Unknown
Gray Snapper	*Lutjanus griseus*	Unknown
Lane Snapper	*Lutjanus synagris*	Unknown
Silk Snapper	*Lutjanus vivanus*	Unknown
Yellowtail Snapper	*Ocyurus chrysurus*	Not overfished, no overfishing
Vermilion Snapper	*Rhomboplites aurorubens*	Not overfished, no overfishing
Wenchman	*Pristipomoides aquilonaris*	Unknown

Notes: * In 2013 the genus for yellowedge grouper, snowy grouper, and warsaw grouper was changed by the American Fisheries Society from *Epinephelus* to *Hyporthodus* (American Fisheries Society 2013).

**Atlantic goliath grouper is a protected grouper and benchmarks do not reflect appropriate stock dynamics. In 2013 the common name was changed from goliath grouper to Atlantic goliath grouper by the American Fisheries Society to differentiate from the Pacific goliath grouper, a newly named species (American Fisheries Society 2013).

Protected Species

There are 29 different species of marine mammals that may occur in the Gulf. All 29 species are protected under the Marine Mammal Protection Act and seven are also listed as endangered under the Endangered Species Act (ESA) (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales and the West Indian manatee). Other species protected under the ESA occurring in the Gulf include five sea turtle species (Kemp's ridley, loggerhead, green, leatherback, and hawksbill); two fish species (Gulf sturgeon and smalltooth sawfish), and two coral species (elkhorn coral and staghorn coral). Information on the distribution, biology, and abundance of these protected species in the Gulf is included in the final EIS to the Generic EFH Amendment (GMFMC 2004a) and the February 2005, October 2009, and September 2011 ESA biological opinions on the reef fish fishery (NMFS 2005; NMFS 2009; NMFS 2011a). Marine Mammal Stock Assessment Reports and additional information are also available on the NMFS Office of Protected Species website: http://www.nmfs.noaa.gov/pr/species/.

The Gulf reef fish fishery is classified in the Marine Mammal Protection Act 2013 List of Fisheries as a Category III fishery (78 FR 53336, August 29, 2013). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to 1% of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. Dolphins are the only species documented as interacting with these fisheries. Bottlenose dolphins prey upon on the bait, catch, and/or released discards of fish from the reef fish fishery. They are also a common predator around reef fish vessels, feeding on the discards.

All five species of sea turtles are adversely affected by the Gulf reef fish fishery. Incidental captures are relatively infrequent, but occur in all commercial and recreational hook-and-line and longline components of the reef fish fishery. Captured sea turtles can be released alive or can be found dead upon retrieval of the gear as a result of forced submergence. Sea turtles released alive may later succumb to injuries sustained at the time of capture or from exacerbated trauma from fishing hooks or lines that were ingested, entangled, or otherwise still attached when they were released. Sea turtle release gear and handling protocols are required in the commercial and for-hire reef fish fisheries to minimize post-release mortality.

Smalltooth sawfish are also affected by the Gulf reef fish fishery, but to a much lesser extent. Smalltooth sawfish primarily occur in the Gulf off peninsular Florida. Incidental captures in the commercial and recreational hook-and-line components of the reef fish fishery are rare events, with only eight smalltooth sawfish estimated to be incidentally caught annually, and none are expected to result in mortality (NMFS 2005). Fishermen in this fishery are required to follow smalltooth sawfish safe handling guidelines. The long, toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in fishing gear.

On September 30, 2011, the Protected Resources Division released a biological opinion, which concluded that the continued operation of the Gulf reef fish fishery is not likely to jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback) or smalltooth sawfish (NMFS 2011a). An incidental take statement was issued specifying the

amount and extent of anticipated take, along with reasonable and prudent measures and associated terms and conditions deemed necessary and appropriate to minimize the impact of these takes. The Council addressed measures to reduce take in the reef fish fishery's longline component in Amendment 31 (GMFMC 2009). Other listed species and designated critical habitat in the Gulf were determined not likely to be adversely affected.

On December 7, 2012, NMFS published a proposed rule to list 66 coral species under the ESA and reclassify *Acropora* from threatened to endangered (77 FR 73220). In a memo dated February 13, 2013, NMFS determined the reef fish fishery was not likely to adversely affect *Acropora* because of where the fishery operates, the types of gear used in the fishery, and that other regulations protect *Acropora* where they are most likely to occur. None of the new information regarding population level concerns would affect those determinations.

Deepwater Horizon MC252 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 British Petroleum on July 15, 2010. The Deepwater Horizon MC252 oil spill affected at least one-third of the Gulf area from western Louisiana east to the Florida Panhandle and south to the Campeche Bank in Mexico (Figure 3.3.1).

As reported by the National Oceanic and Atmospheric Administration Office of Response and Restoration (NOAA 2010), the oil from the Deepwater Horizon MC252 spill is relatively high in alkanes, which can readily be used by microorganisms as a food source. As a result, the oil from this spill is likely to biodegrade more readily than crude oil in general. The Deepwater Horizon MC252 oil is also relatively much lower in polyaromatic hydrocarbons. Polyaromatic hydrocarbons are highly toxic chemicals that tend to persist in the environment for long periods of time, especially if the spilled oil penetrates into the substrate on beaches or shorelines. Like all crude oils, MC252 oil contains volatile organic compounds (VOCs) such as benzene, toluene, and xylene. Some VOCs are acutely toxic but because they evaporate readily, they are generally a concern only when oil is fresh.[8]

In addition to the crude oil, 1.4 million gallons of the dispersant, Corexit 9500A®, was applied to the ocean surface and an additional 770,000 gallons of dispersant was pumped to the mile-deep well head (National Commission 2010). No large-scale applications of dispersants in deep water had been conducted until the Deepwater Horizon MC252 oil spill. Thus, no data exist on the environmental fate of dispersants in deep water. However, a study found that, while Corexit 9500A® and oil are similar in their toxicity, when Corexit 9500A® and oil were mixed in lab tests, toxicity to microscopic rotifers increased up to 52-fold (Rico-Martínez et al. 2013). This suggests that the toxicity of the oil and dispersant combined may be greater than anticipated.

Oil could exacerbate development of the hypoxic "dead" zone in the Gulf as could higher than normal input of water from the Mississippi River drainage. For example, oil on the surface of the water could restrict the normal process of atmospheric oxygen mixing into and replenishing

[8] Source: http://sero.nmfs.noaa.gov/sf/deepwater_horizon/OilCharacteristics.pdf

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.

Changes have occurred in the amount and distribution of fishing effort in the Gulf in response to the oil spill. This has made the analysis of the number of days needed for the recreational sector to fill its quota more complex and uncertain, and 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.

As a result of the Deepwater Horizon MC252 spill, a consultation pursuant to ESA Section 7(a)(2) was reinitiated. As discussed above, on September 30, 2011, the Protected Resources Division released a biological opinion, which after analyzing best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC252 oil release event in the northern Gulf), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf reef fish fishery is not likely to jeopardize the continued existence of green, hawksbill, Kemp's ridley, leatherback, or loggerhead sea turtles, nor the continued existence of smalltooth sawfish (NMFS 2011a).

For additional information on the Deepwater Horizon MC252 oil spill and associated closures, see: http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm.

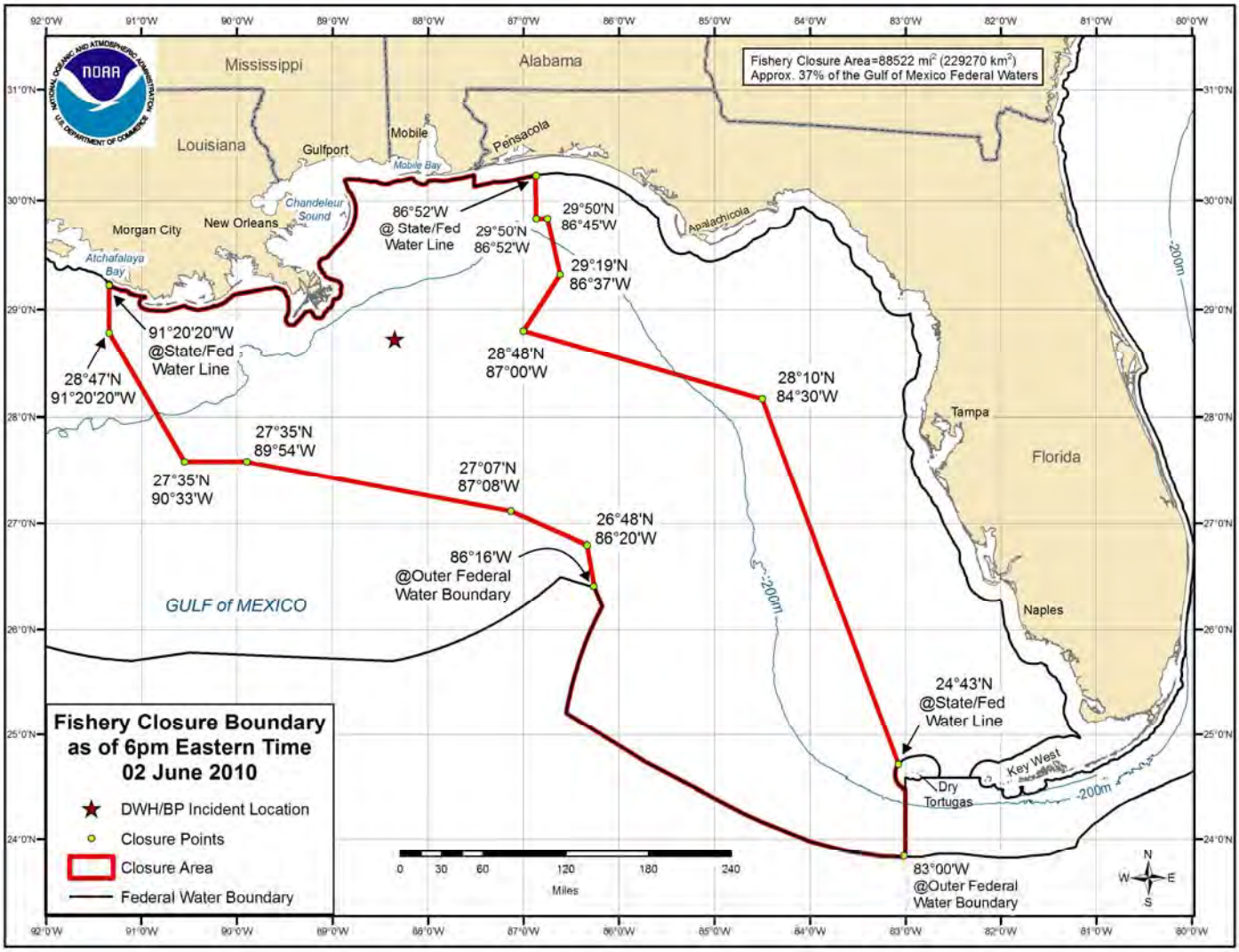

Figure 3.3.1. Fishery closure at the height of the Deepwater Horizon MC252 oil spill.

3.4 Description of the Economic Environment

3.4.1 Commercial Sector

A description of the commercial sector is provided in GMFMC (2013) and is incorporated herein by reference. Because this proposed amendment would only change management of the recreational sector, an update of the information on the commercial sector provided in GMFMC (2013) is not provided.

3.4.2 Recreational Sector

Angler Effort

Recreational effort derived from the MRFSS/MRIP database can be characterized in terms of the number of trips as follows:

1. Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or second primary target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.
3. Total recreational trips - The total estimated number of recreational trips in the Gulf, regardless of target intent or catch success.

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), among other measures, but the three measures of effort listed above are used in this assessment. Because of the Deepwater Horizon MC252 oil spill, 2010 was not a typical year for recreational fishing due to the extensive closures (Figure 3.3.1) and associated decline in fishing in much of the Gulf. For information on the Deepwater Horizon MC252 oil spill and associated closures, see: http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm. Estimates of the average annual red snapper effort for the shore, charter, and private/rental boat modes in the Gulf for the period 2006-2011 with and without 2010 data are provided in Table 3.4.2.1. The average annual red snapper target effort for 2006-2011 was approximately 9% less than the average for this period excluding 2010. For red snapper catch effort, the difference was approximately 7%. Because of these differences, this assessment excludes recreational effort data for 2010 from further analysis. Table 3.4.2.2 contains estimates for the average annual red snapper recreational effort for 2006-2011 excluding 2010 by state and mode (shore, charter, and private/rental boat only).

Table 3.4.2.1. Effects of 2010 data on average annual red snapper recreational effort.

	Target Trips					
	Alabama	**West Florida**	**Louisiana**	**Mississippi**	**Texas**	**Total**
Average 2006-2011	98,373	186,656	49,934	7,225	*	342,187
Average w/o 2010	111,846	198,609	58,108	7,729	*	376,292
	Catch Trips					
	Alabama	**West Florida**	**Louisiana**	**Mississippi**	**Texas**	**Total**
Average 2006-2011	150,641	465,282	77,689	9,284	*	702,896
Average w/o 2010	163,316	494,783	90,524	9,722	*	758,346

*Unavailable.
Source: Southeast Regional Office using MRFSS/MRIP data.

Table 3.4.2.2. Average annual red snapper recreational effort by mode, 2006-2011 excluding 2010.

	Alabama	**West Florida**	**Louisiana**	**Mississippi**	**Texas**	**Total**
	Shore Mode					
Target Trips	610	1,215	0	0	*	1,825
Catch Trips	912	1,114	0	0	*	2,026
	Charter Mode					
Target Trips	22,131	46,389	18,510	33	*	87,064
Catch Trips	49,405	212,494	34,418	247	*	296,563
	Private/Rental Mode					
Target Trips	89,105	151,005	39,598	7,696	*	287,403
Catch Trips	112,999	281,175	56,106	9,476	*	459,757
	All Modes					
Target Trips	111,846	198,609	58,108	7,729	*	376,292
Catch Trips	163,316	494,783	90,524	9,722	*	758,346

*Unavailable.
Source: Southeast Regional Office using MRFSS/MRIP data.

Headboat data do not support the estimation of target or catch effort because target intent is not collected and the harvest data (the data reflect only harvest information and not total catch) are collected on a vessel basis and not by individual angler. Table 3.4.2.3 contains estimates of the number of headboat angler days for all Gulf states for 2006-2011.

Table 3.4.2.3. Headboat angler days.

Year	W Florida/Alabama	Louisiana	Mississippi	Texas	Total
2006	124,049	5,005	0	70,789	199,843
2007	136,880	2,522	0	63,764	203,166
2008	130,176	2,945	0	41,188	174,309
2009	142,438	3,268	0	50,737	196,443
2010	111,018	217	*	47,154	158,389
2011	157,025	1,886	1,771	47,284	207,966
Average All	133,598	2,641	*	53,486	189,724
Average w/o 2010	138,114	3,125	1,771**	54,752	196,345

*Confidential.
**Because the average totals are used to represent expectations of future activity, the 2011 number of trips is provided as best representative of the emergent headboat fishery in Mississippi.
Source: NMFS Southeast Headboat Survey (HBS).

Permits

The for-hire sector is comprised of charter vessels and headboats (party boats). Although charter vessels tend to be smaller, on average, than headboats, the key distinction between the two types of operations is how the fee is determined. On a charter boat trip, the fee charged is for the entire vessel, regardless of how many passengers are carried, whereas the fee charged for a headboat trip is paid per individual angler.

A federal for-hire vessel permit has been required for reef fish since 1996 and the sector currently operates under a limited access system. On June 4, 2013, there were 1,349 valid (non-expired) or renewable Gulf Charter/Headboat Reef Fish Permits. A renewable permit is an expired permit that may not be actively fished, but is renewable for up to one year after expiration. Although the permit does not distinguish between headboats and charter boats, an estimated 70 headboats operate in the Gulf (K. Brennen, NMFS Southeast Fisheries Science Center, pers. comm.).

Information on Gulf charter boat and headboat operating characteristics, including average fees and net operating revenues, is included in Savolainen et al. (2012) and is incorporated herein by reference.

There are no specific permitting requirements for recreational anglers to fish for or harvest reef fish. Instead, anglers are required to possess either a state recreational fishing permit that authorizes saltwater fishing in general, or be registered in the federal National Saltwater Angler Registry system, subject to appropriate exemptions. As a result, it is not possible to identify with available data how many individual anglers would be expected to be affected by this proposed amendment.

Economic Value

Economic value can be measured in the form of consumer surplus per red snapper trip for anglers (the amount of money that an angler would be willing to pay for a fishing trip in excess of the cost of the trip) and producer surplus per passenger trip for for-hire vessels (the amount of money that a vessel owner earns in excess of the cost of providing the trip). The estimated value of the consumer surplus per red snapper angler trip for a trip on which the angler is allowed to harvest two red snapper is $56.42 (GMFMC 2010; value updated to 2011 dollars). Estimates of the consumer surplus per fish, instead of per angler trip, for red snapper and other saltwater species are provided in Carter and Liese (2012) and are incorporated herein by reference.

Estimates of the producer surplus per for-hire passenger trip are not available. Instead, net operating revenues, which are the return used to pay all labor wages, returns to capital, and owner profits, are used as the proxy for producer surplus. The estimated net operating revenue is $154.62 per target charter angler trip and $51.19 (2011 dollars) per target headboat angler trip regardless of species targeted or catch success (C. Liese, NMFS Southeast Fisheries Science Center, pers. comm.). Estimates of net operating revenue by target species are not available.

Recreational Sector Business Activity

Estimates of the business activity (economic impacts) associated with recreational angling for red snapper were derived using average impact coefficients for recreational angling for all species, as derived from an add-on survey to the MRFSS to collect economic expenditure information, as described and utilized in NMFS (2011b). Estimates of these coefficients for target or catch behavior for individual species are not available. Estimates of the average expenditures by recreational anglers are also provided in NMFS (2011b) and are incorporated herein by reference.

Business activity for the recreational sector is characterized in the form of full time equivalent jobs, output (sales) impacts (gross business sales), and value-added impacts (difference between the value of goods and the cost of materials or supplies). Job and output (sales) impacts are equivalent metrics across both the commercial and recreational sectors. Income impacts (commercial sector) and value-added impacts (recreational sector) are not equivalent, though similarity in the magnitude of multipliers generated and used for the two metrics may result in roughly equivalent values. Similar to income impacts, value-added impacts should not be added to output (sales) impacts because this would result in double counting.

Estimates of the average red snapper effort (2006-2009 and 2011) and associated business activity (2011 dollars) are provided in Table 3.4.2.4. Red snapper target effort (trips) was selected as the measure of red snapper effort. More individual angler trips catch red snapper than target red snapper, as shown in Tables 3.4.2.1 and 3.4.2.2. Estimates of the economic activity associated with red snapper catch trips can be calculated using the ratio of catch trips to target trips because the available estimates of the average impacts per trip are not differentiated by trip intent or catch success. For example, if the estimated number of catch trips is three times the number of target trips for a particular state and mode, the estimate of the economic activity associated with these catch trips would equal three times the estimated impacts of target trips.

Table 3.4.2.4. Summary of red snapper target trips (2006-2009 and 2011 average) and associated business activity (2011 dollars). Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target Trips	610	1,215	0	0	*
Output Impact	$46,624	$86,025	$0	$0	*
Value Added Impact	$25,081	$49,977	$0	$0	*
Jobs	1	1	0	0	*
	Private/Rental Mode				
Target Trips	89,105	151,005	39,598	7,696	*
Output Impact	$5,416,278	$7,162,669	$3,373,684	$229,300	*
Value Added Impact	$2,965,290	$4,259,192	$1,659,295	$109,897	*
Jobs	54	68	30	2	*
	Charter Mode				
Target Trips	22,131	46,389	18,510	33	*
Output Impact	$12,038,231	$15,218,384	$9,206,092	$10,712	*
Value Added Impact	$6,626,643	$9,022,935	$5,227,203	$6,036	*
Jobs	154	150	93	0	*
	All Modes				
Target Trips	111,846	198,609	58,108	7,729	*
Output Impact	$17,501,134	$22,467,077	$12,579,776	$240,012	*
Value Added Impact	$9,617,014	$13,332,104	$6,886,498	$115,933	*
Jobs	209	219	123	2	*

*Because target information is unavailable, associated business activity cannot be calculated.
Source: Effort data from the MRFSS/MRIP, economic impact results calculated by NMFS Southeast Regional Office using the model developed for NMFS (2011b). Estimates of the economic activity (impacts) associated with headboat red snapper effort are not available. Headboat vessels are not covered in MRFSS/MRIP, so estimation of the appropriate economic impact coefficients for headboat vessels has not been conducted. While appropriate economic impact coefficients are available for the charter boats, potential differences in certain factors, such as the for-hire fee, rates of tourist versus local participation rates, and expenditure patterns, may result in significant differences in the economic impacts of the headboat fleet relative to the charter fleet.

The estimates of the business activity associated with red snapper recreational trips are only available at the state level. Addition of the state-level estimates to produce a regional or national total will underestimate the actual amount of total business activity because summing the state estimates will not capture business activity that leaks outside the individual states. A state estimate only reflects activities that occur within that state and not related activity that occurs in

another state. For example, if a good is produced in Alabama but sold in Florida, the measure of business activity in Florida associated with the its sale in Florida does not include the production process in Alabama. Assessment of business activity at the national (or regional) level would capture activity in both states and include all activity except that which leaks into other nations.

3.5 Description of the Social Environment

A description of the social environment for the commercial and recreational sectors' harvest of red snapper is provided in GMFMC (2013a) and is incorporated herein by reference. Because this proposed amendment would only affect management of the recreational sector, a summary of the information provided in GMFMC (2013a) is included for the recreational sector only.

Red snapper is harvested recreationally in all five Gulf states. The proportion of total recreational landings by state for the years 1986 through 2012 is provided in Table 2.3.1. Landings by state are not constant; the proportion of the quota represented by each state varies from year to year. Across time, the proportion of landings made up by the eastern Gulf states (Alabama and western Florida) has increased compared to the western Gulf states (Texas and Louisiana), as the rebuilding plan has proceeded.

Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper. Data reflecting commercial landings of red snapper may or may not reflect areas of importance for recreational fishing of red snapper. It cannot be assumed that the proportion of commercial red snapper landings among other species in a community would be similar to its proportion among recreational landings within the same community because of sector differences in fishing practices and preferences. Thus, in addition to communities with the greatest commercial red snapper landings, the referenced analysis identifies communities with the greatest recreational fishing engagement, based on numbers of: 1) federal for-hire permits, 2) vessels designated recreational by owner address, and 3) vessels designated recreational by homeport, plus availability of recreational fishing infrastructure. The 20 Gulf communities to score highest for recreational fishing engagement based on the described analysis are listed in Table 3.4.1. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top 20 list suggesting a greater importance for recreational fishing in that region.

Comparing the communities of recreational importance (Table 3.4.1) and those with greater commercial landings and IFQ shareholders (see Figure 3.4.2 and Table 3.4.2 in GMFMC 2013a), five communities overlap: Destin, Panama City, Pensacola, and Apalachicola, Florida and Galveston, Texas. Social effects resulting from actions taken in this plan amendment are likely to be greatest in these communities.

Table 3.4.1. Top ranking Gulf communities based on recreational fishing engagement and reliance, in descending order.

Community	County	State
Destin	Okaloosa	FL
Orange Beach	Baldwin	AL
Panama City	Bay	FL
Port Aransas	Nueces	TX
Pensacola	Escambia	FL
Panama City Beach	Bay	FL
Naples	Collier	FL
St. Petersburg	Pinellas	FL
Freeport	Brazoria	TX
Biloxi	Harrison	MS
Galveston	Galveston	TX
Clearwater	Pinellas	FL
Fort Myers Beach	Lee	FL
Sarasota	Sarasota	FL
Tarpon Springs	Pinellas	FL
Dauphin Island	Mobile	AL
Apalachicola	Franklin	FL
Carrabelle	Franklin	FL
Port St. Joe	Gulf	FL
Marco Island	Collier	FL

Source: NMFS Southeast Regional Office permit office 2008, MRIP site survey 2010.

For additional information pertaining to the social environment for the harvest of red snapper, the reader is directed to the following documents which are included here by reference. The February 2010 Regulatory Amendment (GMFMC 2010) includes a detailed discussion of the commercial communities within each state and county which are the most reliant on red snapper. This description focuses on the demographic character of each county in order to aid in understanding the dependence of a particular county on red snapper fishing. The January 2011 Regulatory Amendment (GMFMC 2011a) includes an update on the impacts of the Deepwater Horizon MC252 oil spill. The Gulf of Mexico 2011 Red Snapper IFQ Annual Report (NMFS 2012a) provides a detailed discussion of the commercial red snapper IFQ program.

3.5.1 Environmental Justice Considerations

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. The main focus of Executive Order 12898 is to consider "the disproportionately high and adverse human health or

environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories…" This executive order is generally referred to as environmental justice (EJ).

Recreational red snapper fishermen and associated businesses and communities along the coast may be affected by this proposed action. However, information on race, ethnicity, and income status for groups at the different participation levels (private anglers, for-hire captain, crew, and customers, and employees of recreational fishing businesses, etc.) is not available. Because this proposed action could be expected to affect fishermen and associated industries in numerous communities along the Gulf coast, census data (available at the county level, only) have been assessed to examine whether any coastal counties have poverty or minority rates that exceed the EJ thresholds.

The threshold for comparison that was used was 1.2 times the state average such that, if the value for the county was greater than or equal to 1.2 times the state average, then the county was considered an area of potential EJ concern (EPA 1999). Census data for the year 2010 was used. For Florida, the estimate of the minority (interpreted as non-white, including Hispanic) population was 39.5%, while 13.2% of the total population was estimated to be below the poverty line. These values translate in EJ thresholds of approximately 47.4% and 15.8%, respectively (Table 3.5.1). Based on the demographic information provided, no potential EJ concern is evident with regard to the percent of minorities for the counties of the west coast of Florida. With regard for poverty, Dixie (3.8%), Franklin (8%), Gulf (1.7%), Jefferson (4.6%), Levy (3.3%), and Taylor (7.1%) counties exceed the threshold by the percentage noted. No potential EJ concern is evident for the remaining counties which fall below the poverty and minority thresholds. The same method was applied to the remaining Gulf states.

Table 3.5.1.1. Each state's average proportion of minorities and population living in poverty, and the corresponding threshold used to consider an area of potential EJ concern.

	Minorities		Poverty	
State	% Population	EJ Threshold	% Population	EJ Threshold
FL	39.5	47.4	13.2	15.8
AL	31.5	37.8	16.8	20.2
MS	41.2	49.4	21.4	25.7
LA	38.2	45.8	18.4	22.1
TX	52.3	62.7	16.8	20.1

Source: Census Bureau 2010.

In Alabama, Mobile was the only county to exceed the minority threshold (by 1.7%). Neither of Alabama's coastal counties exceeded the poverty threshold for potential EJ concern. No coastal county in Mississippi exceeded either threshold. In Louisiana, Orleans Parish exceeded the minority threshold by 25% and the poverty threshold by 1.3%. Texas has several counties that exceeded the thresholds. In descending order of magnitude for exceeding the minority threshold were Willacy (26.3%), Cameron (24.7%), Kleberg (12.3%), Kenedy (9%), Nueces (2.8%), and

Harris (0.8%). Exceeding the poverty threshold were Kenedy (32.3%), Willacy (26.8%), Cameron (15.6%), Kleberg (6%), and Matagorda (1.8%). Willacy, Kenedy, Cameron, and Kleberg counties exceed both the minority and poverty thresholds and are the communities identified as most likely to be vulnerable to EJ concerns. Although this analysis identifies areas of potential EJ concern, it is not possible to determine whether the populations of potential EJ concern are involved in or dependent upon marine fishing activities.

Table 3.4.1 provides a summary of 20 communities considered substantially engaged in recreational fishing, generally. When compared with the referenced commercial fishing analysis, the following five communities (and respective county) are considered most likely to be affected: Destin (Okaloosa), Panama City (Bay), Pensacola (Escambia), and Apalachicola (Franklin), Florida and Galveston (Galveston), Texas. In comparing these communities with the preceding analysis identifying counties with potential EJ concerns, Apalachicola is the only community located within a county identified as having potential for EJ concerns. Apalachicola, located in Franklin County, exceeds the poverty threshold by 8% and would be the community most likely to experience unanticipated negative impacts.

The actions in this amendment are designed to implement a program for the regional management of recreational red snapper in which states or regions will be authorized to adapt certain management measures to regional conditions. It is assumed that the flexibility provided to adopt management measures most appropriate to a given region would result in optimal fishing opportunities for local anglers which in turn, would result in benefits to local communities. As will be addressed in the social effects analysis for each action, direct impacts are not expected to accrue to the social environment from most actions of this amendment, which establish the parameters of the program. However, indirect effects (positive or negative) may result due to 1) the specific regulations implemented in each region, 2) how any new regulations differ from existing regulations, and 3) the success or failure of cooperation under the new management regime. Disproportionate impacts to EJ populations are not expected to result from any of the actions in this amendment. Nevertheless, because the regulations to be implemented in each region remain unknown, the lack of impacts on EJ populations cannot be assumed.

3.6 Description of the Administrative Environment

3.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the exclusive economic zone, an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the exclusive economic zone.
Responsibility for federal fishery management is shared by the Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and

revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring management measures are consistent with the Magnuson-Stevens Act and with other applicable laws summarized in Appendix B. In most cases, the Secretary has delegated this authority to NMFS.

The Council is responsible for fishery resources in federal waters of the Gulf. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. The length of the Gulf coastline is approximately 1,631 miles. Florida has the longest coastline of 770 miles along its Gulf coast, followed by Louisiana (397 miles), Texas (361 miles), Alabama (53 miles), and Mississippi (44 miles).

The Council consists of seventeen voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NMFS. The public is also involved in the fishery management process through participation on advisory panels and through Council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is also in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

Regulations contained within FMPs are enforced through actions of the National Oceanic and Atmospheric Administration's Office of Law Enforcement, the United States Coast Guard, and various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the Magnuson-Stevens Act. These activities are being coordinated by the Council's Law Enforcement Advisory Panel and the Gulf States Marine Fisheries Commission's Law Enforcement Committee, which have developed a 5-year "Gulf of Mexico Cooperative Law Enforcement Strategic Plan – 2008-2012."

The red snapper stock in the Gulf is classified as overfished, but no longer undergoing overfishing. A rebuilding plan for red snapper was first implemented under Amendment 1 (GMFMC 1989), and has undergone several revisions. The current rebuilding plan was established in Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007), and calls for rebuilding the stock to a level capable of supporting maximum sustainable yield on a continuing basis by 2032. Periodic adjustments to the ACL and other management measures needed to affect rebuilding are implemented through regulatory amendments.

3.6.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries. Each of the five Gulf states exercises legislative and regulatory authority over their respective state's natural resources through discrete administrative units. Although each agency is the primary administrative body

with respect to the states' natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources. A more detailed description of each state's primary regulatory agency for marine resources is provided in Amendment 22 (GMFMC 2004b).

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1 – Regional Management

4.1.1 Direct and Indirect Effects on the Physical Environment

Direct and indirect effects on the physical environment by the red snapper fishery have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007). The primary gear used by the recreational sector is hook-and-line. Hook-and-line gear has the potential to snag and entangle bottom structures. Each individual set has a very small footprint and thus only a small potential for impact, but the cumulative impacts from recreational fishing could result in a large amount of gear being placed in the water, increasing the potential for impact. The line and weights used by this gear type also can cause abrasions (Barnette 2001). Additionally, vessels used for hook-and-line fishing often anchor, adding to the potential damage of the bottom at fishing locations. If hook-and-line gear is lost, long-term indirect effects to habitat may occur if marine life becomes entangled in the gear or the gear is overgrown with algae (Hamilton 2000; Barnette 2001). Circle hooks are required in the reef fish fishery. Because of the design of circle hooks, this gear is less likely to snag bottom habitat than other hook types.

Action 1 would have no direct effect on the physical environment. This action is administrative because it determines who has the authority to set red snapper regulations in federal waters. This action could indirectly affect the physical environment in different areas or times of the Gulf of Mexico (Gulf) by redirecting how and when fishing is conducted between different Gulf states or regions. **Alternative 1** (**no action**) would continue Gulf-wide federal management of red snapper. **Preferred Alternative 2** and **Alternative 3** would allow for regional management of the stock either by the states or by a regional management program administered by the Gulf of Mexico Fishery Management Council (Council), respectively, and would likely have similar indirect effects. Should different management regimes be implemented between states or regions under these alternatives, this could affect how fishing is conducted. For example, reducing the red snapper bag limit for one state or region could lead to a prolonged fishing season for that state or region. This could result in an increase in the number of red snapper fishing trips, and because red snapper is a part of a multispecies fishery, result in an overall increase in the amount of reef fish fishing, particularly if the ability to catch red snapper would encourage more reef fish fishermen to go fishing. Under this scenario, an increase in fishing in a particular area or over a particular time period would likely add to any adverse effects on the physical environment from fishing. Adverse effects to the physical environment would be lessened if resultant regional red snapper management measures developed by states (**Preferred Alternative 2**) or the Council (**Alternative 3**) resulted in a reduction in red snapper or reef fish fishing. Under **Preferred Alternative 2**, these effects could be limited to either five (**Preferred Option a**) or ten (**Option b**) years, unless the Council decided to continue regional management by the states.

4.1.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a) and in Section 4.8 (Cumulative Effects Analysis). Red snapper management actions that affect the biological/ecological environment mostly relate to the impacts of fishing on a species' population size, life history, and the role of the species within its habitat. Removal of fish from the population through fishing reduces the overall population size. Fishing gears have different selectivity patterns which refer to a fishing method's ability to target and capture organisms by size and species. This would include the number of discards, mostly sublegal fish or fish caught during seasonal closures, and the mortality associated with releasing these fish.

Action 1 would have no direct effect on the biological/ecological environment. This action is administrative because it determines who has the authority to set red snapper regulations in federal waters. This action could indirectly affect the physical environment in different areas of the Gulf by redirecting how fishing is conducted between different Gulf states or regions. **Alternative 1** (**no action**) would continue Gulf-wide federal management of red snapper. **Preferred Alternative 2** and **Alternative 3** would allow for regional management of the stock either by the states or by a regional management program administered by the Council, respectively, and would likely have similar indirect effects. As described in Section 4.1.1, differences in regional management could lead to regional differences in the amount of red snapper and reef fish fishing that occurs. In cases where fishing increases, an increase in adverse effects to the red snapper stock, other reef fish stocks, or other species caught by the recreational sector would be expected. On the other hand, if the level of fishing decreases, then any adverse effects would also likely decrease. But without knowing what management measures would result from this action, it is difficult to compare the alternatives. Under **Preferred Alternative 2**, these effects could be limited to either five (**Preferred Option a**) or ten (**Option b**) years unless the Council decided to continue regional management by the states.

Even though information is either incomplete or unavailable to compare these alternatives at this time, the National Marine Fisheries Service (NMFS) is currently working to better understand the biological/ecological environment so that management uncertainty derived from either state (**Preferred Alternative 2**) or Council (**Alternatives 1** and **3**) management actions may be determined in the future. NMFS has scheduled stock assessments for red snapper and other reef fish species through the Southeast Data, Assessment, and Review (SEDAR) process. These stock assessments factor in the effects of management measures on stock status. Should management measures be shown to adversely affect the stocks, the Council and NMFS can take action to minimize these effects. In addition, these stocks are managed under annual catch limits (ACLs) and accountability measures (AMs) to minimize the risk of fishing to the stocks. Finally, recent advances in ecosystem modeling (e.g., Ecopath; B. Mahmoudi, pers. comm.[9]) are

[9] Dr. Behzad Mahmoudi, Florida Fish and Wildlife Research Institute, St. Petersburg, Florida

providing some insights into the cascading effects of populations in response to each other. However, the nature and magnitude of ecological effects are difficult to predict with any accuracy and so the relationships among species in marine ecosystems are still poorly understood. As development of these models progress, the effects of management actions on the biological/ecological environment should be better understood.

4.1.3 Direct and Indirect Effects on the Economic Environment

Because the harvest restrictions that might ultimately result from all of the actions and alternatives considered in this proposed amendment are unknown, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action.

In the following discussion, it is assumed that **Alternative 1** would result in different management regulations for the recreational harvest of red snapper than **Alternative 3**. Otherwise, **Alternative 1** may be indistinguishable from **Alternative 3** because under the status quo the Council has the authority to specify distinct regional management measures and would retain this authority under **Alternative 1**. It is beyond the scope of this discussion to identify how management might vary under these two alternatives. Status quo management, until changed, would continue under **Alternative 1**. It would be purely speculative to attempt to predict how the Council might attempt to localize regulations across the Gulf under **Alternative 3** (i.e., establish regulations that more closely match local preferences rather than impose uniform regulations across the Gulf) and involve an unknown number of potential regulatory scenarios. However, because the intent of regulatory localization would be to improve the economic and social benefits, as well as possibly improve biological outcomes, none of these potential scenarios would be expected to result in significant adverse impacts on the human environment.

Most of the actions and alternatives considered in this proposed amendment address management considerations that progressively build upon previous actions. For example, Action 1 addresses the option to adopt a regional approach (through delegation or otherwise) to management of the recreational harvest of red snapper, Action 2 (Section 4.2) defines the regions, and Action 4 (Section 4.4) defines the management flexibility that the regions would receive. A decision to not adopt regional management (through delegation or otherwise) would render the subsequent actions that define the scope and/or parameters of regional management moot. Alternatively, the effects of regionalization would logically be expected to vary by the scope of regionalization (number and/or geographic extent of regions) and the flexibility the regions would have to vary the red snapper recreational harvest regulations (season, bag, size limit, etc.). Thus, because these actions are progressively related, the net potential effects of one action will be determined by the decisions made for subsequent actions and vice versa. Although this interrelation does not prevent comparison of the expected effects of the alternatives considered under each action, the total effects that may ultimately accrue to an individual action are dependent on subsequent decisions for other actions.

The underlying expectation for most of the actions considered in this proposed amendment is that the establishment of smaller "regulatory jurisdictions" (hereafter referred to as "regionalization") may be capable of providing the constituents (residents and tourists) in each

region with red snapper recreational harvest regulations better suited to local preferences, resulting in increased benefits. (Action 5 is moot if a regional management approach is adopted, but would continue to be independently relevant if regional management is not adopted because the Council may wish to eliminate the current restriction; Action 6 would also continue to be independently relevant if regional management is not adopted because the generic term "regions" would still apply if the Gulf exclusive economic zone (EEZ) continued to be managed as a single region). These benefits may be economic, social, or biological. Discussion of the potential/expected biological (and social) effects of each action is provided elsewhere in this document. The resultant management expected to collectively result from the proposed actions should be biologically neutral compared to the status quo, i.e., the resultant management should not harm the biological status of the resource or compromise the biological progress and goals of current management. From this context, the following discussion of the expected economic effects of Action 1 and subsequent actions assumes that the biological status of the resource and progress toward the biological goals is not harmed by the proposed collective actions. As a result, discussion of the potential economic effects arising from any potential change in the biological status of red snapper will be limited to, where appropriate for this and subsequent actions, discussion of the reasonableness of maintaining this assumption (no biological harm) under the alternatives considered.

Regionalization, as proposed in this amendment, can take one of two forms, delegation of authority to each region (as specified in Action 2) to establish certain management measures (**Preferred Alternative 2;** scope of delegation authority specified in Action 3 (allocation to be managed) and Action 4 (management measures that can be changed)), or Council-specified management measures that may vary by region (**Alternative 3**; it is noted that a "companion" action that would specify the different regional management measures that might result is not included in this proposed amendment; as a result, although this proposed amendment may adopt a regional management approach under **Alternative 3**, specify the regions through Action 2, specify the allocations through Action 3, change the for-hire permit restrictions through Action 5, and establish post-season AMs through Action 6, no changes to bag limits, size limits, seasons, or other management measures are proposed). As discussed below, the form of regionalization would be expected to affect the associated economic benefits.

Action 1 would simply establish a structure that would either allow regions to exercise limited control of the recreational harvest of red snapper in the EEZ or establish the Council's intent to specify red snapper recreational management measures by region. As a result, the adoption of any of the alternatives considered would allow certain subsequent actions or behaviors to occur, with associated economic consequences, but not require these actions or behaviors. For example, a region could be given authority to manage the harvest of red snapper by the recreational sector in the EEZ but choose not to exercise that authority. Because Action 1 would allow, but not require, subsequent actions, all of the economic effects discussed below would be indirect effects. Additionally, because the potential authorities to act are discretionary and not mandatory, failure to exercise the authority would be expected to result in the foregone net increase in benefits associated with regionalization. These benefits would also be foregone under **Alternative 1** and **Alternative 3** if the Council subsequently elected to not establish regionalized management measures.

To reiterate, regionalization would be expected to result in management measures better tailored to localized preferences. The greater the regulatory control by these regions, assuming no biological harm to the red snapper resource, the greater the potential gain in economic benefits. Depending on the form of regionalization adopted, certain responsibilities and conditions would apply that may affect management costs, specifically the costs of regulatory development and implementation, monitoring, and enforcement. Delegation of authority (**Preferred Alternative 2**) would require each region to develop and undertake a process to identify and implement the management measures each region wishes to impose. This may result in increased management costs to the regions, depending on the extent that the regions established mirror current regulatory jurisdictions (for example, individual states versus multi-state "unions;" see Section 4.2) and the existence and/or complexity of the processes these regions undertake to develop and implement current regulatory authority (individual states have current processes to establish regulations in their state waters, whereas multi-state "unions" do not). Additional discussion on these potential costs is provided in Section 4.2.3. Regardless of the current processes in place and/or similarity of current regulatory jurisdictions with the regions that may be established by this proposed amendment, the increased management authority of the regions, however defined by Action 4, would be expected to increase the regulatory development costs of the affected regions (broader regulatory authority would be expected to result in a more time-consuming and costly management process). For NMFS and the Council, the regulatory burden, and associated costs, may decline, particularly if the regions are effective in restraining harvest to their allocation. If the regions are not effective in restraining harvest, then the total management cost could increase. It cannot be determined whether the total management cost under **Preferred Alternative 2** would be more than, less than, or equal to the cost under **Alternative 1**. Under **Alternative 3**, the Council would retain full regulatory authority. Thus, it may not be unreasonable to project that the management cost might not change. However, it may be possible to develop and implement regional measures that have higher levels of regional support and are established more efficiently than the development of Gulf-wide management measures. As a result, similar to **Preferred Alternative 2**, it cannot be determined whether **Alternative 3** would be expected to result in more, less, or the same management costs than **Alternative 1**. However, as noted in the previous paragraph, the absence of an action in this proposed amendment that would define the regional management measures that would be adopted under **Alternative 3** means that an additional amendment would have to be developed, with associated costs, to complete the management strategy envisioned by **Alternative 3**. This would also be required if similar regulatory changes were attempted under the current authority that would continue to exist under **Alternative 1**.

It is noted that the management costs discussed in the previous paragraph refer only to the costs associated with the development of appropriate regulations. A key cost in the management of red snapper (and other species) is the cost of data collection and harvest monitoring. Regardless of the alternative chosen, the current NMFS data collection and harvest monitoring programs would continue. As a result, all costs associated with these programs will remain unchanged (except, as appropriate, as a result of programmatic budgetary changes to improve the general quality of these programs, budget appropriation changes, changes in methodology or technology, etc.). Although **Preferred Alternative 2** would delegate certain regulatory authority to the specified regions, no region would be required to implement new data collection or harvest monitoring programs. Thus, duplication of data collection or harvest monitoring costs would not

be required. However, the potential consequences of triggering the proposed AMs (see Action 6, Section 4.6.3) may motivate a region to take additional steps, beyond current monitoring procedures, to decrease the likelihood that they exceed their allocation. If enhanced monitoring occurs, the regional costs of harvest monitoring would increase. However, this would be a discretionary expense, and not a necessary outcome of the action, and would only be expected to occur if the expected costs of enhanced monitoring were less than the expected costs of exceeding the allocation. These points would also apply under **Alternative 3**, despite the absence of delegation of authority, because the regions may want to ensure the season in the EEZ off their waters is not adversely affected. However, if an allocation overage can be demonstrated to be attributable to regulations in the EEZ, and not inconsistent regulations in state waters, then it could be argued that the most severe potential AM, Action 6, Preferred Alternative 3 (regional overage payback), would not be equitable because the regulations in the EEZ were determined by the Council and not the region and, thus, less likely to be imposed. As a result, the "benefits incentive" of enhanced regional self-monitoring may be reduced under **Alternative 3** and, thus, enhanced self-monitoring may be less likely to occur.

It is also noted that the importance of limiting harvest to the allocation cannot be understated. Because of the popularity of red snapper, the dependency of some/many businesses on red snapper at certain times of the year, and the business and community needs of regular patronage, the red snapper recreational sector of the reef fish fishery needs both stable harvest amounts and seasons year-to-year. This means that, to maximize benefits, a region cannot rely on feast and famine cycles, harvesting large overruns one year, followed by payback the next. Although an overrun would be associated with increased business traffic and angler expenditures (and higher economic benefits because the harvest regulations should be better tailored to local constituent preferences), the subsequent payback would not be expected to satisfy constituent demand and may seriously jeopardize the ability of businesses to survive until the allocation "recovers." Thus, large annual harvest fluctuations should be avoided.

Under the regionalization envisioned under **Preferred Alternative 2**, the red snapper management measures within each region would largely be enforced dockside and not on the water (exceptions would be if a fisherman or vessel is in possession of fish when the EEZ is closed – either in part or in total, subject to the regulations established as a result of this proposed amendment - to the harvest or possession of red snapper or is in possession of fish that exceed the limits of all regions; see Section 4.4). As a result, federal enforcement costs associated with the recreational harvest of red snapper could decline. Although this would not be expected to reduce the total federal enforcement costs (assuming an enforcement budget not driven by the needs of individual species, sectors, or fisheries), it may be possible to shift enforcement effort to other purposes and increase the economic benefits associated with these tasks/needs. With respect to regional enforcement costs, the total enforcement costs may increase. On-the-water enforcement by state agents would be expected to continue for other species/fisheries and marine activities. Thus, these costs may not change. However, shifting the enforcement of red snapper recreational harvest regulations to the docks may require an increased dockside presence and associated costs. As a result, overall, enforcement costs under **Preferred Alternative 2** would be expected to be higher than the enforcement costs under **Alternative 1**.

Neither **Preferred Option a** nor **Option b** under **Preferred Alternative 2** would be expected to affect the expected economic effects of this alternative. Although there are economic benefits of management stability (stability allows fishermen and businesses greater opportunity to plan their activities and maximize their benefits), neither option would limit the ability of the Council to rescind delegated authority and terminate regional management. In actual practice, the only period of management stability that might occur (i.e., unchanged delegation of authority and regional management) may be the period of time required to develop and implement a new plan amendment to change the appropriate management measures. This would be expected to take approximately two to three years, or less if interim regulation is justified. The only certain effect of the adoption of either option would be a requirement for Council action, with associated costs, to avoid rescinding delegation authority and terminating regional management. These costs would be expected to be minor, however, because management of the recreational harvest of red snapper would be expected to continue to be a routine topic of Council discussion and deliberation under regional management.

Under **Alternative 3**, federal at-sea enforcement, with associated costs, would continue unchanged, as would state enforcement in state waters. As a result, enforcement costs would not be expected to change relative to **Alternative 1**. It is noted, however, that non-uniform regional red snapper recreational harvest regulations may complicate enforcement in the EEZ, thereby reducing the efficiency of enforcement efforts and increasing the effective cost (unchanged budget, fewer boardings).

Finally, discussion of the potential effects of the alternatives on the likelihood of the alternate management structures effectively restraining harvest to the regional allocations and preserving the biological goals deserves note. Increasing a regions' ability to tailor the red snapper recreational regulations to the preferences of local constituents would be expected to increase the difficulty of achieving these two goals (restraining harvest and preserving the biological goals) because demand for red snapper fishing would be expected to increase (because of the more favorable fishing regulations; although not a certainty, increasing the length of the season or increasing the bag limit would be expected to result in increased effort). As a result, the greater the regional flexibility, the greater the likelihood that targets will be exceeded, overages occur, paybacks be required, and economic benefits not maximized. Regions may attempt to have flexible seasonal end dates and expect to be capable of monitoring harvests in real-time, such that overages can be minimized. However, recreational data collection is expensive and harvest monitoring difficult. Further, the economic benefits of a "fixed" season would be reduced if the season is not allowed to occur as forecast (as a result of harvest monitoring leading to an earlier closure than forecast) and expectations that the season could be closed "early" increases the likelihood that trips are taken earlier in the season, thus causing deviation from historic effort (and harvest) patterns. This effect, combined with the potential general increase in demand because of the more favorable fishing regulations, increases the likelihood that the allocation would be exceeded. As a result, in practice, it may be more likely, at least in the short term, that fixed seasons are implemented, overages occur, and management in subsequent years continues to chase an elusive goal of limiting harvest to the allocation. If the resource is affected as this occurs, the adverse economic effects become compounded. Because the likelihood of these problems, and associated economic effects, would be expected to increase with greater regional flexibility, **Alternative 1** (current common management throughout the EEZ) would be

expected to least likely precipitate these problems, followed by **Alternative 3** (regional management, but less encompassing regionalization because the regulations in state waters would not necessarily be the same as those in the EEZ), and **Preferred Alternative 2** (more complete regional control under delegation).

Collectively, because the expected economic effects of the proposed alternatives cannot be quantified and are not uniformly positive or negative, it is difficult to conclude a ranking of the alternatives based on the expected economic effects, given the uncertainties discussed above. However, if the biological status and recovery of red snapper is protected and the regional allocation overages are minimized, then the more control given to the regions, the greater the expected economic benefits. Thus, from this perspective, **Preferred Alternative 2** would be expected to result in the highest economic benefits, followed jointly by **Alternative 1** and **Alternative 3**. As previously discussed, the effects of **Alternative 1** and **Alternative 3** may be indistinguishable. Under **Alternative 1,** the Council would have the authority to execute the same authority encompassed by **Alternative 3.** In the absence of additional appropriate actions to the current proposed amendment, the exercise of either authority would require additional management action (amendment development) and associated costs. Under **Alternative 3**, however, the subsequent identification of regions (Action 2), specification of allocations (Action 3), and the imposition of new AMs (Action 6) may result in a net increase in economic benefits compared to **Alternative 1**.

4.1.4 Direct and Indirect Effects on the Social Environment

As discussed in the previous section, most of the actions and alternatives under consideration in this plan amendment relate to and build upon previous actions, meaning that the total effects that may ultimately result from this action will relate to and depend on decisions made in other actions. Furthermore, the actions and alternatives considered in this amendment establish the parameters for a regional management program, but the actual harvest restrictions that might ultimately result are unknown. Thus, direct effects are not expected and indirect effects are difficult to predict. Given these uncertainties, the following assessment provides a qualitative discussion comparing the potential indirect effects of the alternatives.

In part, regional management is being considered as a management option because of recreational fishermen's frustrations with status quo recreational red snapper management. For example, the fishing season continues to be shortened despite the progress of the rebuilding plan. Although no impacts are expected from retaining Gulf-wide federal regulations (**Alternative 1**), status quo management is contributing to tension between states that have adopted consistent and inconsistent regulations for recreational red snapper. Selecting **Alternative 1** as preferred would render Actions 2-4 irrelevant, as they define parameters of the regional management program.

Two alternatives are provided for the structure of the program: delegation (**Preferred Alternative 2**) or Council-implemented (**Alternative 3**) regional management. Under either alternative, it is possible that the same suite of management measures could be adopted for the regions. The difference between the alternatives concerns where management authority is held.

The delegation option (**Preferred Alternative 2)** is a form of co-management, defined as "the sharing of power and responsibility between the government and local resource users" (Berkes 2009). In this case, management authority would be shared between two governance scales: federal and state. Devolving control of management to a more local scale is reported to provide social benefits by enabling greater participation and involvement of resource users, which in turn may lead to increased compliance (Jentoft et al. 1998). As a form of co-management, delegated regional management would require cooperation and sharing of responsibilities between managing institutions and among the regions (Berkes 2009). Indirect effects may result from the success or failure of this cooperation (between managing institutions and among the regions), which remains unknown at this time.

Under **Alternative 3**, authority would remain with the Council, which functions at the Gulf-wide, federal scale even though it consists of members representing the five states. For the purpose of analyzing the regulatory difference between selecting **Alternative 1** or **3**, ignoring all remaining actions, **Alternative 3** is functionally equivalent to **Alternative 1** because the Council has the authority to specify regional management measures for red snapper, but has not chosen to do so. There will not be any associated regulations arising from the Council expressing its intent to assign different management measures to regions of the Gulf, thus no social effects. If selected as preferred, **Alternative 3** would simply signify the Council's intent to assign different management measures among the regions selected in Action 2. The respective effects that may result from employing this authority can only occur from actually applying different regulations, which could occur under either **Alternative 1** or **3.** It is beyond the scope of this action to consider potential effects from subsequent actions, which will be discussed under the appropriate action for the alternatives provided.

From public testimony, there is greater public trust in state-level management than federal management, which is perceived as being disconnected from local situations and conditions. Thus, if cooperation is successful under **Preferred Alternative 2** (between managing institutions and among the regions), **Alternative 3** would be expected to result in fewer positive indirect impacts to the social environment. But, if cooperation is not successful under **Preferred Alternative 2**, the negative impacts could be greater to the social environment than under **Alternative 3**. Thus, it cannot be determined whether indirect impacts would be greater, less, or the same between the two alternatives until the authority to specify regionalized regulations is applied to management.

Establishing a fixed date when delegated authority would end (**Alternative 2**'s **Preferred Option a** and **Option b**) has the potential to affect the social environment indirectly. If a sunset option is selected as preferred and regional management is functioning well, the Council would need to take action to continue the delegation. Such action must be timely to avoid disruptions to the program which could occur if the sunset date is triggered before the respective action is implemented. On the other hand, if the program is meeting the needs of some regions but not others, inclusion of a sunset provision could prompt the Council to review the program and consider modifications in a timely manner to address the concerns of the dissatisfied regions. If the program is not functioning well, the Council may need to end the program before 5 years (**Preferred Option a**) or 10 years (**Option b**), requiring development of the appropriate

document. Whether or not an option is selected as preferred, the Council retains the ability to modify or end the program by developing the appropriate plan amendment.

4.1.5 Direct and Indirect Effects on the Administrative Environment

Most of the actions and alternatives considered in this proposed amendment address management considerations that progressively build upon previous actions. For example, Action 1 addresses the option to adopt a regional approach to recreational red snapper management, Action 2 defines the regions, and Action 4 defines the management flexibility that the regions would receive. A decision to not adopt regional management would render the subsequent actions that define the scope and/or parameters of regional management moot. Alternately, the effects of regionalization would logically be expected to vary by the scope of regionalization (number and/or geographic extent of regions) and flexibility to vary the red snapper harvest management regulations (season, bag, etc.). Thus, because these actions are progressively related, the net potential administrative effects of one action will be affected by the decisions made for subsequent actions and vice versa. Although this interrelation does not prevent comparison of the expected effects of the alternatives considered within each action, it is noted to inform the reader that the total effects that may ultimately result from an individual action are dependent on subsequent decisions for other actions.

Depending on the form of regional management adopted, changes to the responsibilities and conditions of management may affect the regulatory process, including the costs and timeline of regulatory development and implementation, monitoring, and enforcement. In the following discussion, it is assumed that **Alternative 1** would result in different management regulations for the recreational harvest of red snapper than **Alternative 3**. Otherwise, **Alternative 1** is indistinguishable from **Alternative 3** because the Council currently has the authority to specify distinct regional management measures and would retain this authority under **Alternative 1**.

Delegation of authority (**Preferred Alternative 2**) would require each region to develop a process to identify and implement its management measures. This may result in increased management costs to the regions, depending on the extent that the regions established (Action 2) reflect current regulatory jurisdictions (for example, individual states versus multi-state regions). Individual states have processes to establish regulations in their state waters, whereas multi-state regions do not. Regardless of the current processes in place and/or similarity of current regulatory jurisdictions with the regions that may be established by this proposed amendment, the increased management authority of the regions, however defined by Action 4, would be expected to increase the regulatory development costs of affected regions (broader regulatory authority would be expected to result in a more time-consuming and costly management process). For NMFS and the Council, the regulatory burden and associated costs may decline, particularly if the regions are effective in restraining harvest to their allocation. If the regions are not effective, then total management costs could increase. It cannot be determined whether the total management cost under **Preferred Alternative 2** would be more, less, or equal to the cost under **Alternative 1**. Under **Alternative 3**, the Council would retain full regulatory authority. Thus, it may not be unreasonable to project that the management cost might not change compared with **Alternative 1**. However, it may be possible to develop and implement regional measures that presumably would have higher levels of regional support more efficiently than

developing Gulf-wide management measures. As a result, similar to **Preferred Alternative 2**, it cannot be determined whether **Alternative 3** would be expected to result in more, less, or the same management costs than **Alternative 1**. However, as noted in the previous paragraph, the absence of an action in this proposed amendment that would define the regional management measures means that an additional amendment would have to be developed, with associated costs, to complete the management strategy envisioned by **Alternative 3**. This would also be required if similar changes were attempted under the current authority that would continue to exist under **Alternative 1**.

A key cost in the management of red snapper (and other species) is the cost of data collection and harvest monitoring. Regardless of the alternative chosen, the current NMFS data collection and harvest monitoring programs will continue. As a result, all costs associated with these programs will remain unchanged (except, as appropriate, as a result of programmatic budgetary changes to improve the general quality of these programs, budget appropriation changes, etc.). Although **Preferred Alternative 2** would delegate certain regulatory authority to the specified regions, no region would be required to implement new data collection or harvest monitoring programs. Thus, duplication of data collection or harvest monitoring costs would not be required. However, the potential consequences of proposed AMs (see Action 6, Section 4.6.3) may motivate a region to take additional steps, beyond current monitoring procedures, to decrease the likelihood that they exceed their allocation. If monitoring enhancement occurs, the regional costs of harvest monitoring would increase. However, this would be a discretionary expense, and not a necessary outcome of the action, and would likely occur only if the expected costs of enhanced monitoring were less than the expected costs of exceeding the allocation. These points would also apply under **Alternative 3**, despite the absence of delegation of authority because the regions may want to ensure the season in the EEZ off their waters is not adversely affected. However, if an allocation overage can be demonstrated to be attributable to regulations in the EEZ, and not inconsistent regulations in state waters, then it could be argued that the most potentially severe AM, (Action 6, Preferred Alternative 3, regional overage payback), would not be equitable because the regulations in the EEZ were determined by the Council and not the region and, thus, less likely to be imposed. As a result, the "benefits incentive" of enhanced regional self-monitoring may be reduced under **Alternative 3** and, thus, enhanced self-monitoring may be less likely to occur.

Under the regionalization envisioned under **Preferred Alternative 2**, the red snapper management measures within each region would be enforced dockside and not on the water. As a result, federal enforcement costs associated with the recreational harvest of red snapper are not expected to increase. Although this would not be expected to reduce total federal enforcement costs (assuming an enforcement budget not driven by the needs of individual species), it may be possible to shift enforcement efforts to other purposes and increase the benefits associated with these needs. With respect to regional enforcement costs, the total enforcement costs may increase. On-the-water enforcement by state agents would be expected to continue for other fisheries and marine activities. Thus, these costs may not change. However, shifting recreational red snapper regulatory enforcement entirely to the docks may require an increased dockside presence and associated costs. As a result, overall, enforcement costs under **Preferred Alternative 2** would be expected to be higher than the enforcement costs under **Alternative 1**.

Under **Alternative 3**, federal at-sea enforcement, with associated costs, would continue, as would state enforcement in state waters. As a result, enforcement burden and associated costs would not be expected to change relative to **Alternative 1**. It is noted, however, that different regional management measures may complicate enforcement in the EEZ, thereby reducing the efficiency of enforcement efforts and increasing the effective cost (unchanged budget, fewer boardings).

It is not possible to know whether including a sunset provision (**Alternative 2**'s **Preferred Option a** or **Option b**) implemented concurrently with regional management will result in more or less burden on the administrative environment. If the option selected coincides with a Council determination to end the delegation, then there will be less burden as there will be no costs arising from taking regulatory action to end the delegation. If an option is selected and the Council wants to continue the delegation, then there will be administrative costs associated with development of the appropriate document to allow the delegation to continue.

4.2 Action 2 – Establish Regions for Management

4.2.1 Direct and Indirect Effects on the 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 Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts from various gear types are discussed in Section 4.1.1.

Action 2 would have no direct effect on the physical environment. This action is administrative because it determines how the Gulf would be partitioned for management of red snapper in federal waters. As with Action 1, this action could indirectly affect the physical environment by allowing for different management measures regionally. Although the net effects from **Alternatives 2** or **5** (2 regions), **Preferred Alternative 3** (5 regions), or **Alternative 4** (up to 5 regions) might not be different from **Alternative 1** (**no action**), there are likely to be differences in effects off the waters in particular regions, and these effects may change in time. If management measures that result from **Alternatives 2**, **4**, **5**, or **Preferred Alternative 3** allow fishing within a region to increase compared to what would occur under **Alternative 1**, then there would likely be an increase in adverse effects (as described in Section 4.1.1) to the physical environment. However, for the waters off regions where management measures that result from the selection of **Alternative 2**, **Preferred Alternative 3**, or **Alternative 4** reduce the amount of fishing compared to **Alternative 1**, then adverse effects from fishing on the physical environment should be reduced.

4.2.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment resulting from the harvest of red snapper by the reef fish fishery have been discussed in detail in Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the

February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts are discussed in Section 4.1.2.

Action 2 would have no direct effect on the biological/ecological environment. This action is administrative because it determines how the Gulf would be partitioned for management of red snapper in federal waters. As with Action 1, this action could indirectly affect the biological/ecological environment by allowing for different regional management measures. Although the net effects from **Alternative 2** or **5** (2 regions), **Preferred Alternative 3** (5 regions), or **Alternative 4** (up to 5 regions) might not be different from **Alternative 1** (**no action**), there are likely to be differences in effects off the waters in particular regions. If management measures that result from **Alternatives 2**, **4**, **5**, or **Preferred Alternative 3** allow fishing within a region to increase compared to what would be allowed under **Alternative 1**, then there would likely be an increase in adverse effects (as described in Section 4.1.1) to the biological/ecological environment. However, for the waters off regions where management measures that result from the selection of **Alternatives 2**, **4**, **5**, or **Preferred Alternative 3** reduce the amount of fishing compared to **Alternative 1**, then adverse effects from fishing on the biological/ecological environment should be reduced.

As with Action 1, it is difficult to compare the alternatives because information is either incomplete or unavailable for use in comparisons. To minimize the risk to the biological/ecological environment, NMFS has been working to better understand the biological/ecological environment so that management uncertainty derived from either of these regional management alternatives may be determined in the future. This includes conducting stock assessments under SEDAR that incorporate changes in management to assess the condition of managed stocks and well as supporting the development of ecosystem models to provide some insights into the cascading effects of populations in response to each other. In addition, red snapper and other managed stocks are managed under ACLs and AMs to reduce the risk of overfishing.

4.2.3 Direct and Indirect Effects on the Economic Environment

Because the harvest restrictions that might ultimately result from all of the actions and alternatives considered in this proposed amendment are unknown, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action.

Portions of the discussion of the expected economic effects for Action 1 provided in section 4.1.3 are relevant to the discussion of the economic effects expected to result from this action. Some of this information is summarized in the following discussion and the reader is encouraged to read Section 4.1.3. Similar to the discussion in Section 4.1.3, all the economic effects discussed below would be indirect effects because the proposed alternatives for this action would create a possible structure for management, but not require exercise of associated authorities.

The primary conclusions from Section 4.1.3 relevant to the discussion of Action 2 are that economic benefits would be expected to increase under regionalization, but the costs associated with regulatory development (including implementation), harvest monitoring, and enforcement may increase as well. The economic benefits associated with the recreational harvest of red

snapper would be expected to increase, because regions would have an increased ability to implement management measures preferred by their constituents. The expanded regulatory authority, however, may become complicated and increase the cost of the process of regulatory development and implementation. Attempts to reduce the likelihood of harvest overages could also increase monitoring costs, and dockside enforcement may increase enforcement costs. Overall, however, the increased economic benefits associated with better management measures would be expected to dominate potential increased management costs and result in a net increase in economic benefits.

With the conclusions provided in the previous paragraph as the baseline, the following discussion of the expected economic effects of the proposed alternatives evaluates the extent to which these benefits and costs would be expected to vary.

In general, the economic benefits of regulatory flexibility would be expected to increase as the opportunity for "localization" (locally tailored management) increases. This is concluded "in general" because it is logically possible to delegate authority at too diffuse a level, such that too many different management regimes are established. As an example, allowing community control over the recreational harvest of red snapper may create excessive confusion, conflict, and monitoring issues. However, because the proposed alternatives do not go below the state level, the issue of excessive localization does not arise. Therefore, among the alternatives considered, the greater the regional authority, the greater the expected increase in economic benefits. From this perspective, **Preferred Alternative 3** (five regions) would be expected to result in the largest increase in economic benefits, followed by **Alternative 4** (five or fewer regions), **Alternative 2** and **Alternative 5** (two regions), and **Alternative 1** (one region). Although the state composition of each region would be different under **Alternative 2** and **Alternative 5**, each alternative would establish two regions. The economic effects of these two alternatives would be expected to be the same because no basis has been identified to support a conclusion that either state combination would be expected to be more or less capable of enacting the regulatory flexibility enabled by this proposed amendment. The possible overlaps between certain alternatives should be noted. For example, **Preferred Alternative 3** and **Alternative 4** would be expected to result in the same economic effects if **Alternative 4** results in independent state action (i.e., each state becomes a region). Similarly, **Alternative 4** and **Alternatives 2** and **5** would be expected to have the same economic effects if **Alternative 4** results in common co-action by the respective states and the creation of the respective two regions that would be established under **Alternative 2 or Alternative 5**. It is also noted that, the functional outcomes of **Alternatives 2-4** could be identical to those of **Alternative 1** if the regions decide not to exercise the authority established by these alternatives (exercising the authority delegated would be discretionary).

Evaluations of the considerations of management costs (regulatory development, monitoring, and enforcement) are less straight-forward. Although increasing the number of regions could be argued to result in duplicative regulatory development costs, thereby suggesting that the fewer the regions, the lower the regulatory development costs, it may be the case that the more regions there are, the easier it may be to identify a uniformly accepted set of regulations. As a result, it may involve less time and money to develop five regional plans than fewer "unified" plans that

require more deliberation to reach agreement. Nevertheless, it is indeterminate which arrangement would be more or less costly.

With respect to the cost of harvest monitoring, the conclusions are more straight-forward. It is noted that this discussion refers only to any enhanced harvest monitoring that may be implemented. As discussed in Section 4.1.3, the current recreational harvest data collection programs would continue regardless of any regionalization decision or regional decisions to enhance their harvest monitoring capacity. Because of the costs that would be required, a mandatory, universal, census accounting of all harvest by all marine recreational fishermen in the Gulf is unlikely to ever be implemented. Even the development of a program that imposed mandatory reporting by just red snapper fishermen may not be practical. Instead, or until such mandatory reporting is required, some form of survey and sampling program will likely continue to be used (and subject to modification as budgets change and/or technology advancements occur). Absent structural or other reasons that might make the survey and sampling program used in one state or region unsuitable for use in others, monitoring costs would be lower the fewer the number of regions. As a result, the cost to independently monitor five separate regions would be expected to be the highest and the cost would be expected to decline as the number of regions is reduced. Thus, the ranking, from most cost to least, would be expected to be **Preferred Alternative 3,** followed by **Alternative 4**, **Alternative 2** and **Alternative 5**, and **Alternative 1**, again noting the possible overlap of the potential number of separate regions under the different alternatives.

Finally, with respect to enforcement costs, because shore-side enforcement would be required at the state-level if a state becomes a separate region or joins with other states to become a region, the enforcement burden would not be expected to vary by the number of regions created. In a multi-state region, it would not be expected that common agents would or could be created who could enforce regulations in all states within their region. As a result, enforcement agents from each state would be responsible for dock-side enforcement within their state. Therefore, the resultant increase in state enforcement costs would be determined by the number of states that accepted regional authority and not the number of resultant regions. Federal enforcement costs associated with the red snapper recreational harvest, recalling the discussion in Section 4.1.3, would be inversely proportional to the number of states that accept regionalization. Assuming all states accept regionalization, increased state enforcement costs associated with dockside enforcement would be the highest and federal at-sea enforcement costs the lowest for **Preferred Alternative 3**, followed by **Alternative 4**, **Alternative 2** and **Alternative 5**, and **Alternative 1.**

Consistent with the discussion in Section 4.1.3, because regionalization would be expected to result in a net increase in economic benefits, despite the potential increased management costs, **Preferred Alternative 3** would be expected to result in the highest increase in net economic benefits, followed by **Alternative 4**, **Alternative 2** and **Alternative 5**, and **Alternative 1.**

It is noted that the conclusions provided above, except as related to **Alternative 4**, would be expected to apply regardless of the form of regional management selected under Action 1. **Alternative 4** would only be relevant if regional management takes the form of delegation. As a result, if delegation is not adopted, the effects (and ranking) of **Alternative 4** would be expected to be equivalent to those of **Alternative 1**.

4.2.4 Direct and Indirect Effects on the Social Environment

As noted, the management measures that may ultimately result from the actions and alternatives considered in this proposed amendment remain unknown. Because most of the actions and alternatives relate to and build upon previous actions, the total effects that may ultimately result from this action will relate to and depend on decisions made in other actions. Thus, direct effects are not expected and indirect effects are difficult to predict. Given these uncertainties, the following assessment provides a qualitative discussion comparing the potential indirect effects of the alternatives.

Currently, federal management measures for recreational red snapper fishing are implemented Gulf-wide, meaning the Gulf is managed as a single region (**Alternative 1**). Additional impacts are not expected to result from maintaining red snapper management as a single region (**Alternative 1**). However, regional management is being considered in response to growing frustrations with status quo federal management and indirect benefits to the social environment are expected from increasing management flexibility.

The remaining alternatives propose the establishment of regions for which management measures may vary. Generally, establishing more regions (**Preferred Alternative 3**) will enable greater flexibility at the local level than establishing fewer regions (**Alternatives 2** or **5**), which would require more agreement on shared management measures among states in a region. Greater flexibility in the selection of management measures to provide optimal fishing opportunities to a region's constituents is expected to result in the greatest indirect social benefits.

Alternative 4 allows each Gulf state to determine whether to be an independent region or to join with another state or states into a shared region. Thus, **Alternative 4** could result in the creation of up to five regions. If each state determines to be its own region, **Alternative 4** would be functionally equivalent to **Preferred Alternative 3**, and any effects resulting from **Preferred Alternative 3** would be expected to be the same under **Alternative 4**. Likewise, if **Alternative 4** resulted in two regions, the impacts would be expected to be similar to those under **Alternative 2**. Under **Alternatives 2, 4**, or **Preferred Alternative 3**, multiple regions, however defined, could adopt the same management measures for their region, making the impacts of these alternatives indiscernible to the social environment.

4.2.5 Direct and Indirect Effects on the Administrative Environment

Additional impacts are not expected from maintaining a single Gulf-wide region for recreational red snapper management (**Alternative 1**). Direct effects would not result from selecting the number of management regions **(Alternative 2**, **4**, or **Preferred Alternative 3**), because the management measures that might ultimately result in the selected regions are not specified in this action and remain unknown. Rather, the resulting number of regions could result in indirect effects in terms of 1) increasing regulatory complexity or requiring greater intra-region cooperation; 2) a shift in the regulatory burden from the federal to state level, and 3) impacts on

enforcement. This analysis provides a qualitative discussion of these potential effects to the administrative environment.

There may be a tradeoff in effects between creating more or fewer regions. Establishing more regions (five under **Preferred Alternative 3**) could result in greater regulatory complexity due to involvement by more individual administrative units. On the other hand, selecting fewer regions (two under **Alternative 2**) would require greater cooperation among the states sharing a region. **Alternative 2** would also require the formation of a regional administrative entity to provide the venue for included states to agree on their shared set of management measures and harvest monitoring strategy.

Under regional management, there will be some transfer of the administrative burden from the federal level to the regional (state) level. All alternatives (except no action) propose regional boundaries that fall along state boundary lines. Each state currently has a process for establishing fishing regulations in state waters which could be used for the administrative needs of the region's red snapper management program. It is not possible to predict the extent of the effects from the transfer of this administrative burden, as it remains unknown how each region may execute its administrative duties.

The creation of individual regions would be expected to increase the difficulty of at-sea enforcement if each region adopts different management measures. The creation of more regions (**Preferred Alternative 3**) could make it more difficult for at-sea law enforcement to determine the management measures governing a vessel's harvest compared with fewer regions (**Alternative 2**). Based on Council discussions, it is assumed that enforcement would primarily be dockside which could potentially mitigate some of these enforcement concerns.

Finally, while **Alternative 2** and **Preferred Alternative 3** specify the number of regions to be created, under **Alternative 4** there could be from two to five regions. Thus, it is not possible to compare the effects from this alternative with the other alternatives, as any effects would depend on the number of regions ultimately created if implemented.

4.3 Action 3 – Apportioning the Recreational Red Snapper Quota among Regions

4.3.1 Direct and Indirect Effects on the 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 Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts from various gear types are discussed in Section 4.1.1.

Action 3 is administrative because it determines how the recreational quota would be partitioned among the regions. Therefore, this action would have no direct effect on the physical environment. Additionally, because these allocations would be based on the same recreational

quota, indirect effects on the physical environment over the Gulf as a whole are expected to be the same for **Alternatives 1-5**. However, this action could regionally affect the physical environment indirectly by redirecting the amount of red snapper fishing that can occur off different states or in different regions of the Gulf. Allocating based on historical landings (**Alternatives 2**, **3**, and **5**) or by stock abundance (**Alternative 4**) could allow red snapper fishing to increase if a region receives an allocation greater than what landings would be under **Alternative 1** (**no action**). Thus, there would likely be an increase in any adverse effects from fishing to the physical environment for these regions. Conversely for regions whose allocations would be reduced compared to **Alternative 1** (**no action**), the opposite would be true – a reduction in any adverse effects from red snapper fishing.

To determine specific effects between alternatives is difficult to analyze quantitatively. For **Alternatives 2**, **3**, and **Alternative 5** that set allocations based on historical landings, the direction of the effect relative to other alternatives and options may be related to differences in allocation as provided in Tables 2.3.2 - 2.3.5 and the set allocations in **Alternative 5**. For example, under **Alternative 2**, if **Option a** were selected, the allocation of the quota awarded to Florida is 33.9% (Table 2.3.2). But if **Option c** were selected instead, 51.0% would be awarded to Florida. This increase of 17% in allocation is likely to lead to more red snapper fishing off Florida under **Option c** compared to **Option a**, and thus likely increase any adverse effects from fishing on the physical environment. On the other hand, if **Option c** were selected over **Option a**, Texas would have its allocation reduced by 5.6% (from 18.4% to 12.8%; Table 2.3.2), As a result, the amount of red snapper fishing off Texas would likely fall and any adverse effects from fishing on the physical environment would be reduced.

Alternative 4 would create allocations based on the projected yields for the ABC in the eastern and western Gulf. Given that since 1999, over 60% by weight of recreational red snapper were caught annually off Florida and Alabama (Table 2.3.1), the eastern Gulf apportionment of 48.5% of the quota (preliminary estimate based on Linton 2012) would likely result in a reduction in red snapper fishing for this region compared to **Alternative 1**. The likely result would be a reduction in any adverse effects on the physical environment from fishing in the waters off Florida, Alabama, and Mississippi. Because more fish could be caught off Louisiana and Texas (the preliminary western Gulf apportionment of the quota is 51.5%), fishing for red snapper would likely increase, increasing any adverse effects on the physical environment from red snapper fishing.

Although comparing allocations between alternatives may indicate some directionality of effects to the physical environment, these comparisons assume that fishing regulations remain the same between regions. However, depending on which management measures may be modified for a region in Action 4, any such comparisons may be confounded. For example, reducing the red snapper bag limit for one region could lead to a prolonged fishing season for that region even if its allocation is reduced from what it would have been under **Alternative 1**. This bag limit reduction could result in an increase in the number of red snapper fishing trips, and because red snapper is a part of a multispecies fishery, result in an overall increase in amount of reef fish fishing if the ability to catch red snapper would result in more fishermen to go fishing.

4.3.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment resulting from the harvest of red snapper by the reef fish fishery have been discussed in detail in Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts are discussed in Section 4.1.2.

Action 3 is administrative because it determines how the recreational quota would be partitioned among the regions. Therefore, this action would have no direct effect on the biological/ecological environment. Because the different allocations proposed in the alternatives would be based on the same quota, the overall indirect effects on the biological/ecological environment are expected to be the same for **Alternatives 1-5**. However, this action could indirectly affect different areas of this environment by redirecting the amount of red snapper fishing that can occur off different regions of the Gulf. Allocating based on historical landings (**Alternatives 2, 3, and 5**) or by stock abundance (**Alternative 4**) could allow red snapper fishing to increase if a region receives an allocation greater than what landings would be under **Alternative 1** (**no action**) because red snapper fishing would likely increase to harvest the additional fish. As a result, this would likely increase any adverse effects from fishing to the local red snapper population for these regions. In contrast, for regions whose allocations would be reduced compared to **Alternative 1** (**no action**), the opposite would be true – a reduction in any adverse effects from red snapper fishing.

As described in Section 4.3.1 for the physical environment, although comparing allocations between alternatives may indicate some directionality of effects to the biological/ecological environment, these comparisons assume that fishing regulations remain the same between states or regions. However, as also discussed in Section 4.3.1, any such comparisons may be confounded by the modification of state or regional management measures allowed under Action 4. For example, reducing the red snapper size limit for one state or region could lead to a change in the local population's size structure that could have positive or negative implications to the productivity of that population. Any such changes could also affect the abundance of other reef fish species that compete with red snapper for shelter and food. Local 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. 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 were explored in more detail in Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007).

As with Action 1, it is difficult to compare the alternatives because information is either incomplete or unavailable for use in comparisons. To minimize the risk to the biological/ecological environment, NMFS has been working to better understand the biological/ecological environment so that management uncertainty derived from either of these state or regional management alternatives may be determined in the future. This includes conducting stock assessments under SEDAR that incorporate changes in management to assess the condition of managed stocks and well as supporting the development of ecosystem models to

provide some insights into the cascading effects of populations in response to each other. In addition, red snapper and other managed stocks are managed under ACLs and AMs to reduce the risk of overfishing.

4.3.3 Direct and Indirect Effects on the Economic Environment

The economic effects of a specific level of allowable harvest depend on the manner in which the harvest is allowed to be taken. Estimates of the economic value of red snapper and red snapper trips are available (see Section 3.4). However, information is not available that might demonstrate how the economic value might vary by sector (for example, the value received by harvest by a private angler compared to by a charter angler), nor by state (for example, the value received as a result of harvest by a Florida angler compared to harvest by a Louisiana angler). As a result, current information simply supports an examination of how total economic value (Gulf-wide and all sectors) may change with changes in the total allowable harvest.

The foundation of the actions proposed in this amendment are, however, that the economic value varies at least by state or region such that for a given quantity of harvest, economic value can be increased if the manner (season, bag limit, size limit, etc.) in which the allowable harvest is taken can be changed to reflect localized (state or region) preferences. Accepting this foundation negates the use of a "common" economic value per fish, pound, or trip.

As a result, because neither the management regulations that might ultimately result from this proposed amendment nor the associated economic values are known, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action.

Portions of the discussion of the expected economic effects for Action 1 provided in Section 4.1.3 are relevant to the discussion of the economic effects expected to result from this action. Some of this information is summarized in the following discussion and the reader is encouraged to read Section 4.1.3 for the complete discussion. Unlike Action 1 and Action 2, which would establish a management structure, this action would determine the amount of harvest allotted to each region. As a result, the expected economic effects to anglers of establishing the regional allocations would be direct effects. Beyond the typical indirect shore-side effects associated with variable angler demand, no other indirect economic effects are expected.

This assessment assumes that the management measures implemented by each region to harvest their red snapper allocation will be invariant to the allocation received. Specifically, this assumption means that the bag limit, size limit, or any measure to affect harvest by private anglers versus for-hire anglers will not vary with the amount of allocation received; the amount of allocation will only affect the length of the open season. From this perspective, for a given region, the larger the allocation, the more economic benefits would be expected to be received by anglers, businesses, and associated communities in that region. Because the allocation of the total quota across all regions is a zero-sum game, an increase in allocation for one (or more) region(s) relative to an alternative allocation must, by necessity, result in a decrease in allocation to one or more other regions. As a result, because estimates of the economic value by state or region are not available, it is not possible to determine whether the economic benefits associated with allocation gains to one or more region(s) exceed the losses to other regions. Thus, it is not

possible to rank the proposed alternatives and associated options based on expected net economic benefits. This conclusion even includes **Alternative 5**. It might be argued that, because the allocation that would result from **Alternative 5** reflects a negotiated agreement by the state directors, it may reflect the best collective economic, social, or other outcome. However, such a conclusion would be pure conjecture.

It is noted, however, that even if a specific alternative would result in an allocation for a region that is lower than recent harvests, it should not be concluded that the economic benefits to that region would be reduced. By tailoring the management regulations to better meet the preferences of the constituents in that region, it is possible, and likely, that the lower allocation would still result in an increase in economic benefits. Only in the event of a substantial reduction in allocation relative to normal harvest would a net reduction in economic benefits be expected to occur.

The economic effects of the alternatives considered under this action would not be expected to be affected by the form of regional management adopted under Action 1, nor the specification of regions adopted under Action 2.

4.3.4 Direct and Indirect Effects on the Social Environment

This action concerns how much of the recreational red snapper quota would be allocated to each region. Additional effects are not expected from **Alternative 1** (**no action**), as the recreational red snapper quota will continue to be managed as a single quota. In theory, impacts would not be expected from dividing the quota among regions based on historical landings, as each resulting apportionment should represent the approximate amount of fishing for each region. However, the portion of total recreational landings by each state varies from year to year, meaning that the selection of any regional apportionment (**Alternatives 2-5**) could result in indirect effects by removing the flexibility of variable annual landings. Also, indirect impacts may occur relative to how each region's apportioned quota is adequate to satisfy status quo fishing behavior and effort.

The range of potential allocations resulting from the average landings for various time series under **Alternatives 2** and **3** is provided in Tables 2.3.2 – 2.3.5. Depending on the selected alternative and options, a state's assigned portion of the quota may vary widely from the landings of any given year. Also, the proportions provided in the tables demonstrate the relationship among states in terms of the allocation: the greater the quota portion assigned to one region, which would be expected to provide greater benefits to that region as more fish are allowed to be caught, also corresponds to less fish being apportioned to another region. This means that positive and negative impacts will accrue to the regions relative to each other, and in terms of how each apportioned quota is sufficient to provide fishing opportunities relative to status quo effort. This discussion applies to **Alternative 5** as well, although the resulting proportions have yet to be established. The issue of flexibility of variable annual landings is less of an issue under **Alternative 4**, because the allocation would be divided into two parts instead of five. Thus, more than one state would be fishing within each apportionment of the quota and be able to share the effects from fluctuations in red snapper abundance and fishing effort.

4.3.5 Direct and Indirect Effects on the Administrative Environment

Additional impacts would not be expected from retaining a Gulf-wide recreational red snapper quota (**Alternative 1**). However, selecting this alternative would not allow for implementation of a regional management program. The remaining alternatives determine the method by which the Gulf-wide quota will be divided among selected regions and are not expected to affect the administrative environment. The alternatives do not differ in terms of how each would impact the administrative environment, and are thus not comparable amongst one another. Existing data collection and harvest monitoring programs would remain in place, which currently include state-level landings calculations. Whichever alternative and corresponding formula is selected to apportion the quota, while an administrative action in nature, will not require any change to the administrative process of collecting data and monitoring regional landings.

4.4 Action 4 – Regional Management Measures

4.4.1 Direct and Indirect Effects on the Physical Environment

No direct or indirect effects on the physical environment are expected to occur from alternatives in Action 4. Effects on the physical environment are discussed in detail for the first three actions. In general direct effects on the physical environment occur when fishing gear and anchors interact with the substrate. Recreational fishing gear is expected to have minimal impact on the substrate and attached organisms; however, setting a large amount of gear over one area or continued anchoring on fragile substrate is expected to increase the potential for negative impacts to the physical environment (Hamilton 2000). **Alternative 1** (**no action**) would retain the current set of recreational red snapper management measures and is not expected to result in any direct or indirect impacts. **Preferred Alternatives 2**, **3**, **4**, **5,** and **6** would provide flexibility to the individual regions by allowing them to modify season length, bag limits, size limits, and establish closed areas within the EEZ adjacent to their region. **Preferred Alternative 7** would allow individual regions to further divide their portion of the recreational red snapper quota into separate allocations for private anglers and the for-hire fleet. Because the overall quota will not be modified under this alternative, no direct or indirect effects on the physical environment are expected. The gear types used by private anglers and anglers on for-hire vessels are the same so no additional impacts to the physical environment are expected. Instead, all of the selected preferred alternatives (**Preferred Alternatives 2**, **3**, **4**, **5**, **6**, and **7**) are expected to provide added flexibility for individual regions compared to **Alternative 1** (**no action**).

4.4.2 Direct and Indirect Effects on the Biological/Ecological Environment

Action 4 could have indirect effects on the biological/ecological environment; however, each individual region is expected to monitor their portion of the recreational quota and determine when their portion is expected to be reached. **Alternative 1** (**no action**) would continue federal management of red snapper and is not expected to have any additional effects on the biological/ecological environment. However, **Preferred Alternatives 2**, **3**, **4**, **5**, and **6** or any combination of these alternatives could have indirect effects on the biological/ecological environment. This action was developed to allow individual regions (defined in Action 2) the

flexibility of establishing different fishing season and structure, bag limits, size limits, and closed areas in order to meet their socio-economic needs while still maintaining landings within their allocated quota. Because harvest restrictions that might ultimately result from the actions and alternatives considered in this proposed amendment are unknown, the impacts that may result from this action would depend on how the management measures adopted by a region vary from **Alternative 1** (**no action**) management measures. The designated range of bag limits (**Preferred Alternative 3**) and minimum size limits (**Preferred Alternative 4**) could differ from **Alternative 1** (**no action**); however only indirect minimal impacts are expected from any of these modifications. Based on yield-per-recruit (YPR) analyses conducted by Southeast Fisheries Science Center (SEFSC) in 2013 for the recreational sector all minimum size limits considered in **Preferred Alternative 4** from 14 to 18 inches TL are considered effective for achieving high yield; although 15 inches TL is estimated to maximize yield in the recreational sector (http://gulfcouncil.org/docs/Presentations/Gulf%20Red%20Snapper%20Size%20Limit%20Analysis%20-%20Presentation.pdf). **Preferred Alternative 5** which would allow individual regions to establish a maximum recreational red snapper size limit and could also increase regulatory discards of larger older fish if a small maximum size limit were established. These individual alternatives and combinations of management measures could differ from **Alternative 1** (**no action**) and would have to be taken into account during the stock assessment process. For example, previous analysis completed by the SEFSC from fishery-dependent catch estimated gear selectivities and discard mortality that could account for these regional differences in management but, it should be noted these management modifications could add additional layers of variability to the recreational fishery-dependent estimates of gear selectivity and size of discarded fish. **Preferred Alternative 7** is not expected to have any direct or indirect effects on the biological environment because the overall quota is not being modified by this alternative. Further the gear types used by private anglers and the for-hire fleet are similar; however, private vessels are more likely to anchor over fishing spots; whereas, for-hire captains typically hold the fishing vessel over a site without anchoring. Regardless these differences in fishing practices and behavior are expected to be minimal and not expected to create any added negative impacts on the biological environment compared to **Alternative 1**.

4.4.3 Direct and Indirect Effects on the Economic Environment

Because the harvest restrictions that might ultimately result from all of the actions and alternatives considered in this proposed amendment are unknown, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action. Portions of the discussion of the expected economic effects for Action 1 provided in Section 4.1.3 are relevant to the discussion of the economic effects expected to result from this action. Only some of the information provided in Section 4.1.3 is summarized in the following discussion and the reader is encouraged to read Section 4.1.3 for a full discussion of this information.

This proposed action would establish the harvest measures that would be subject to regional management discretion under delegation. Similar to the discussion in Section 4.3.3, the economic effects that would be expected to accrue to anglers as a result of regional management discretion would be considered direct economic effects. Subsequent effects that might accrue to

fishing or other businesses that occur as a result of changes in angler demand in response to these management changes would be indirect economic effects of the proposed alternative.

As previously discussed, the foundation of this proposed amendment is that regional control of the recreational harvest of red snapper would result in increased economic benefits because regional management can result in the implementation of harvest regulations that better match the preferences of local constituents. As discussed in Section 4.2.3, among the alternatives considered, the establishment of more regions would be expected to result in greater economic benefits than the establishment of fewer regions because of the increased opportunity for regulatory localization. Extending this determination, the more regulatory parameters a region is able to control, the closer a region can tailor management to the preferences of their constituents, and the more economic benefits can be increased. Embedded in this conclusion, however, is the assumption, as previously stated for the other actions, that the resultant regulations meet the objectives of the FMP, which include, but are not limited to, limiting harvest to the allocation and not harming the resource or compromising resource recovery.

The following discussion includes two perspectives of the conditions that could be expected to occur under **Alternative 1**. The first perspective is the traditional perspective under which all current federal regulations for management of red snapper recreational harvest in the Gulf EEZ would be retained. These regulations are discussed in Chapter 2. The second perspective assumes that a decision to adopt delegation (Action 1, **Preferred Alternative 2**) has occurred. Under delegation, the current NMFS regulations that specify the start of the red snapper recreational season, bag limit, and minimum size limit would no longer be in effect and would, instead, be replaced with regional specifications. The remaining federal regulations would remain in effect. The effect of this is that, under the second perspective, only those regulations not subject to regional specification would remain in effect under **Alternative 1**. As a result, specification of the start of the red snapper recreational season, bag limit, and minimum size limit in the EEZ off the regions with delegation authority would not exist under **Alternative 1**. The other measures proposed for delegation, i.e., a maximum size limit and sector separation, are measures that are within the authority of the Council but are not currently regulated and would remain unregulated under either perspective for **Alternative 1**. The final measure proposed for delegation, closed areas, is also within current Council authority and some closed areas have already been established. These closed areas would be unaffected under either of the two **Alternative 1** perspectives, as well as under any of the other proposed alternatives. Regions that opt out of delegation, or for which delegation is suspended, are addressed by Action 7.

This proposed action establishes the range of management options that would be available for regional specification under delegation. Significant differences would be expected to result under the alternative perspectives of **Alternative 1** and in the expected changes relative to **Alternative 1** of the proposed alternatives. Under the first perspective (all current federal red snapper recreational regulations would be retained), none of the potential economic benefits of delegation could be received because the regions could not make any regulatory change to the recreational harvest of red snapper in the EEZ off the respective region to reflect local preferences. Effectively, the economic effects of **Alternative 1**, assuming retention of all current federal red snapper recreational harvest regulations, would be equivalent to the absence of delegation (Action 1, **Alternative 1**).

Alternatively, under the second perspective of **Alternative 1** (elimination of a season start date, bag limit, and minimum size limit), the economic consequences of **Alternative 1** are indeterminate. Under the elimination of these restrictions, fishermen would still be constrained by the regulations in the state where they land their harvest and continuing federal restrictions would restrict consumption at sea or use as bait. Further, total harvest would still be limited to the regional allocation and the collective Gulf-wide total recreational quota. Although the absence of specific season, bag, and minimum size limits in the EEZ may result in confusion or potential harvest overages, appropriate corrective measures or adjustments could be enacted in subsequent years to minimize persistent or long-term adverse biological and economic effects. As a result, in the absence of regulations for these management aspects (season start date, bag limit, and minimum size limit), the harvest control that would result from the various state regulations under the second perspective of **Alternative 1** (elimination of a season start date, bag limit, and minimum size limit) may result in a decrease, an increase, or no change in economic benefits compared to the first perspective of **Alternative 1** (retention of all current federal regulations).

Not all of the proposed alternatives for this action are comparable. Some of the proposed alternatives consider different regulatory measures (season, bag, size limit, closed areas, or sector separation) and not variations of the same measure. For example, **Preferred Alternative 2** would require each region to set the season, while **Preferred Alternative 3** would require each region to set the bag limit. As a result **Preferred Alternative 2**, **Preferred Alternative 3**, **Preferred Alternative 4, Preferred Alternative 6,** and **Preferred Alternative 7** cannot be ranked relative to each other based on the expected economic effects.

Although **Alternatives 2-7** all state that, under delegation, the regions would be allowed to set certain regulations, within bounds in some instances, the following assessment assumes that the specification of appropriate regulations would be required under **Alternatives 2-4** (season, bag limit, and minimum size limit), and only be discretionary under **Alternatives 5-7** (maximum size limit, closed areas, and sub-allocations).

Because both **Preferred Alternative 4** and **Preferred Alternative 5** address red snapper size limits, direct comparison of the expected economic effects of these two proposed alternatives may be appropriate. However, potential comparison may be reduced because each addresses a different aspect of the size limit, either the minimum size limit (**Preferred Alternative 4**) or the maximum size limit (**Preferred Alternative 5**). Both proposed alternatives, however, may affect the rate of harvest and status of the red snapper stock. Allowing the harvest of smaller fish would be expected to both increase the harvest rate (the increase in fish numbers attributable to a reduction in the minimum size limit would be expected to exceed the decrease in average weight per fish and result in a net increase in the harvest rate) and increase the harvest of fish that may never spawn. As a result, red snapper spawning could be reduced. Prohibiting the harvest of larger fish would be expected to decrease the harvest rate by reducing both the number of fish harvested and the average weight per fish and increase the protection of more valuable spawners, thereby aiding spawning. Increasing the catch rate would be expected to shorten the season, if monitoring or projection methods are effective, or increase the likelihood the allocation is exceeded if quota monitoring is either not implemented or is ineffective. Decreasing the catch

rate would be expected to lengthen the season and decrease the likelihood that the allocation is exceeded. Generally, because long seasons are economically more beneficial than short seasons, they are preferred by anglers and associated businesses. Also, as previously discussed, limiting harvest to the allocation would be expected to result in greater economic benefits than exceeding the allocation and triggering AMs. With respect to the benefits of protecting spawners, increased protection would, within limits, be expected to produce greater economic benefits than decreased protection because of potentially faster stock recovery and more stable recruitment. Finally, changing the size limit may result in stock effects by impacting the total fishing mortality of the resource (harvest mortality and bycatch mortality) independent of the effects of the total harvest or the harvest of spawners. Despite these considerations, it is not possible with available data to determine whether **Preferred Alternative 4** or **Preferred Alternative 5** would be expected to result in greater economic benefits.

The economic effects of **Preferred Alternative 6** cannot be definitively determined with available data. The economic rationale for a region to close an area would be that the closure would be expected to either directly or indirectly improve harvest and associated economic benefits to the region as a result of harvest in areas that remain open. For example, it may be possible to have either a higher bag limit or a longer open season in the rest of the respective region as a result of closure of a portion of the region, and this higher limit or longer season result in more economic benefits than the resulting regulations and season that would result in the absence of the area closure. As a result, **Preferred Alternative 6** would be expected to result in increased economic benefits compared to **Alternative 1**.

In theory, **Preferred Alternative 7** may be expected to result in increased economic benefits compared to **Alternative 1** because it would allow localization of an additional management parameter (sub-allocations). Quota allocation should be based on considerations other than just the change in economic value and available data does not support a specific allocation between the private and for-hire sectors based on economic value considerations alone. Other considerations, such as, but not limited to, historic harvest by sector, social effects, and economic impacts, whether appropriate or not, may contribute to the allocation decision. As a result of factoring in these other considerations, the establishment of sub-allocations of the red snapper recreational quota, or re-allocation of sub-allocations, for the private and for-hire sectors may result in an increase, decrease, or no change in the economic benefits associated with red snapper recreational harvest compared to **Alternative 1**. Currently, the red snapper recreational quota is not sub-allocated for the private and for-hire sectors and each sector harvests a portion of the red snapper recreational quota circumstantially determined by the amount of effort expended and catch rate that occurs for each sector. It might be argued that the effort rates of the two sectors reflect the respective values placed on red snapper by each sector. However, this would be a superficial conclusion because other factors, such as, but not limited to, cost, convenience, and platform availability would be expected to influence the decision to fish, the platform chosen (private or for-hire), port of departure, and how many trips to take. Additionally, catch rates are likely more reflective of angler and/or captain knowledge and skill than valuation of the resource. Although this assessment does not assert that this "circumstantial distribution of quota" should be expected to result in the highest economic benefits, deviation from this "circumstantial" harvest pattern through the use of sub-allocations, which could occur under

Preferred Alternative 7, similarly holds no assurance that economic benefits would be improved.

As previously stated, this action (as currently structured) is only relevant if delegation is the form of regional management adopted. As a result, discussion of how the economic effects of these alternatives may vary under delegation compared to Council-controlled regional management (Action 1, **Alternative 3**) is moot.

4.4.4 Direct and Indirect Effects on the Social Environment

This action establishes the management measures which may be modified at the regional level, and the parameters within which a region may modify each management measure. However, it does not actually establish the management measures. Thus, the management measures that might ultimately result from both this action and others in this proposed amendment are unknown and direct impacts are not expected. Indirect impacts would be expected as a result of, and in relation to, how each region applies the flexibility afforded by the selected alternatives of this action to provide optimal fishing opportunities to its constituents. Additional impacts are not expected from maintaining red snapper management measures under status quo (**Alternative 1**). However, regional management is being considered in response to growing frustrations with status quo federal management and indirect benefits to the social environment are expected from enabling regional modification of management measures.

Potential indirect benefits would be undermined and potentially eliminated if the adopted suite of management measures in a region results in the quota being caught faster. Structuring management measures to maximize preferred fishing times and practices would be expected to result in a region's quota being caught in a shorter amount of time, thus shortening the season and increasing the likelihood of an allocation overage if quota monitoring is either not implemented or is ineffective. Because a longer season is generally preferred by fishermen, there is a trade-off between providing greater flexibility to establish locally preferred management measures and a resulting increase in effort as the management measures provide anglers access under optimal conditions.

Compared with the preceding actions which involve selection of a single alternative,[10] this action allows for selection of multiple alternatives as preferred, each of which represents a management measure that could be modified regionally. Because regional modification of the management measures is assumed to provide benefits to the local social environment by increasing the ability to tailor management to the preferences of local constituents, greater flexibility provided to the regions to modify management measures is expected to result in greater benefits. (Because all anglers in any region are not likely to agree completely on fishing preferences, these potential benefits may not result for all anglers.) Thus, the alternatives of this action are not comparable with one another in the same way as the alternatives of the preceding actions because they are not variations of the same measure. For example, **Preferred Alternative 2** would allow each region to establish when the fishing season would occur, while **Preferred Alternative 3** would allow each region to set a bag limit up to four red snapper per angler per day. With available

[10] Alternative 4 of Action 3 may be selected alongside Alternative 3, but it represents a condition for Alternative 3.

information, it is beyond the scope of this assessment to determine if variation of one of these measures would provide more benefits than variation of another, or how some combination might rank. It is also unknown how each region may employ the flexibility afforded within each preferred alternative and the resulting combination of management measures. As a result the effects from **Preferred Alternatives 2**, **3**, **4**, **6** and **7**, and **Alternative 5** cannot be ranked relative to each other but would individually and collectively be expected to result in greater indirect benefits than **Alternative 1**.

Depending on the location of any resultant closed area, **Preferred Alternative 6** may increase or decrease the total social benefits for a respective region. For some regions, the proximity to other regions could render **Preferred Alternative 6** an ineffective option and could enable unintended fishing activity to occur. For other regions, however, the ability to trade the benefits of harvest in the selected areas of the EEZ for other management considerations could be expected to result in greater benefits than **Alternative 1**.

4.4.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 (**no action**) would retain a single set of recreational red snapper management measures (i.e., season, bag limits, and size limits) throughout the Gulf and would have no direct or indirect effects on the administrative environment. Allowing individual regions to modify management measures (**Preferred Alternatives 2**, **3**, **4**, **5, 6,** and **7**) compared to **Alternative 1** is expected to add administrative burden to the Gulf states, state marine law enforcement, and their respective departments for marine resources, while reducing some of the administrative burden on the Council and the NMFS Southeast Regional Office in the long-term. In the short-term, differing regional management measures in each individual region are expected to have some direct effects on the administrative environment including NMFS' Office of Law Enforcement, the United States Coast Guard, and state marine law enforcement operations. **Preferred Alternative 7** would allow individual regions to further apportion the recreational allocation, but not require them to do so. If regions allowed for-hire vessels to have differing seasons, bag limits, and size limits than private anglers there could be added administrative burden to the regions and state marine law enforcement operations. However, it is expected after individual regions establish their regional management measures and stakeholders educate themselves about these changes in regulations only indirect effects on the administrative environment are expected.

4.5 Action 5 – For-Hire Vessels Federal Permit Restrictions

4.5.1 Direct and Indirect Effects on the 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 Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts from various gear types are discussed in Section 4.1.1.

The direct and indirect effects on the physical environment from this action would be related to changes in fishing effort and would likely be similar under delegation or Council regional management. The direct and indirect effects on the physical environment from **Alternative 1** would not change the current fishing conditions. No change in fishing effort is expected to occur because no new fishing regulations would be implemented; therefore, habitat-gear interactions are estimated to remain unchanged. With delegation (Action 1), the effects of **Preferred Alternative 2** would not likely affect the physical environment. However, without delegation, **Preferred Alternative 2** could have additional effects because charter/for-hire reef fish permit holders would not be required to comply with more restrictive federal reef fish regulations when fishing in state waters. If a state adopts inconsistent regulations that are less restrictive than the federal regulations, **Preferred Alternative 2** would allow an increase in fishing effort in state waters because federally permitted for-hire vessels could now fish there in compliance with the less restrictive regulations. When state and federal regulations are consistent, no changes in effects to the physical environment are expected from **Preferred Alternative 2.** If the states maintain consistent regulations, then **Alternative 1** would not provide any positive or negative impacts. In comparison, if the states do not maintain consistent regulations, **Alternative 1** would provide slight benefits by requiring for-hire vessels to abide by more restrictive red snapper regulations than allowed by the state. More restrictive regulations reduce effort and the amount of time spent fishing, which would indirectly benefit the physical environment by reducing habitat-gear interactions. If **Preferred Alternative 2** or **Alternative 3** are selected in Action 1, the direct and indirect effects on the physical environment would be similar to those previously discussed.

4.5.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environments resulting from the harvest of red snapper by the reef fish fishery have been discussed in detail in Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts are discussed in Section 4.1.2.

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) mandates that Councils prevent overfishing and rebuild overfished stocks. The provision restricting the vessels with a Gulf charter vessel/headboat permit for Gulf reef fish to comply with the more restrictive of federal red snapper regulations when fishing in state waters was established in Reef Fish Amendment 30B (GMFMC 2008b). The provision was intended to encourage states to establish consistent regulations and decrease the likelihood of exceeding the quota.

The effects on the biological/ecological environment would be related to the changes in the amount of fishing effort and would likely be similar under delegation or Council regional management. **Alternative 1** would continue to require the federally permitted for-hire reef fish permit holders to comply with the more restrictive of state or federal reef fish regulations when fishing in state waters. During times when states do not have consistent regulations, this would reduce the possible fishing effort of the federally permitted vessels. Restraining the fishing effort would positively benefit the biological/ecological environment. **Alternative 1** also

maintains the likelihood of meeting the goals of the rebuilding plan in the necessary timeframe. However, because this alternative would not affect non-permitted private anglers it would not restrain the effort of those fishers.

With delegation or Council regional management (Action 1), the effects of **Preferred Alternative 2** would not likely affect the biological/ecological environments. However, without delegation or Council regional management, **Preferred Alternative 2** could have additional effects. **Preferred Alternative 2** would remove the permit provision for harvesting red snapper, but would still apply when fishing for other reef fish species. With delegation state and federal waters should have consistent regulations, which would not change the effects on the biological/ecological environments. **Preferred Alternative 2** would directly affect the biological/ecological environments for red snapper in states with inconsistent regulations due to the increase in fishing effort from the federally permitted for-hire vessels. This could result in an increase in the likelihood of landing overages and overfishing occurring. Lack of state consistency may also result in more restrictive AMs to ensure quotas/catch levels are not exceeded. If AMs are implemented in Action 6, then quotas will be reduced in the fishing season following an overage. However, the overage may have already affected the stock abundance and the size and age-structure of these red snapper populations in which case, the benefits of the overage adjustment may be reduced. If an increase in fishing effort occurs for red snapper, then this could indirectly affect other reef fish and species caught as bycatch.

In comparison to **Preferred Alternative 2**, **Alternative 1** would continue to have slight positive benefits the biological environment by restraining the fishing effort during times with inconsistent regulations and, in turn, decreasing the likelihood of overfishing. As discussed in Section 2.5, **Alternative 1**, results in a longer recreational red snapper fishing season than is projected under **Preferred Alternative 2**. However, if the red snapper recreational season length is drastically reduced to account for an overage, then the likelihood of angler non-compliance with the regulations including keeping red snapper during the closed season and the potential for derby fishing during the open season increases. Action 5 does not rely on the other actions in this document. However, the direct and indirect effects of **Preferred Alternative 2** could impact regional management by increasing the catch rates of red snapper and, in turn, shorten the season lengths.

4.5.3 Direct and Indirect Effects on the Economic Environment

Because the harvest restrictions that might ultimately result from all of the actions and alternatives considered in this proposed amendment are unknown, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action. As discussed in Section 4.1.3, this action is moot if regionalization is adopted. As a result, the following discussion only applies if regionalization is not adopted.

This proposed action would be expected to have direct impacts on the red snapper recreational season length and allowable harvest by for-hire anglers on federally permitted vessels and all anglers who harvest red snapper in the EEZ. As a result, the economic effects discussed in this assessment would be expected to be direct effects of the proposed action. Any subsequent

effects that occur as a result of changes in angler demand that might accrue to associated fishing and other businesses would be indirect economic effects.

The current requirement that a person on board a federally permitted for-hire vessel must follow federal regulations when fishing in territorial (hereafter referred to as "state") waters if the federal regulations are more restrictive was intended to reduce the severity of the regulations in the EEZ (by reducing harvest by these vessels in state waters, thereby extending the season in the EEZ) and reduce the associated adverse economic effects of more severe regulations. This requirement would continue under **Alternative 1**. As a result, the economic benefits of avoiding more severe harvest regulations in the EEZ would continue under **Alternative 1**.

The current requirement applies to all reef fish species, but **Preferred Alternative 2** would exclude the recreational harvest of red snapper from the provision. This would be expected to result in increased red snapper harvest by federally permitted for-hire vessels when fishing in state waters. The red snapper recreational harvest is subject to quota management and the harvest of red snapper in the EEZ must be prohibited when the quota is met or is projected to be met. The red snapper recreational quota includes the harvest of red snapper harvest in both the EEZ and state waters. As a result, any quota "shift" that occurs as a result of increased harvest in any area is a zero-sum game; increased harvest in state waters must be offset by reduced harvest in the EEZ. Although the total red snapper recreational harvest would remain the same, the benefits associated with the increased harvest in state waters would be re-distributed away from anglers in the EEZ to anglers in state waters. Although anglers who fish in the EEZ have the option of fishing in state waters, which they must transit to reach the EEZ, the decision to fish in the EEZ demonstrates an expectation they will receive greater benefits from fishing in the EEZ. Additionally, reducing the allowable harvest from the EEZ would require a shortening of the season in the EEZ. This would affect private anglers as well as for-hire anglers and result in additional adverse economic consequences for businesses and communities associated with the private angler sector. In summary, increasing the restrictions in the EEZ in order to allow increased harvest in state waters would be expected to result in a net decrease in economic benefits.

The economic effects of the alternatives considered under this action would not be expected to be affected by the form of regional management adopted under Action 1, nor the specification of regions adopted under Action 2.

4.5.4 Direct and Indirect Effects on the Social Environment

As discussed previously, the actions of this amendment build on one another to develop a regional management program. Given the requirements for delegation of management (Action 1, Preferred Alternative 2), federal and state regulations for recreational red snapper will be consistent. Thus, if the Council retains the current preferred alternative for Action 1, **Preferred Alternative 2** would be redundant because the states' regulations would have authority for both state waters and the EEZ. Under these conditions, no effects would be expected from adopting **Preferred Alternative 2**, and no additional impacts would be expected from retaining **Alternative 1** (**no action**).

However, unlike the previous actions, Action 5 could stand as an independent action apart from a regional management program. Under certain conditions, effects could result from **Preferred Alternative 2**. For example, if 1) delegation is not adopted in Action 1, 2) one or more states do not participate in regional management, or 3) delegation is suspended or revoked, **Preferred Alternative 2** would be expected to have negative direct effects on recreational red snapper season length and allowable harvest by for-hire anglers on federally permitted vessels and all anglers who harvest red snapper in the EEZ. Because a longer fishing season corresponds with more fishing opportunities, it is assumed that more benefits result from a longer season. Under the three scenarios, implementation of **Preferred Alternative 2** would result in a shorter fishing season in the EEZ. Thus, negative effects from **Preferred Alternative 2** could be greater and affect all recreational anglers, compared to **Alternative 1**. On the other hand, **Preferred Alternative 2** would result in benefits for those involved in the operations of federally-permitted for-hire vessels (e.g., owners, captains, crew, and passengers), compared to **Alternative 1** as they would be enabled to fish under the same regulations as other recreational fishermen in their state. Because a longer season in the EEZ would affect more anglers (those fishing from private vessels and for-hire vessels), total social benefits would be expected to be greater under **Alternative 1**.

4.5.5 Direct and Indirect Effects on the Administrative Environment

This action considers excluding vessels with a Gulf charter vessel/headboat permit from abiding by the more strict federal regulations when harvesting red snapper. **Alternative 1** is an AM that encourages states to establish consistent regulations for recreational red snapper fishing and reduces the probability of a landings overage occurring. **Alternative 1** requires federally permitted for-hire reef fish vessels to comply with the more restrictive federal reef fish regulations when fishing in state waters. This alternative would not change the current administrative environment.

With delegation (Action 1), the effects of **Preferred Alternative 2** would not likely affect the administrative environment. However, without delegation, **Preferred Alternative 2** could have additional effects. **Preferred Alternative 2** would not require federally permitted for-hire reef fish vessels to abide by the more restrictive federal regulations when harvesting red snapper in state waters. However, this provision would still apply to the other reef fish species. This could create additional enforcement issues. If state regulations are more liberal than federal regulations, then permit holders could potentially increase the amount of fish they harvest. **Preferred Alternative 2** could increase the likelihood of quota overages, overfishing, and triggering AMs associated with exceeding the quota. In turn, this could increase the burden on the administrative environment to implement adjustments associated with AMs. Implementing AMs could take up considerable staff time to monitor and quantitatively determine the magnitude of an overage(s) and the subsequent AMs that are required to prevent the overage from occurring if the states provide supplemental landings data. If the level of excess harvest resulting from inconsistent state-federal regulations significantly affects management objectives, such as avoiding overfishing and rebuilding overfished stocks, then subsequent amendments to fishery management plans may be necessary to adjust management measures to prevent or end overfishing and establish or revise rebuilding plans. Development of new amendments would negatively affect the administrative environment by increasing costs and the burden on staff to

draft such documents. In comparison to **Alternative 1**, **Preferred Alternative 2** would negatively affect the administrative environment by increasing the likelihood of landings overages, overfishing occurring, and triggering AMs.

4.6 Action 6 – Post-Season Accountability Measures (AM) Adjusting for Regional Overages

4.6.1 Direct and Indirect Effects on the 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 Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts from various gear types are discussed in Section 4.1.1.

The direct and indirect effects on the physical environment from this action would be related to changes in fishing effort. The effects on the physical environment resulting from **Alternative 1** are expected to be similar to current fishing conditions. No change in fishing effort is expected to occur because no new fishing regulations would be implemented; therefore, habitat-gear interactions are estimated to remain unchanged. **Alternative 2** and **Preferred Alternative 3**, **Options a** or **b** would provide slight benefits to reef fish habitat by reducing the fishing effort in the following year if the landings indicate the quota was exceeded. This would increase the likelihood of achieving the goals of the rebuilding plan and preventing overfishing. The delay of **Options a** or **b** could allow slightly more impacts during those years; however, the impacts would likely be similar to status quo. **Alternative 4** may result in slightly negative or positive effects to the physical environment depending on the calculation of the buffers relative to the landings (GMFMC 2011b). If the fishing effort is reduced and the amount of time spent fishing is reduced, then the decrease in fishing effort would indirectly benefit the physical environment by reducing habitat-gear interactions.

4.6.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environments from the harvest of red snapper and from changes in total allowable catch (sector quotas) have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007) and in the February 2010 Regulatory Amendment (GMFMC 2010). Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a).

The direct and indirect effects on the biological/ecological environments from this action would be related to changes in fishing effort. **Alternative 1** would continue the current direct and indirect effects on the biological/ecological environments. The effects are relative to the change in fishing effort which may result in over or under harvest. This alternative does not implement a reduction for the following recreational season's red snapper harvest in the case of the quota

being exceeded which in turn, may increase the direct negative effects to the biological/ecological environment in relation to the other alternatives. Should an overharvest occur, this alternative could adversely affect the red snapper stock; however, this has been similar to status quo for several years. In contrast, **Alternative 2**, **Preferred Alternative 3**, **Option a** and **Preferred Option b**, and **Alternative 4** would adjust for any overage during the following year, thus minimizing the effects on the biological/ecological environments relative to the overage as discussed in Section 2.6 (Table 2.6.1). Both **Alternative 2** and **Preferred Alternative 3**, **Option a** and **Preferred Option b** result in a one-for-one reduction of the following year's quota for any overage. This reduces adverse effects on the biological/ecological environment that would occur from the overharvest. However, if the red snapper recreational season length is drastically reduced to account for an overage, then the likelihood of non-compliance of recreational anglers with the regulations increases as does the potential for derby fishing. These activities could have negative indirect effects that would lessen the benefits of the AM by increasing the harvest of red snapper as well as increasing bycatch and discards. The overages could also be evaluated by future stock assessments and review through the SSC. For **Preferred Alternative 3**, **Option b**, the effects would vary geographically as the reduction in regional quota would be applied only to that state which exceeds its apportioned quota. This could result in unevenly distributed effects depending on which regions exceed the quota and the associated AMs. It is possible that if a region exceeds its quota by over 100%, then the following year no harvest of red snapper in the region would be allowed unless the quota is greatly increased. The effects of not allowing any harvest for a year in a specific area are not known; however, these effects would be integrated into the next stock assessment. By selecting **Preferred Alternative 3**, **Option b,** the quota adjustment would not begin until two years after the implementation of the plan. This could decrease the ability to constrain harvest and increase the risk of overfishing. It is unknown whether regional management would be able to constrain harvest and allowing two years before applying the accountability measure could negatively impact the biological environment. **Alternative 4** may provide either slight positive or negative effects on the biological/ecological environment depending on the landings of the previous years. Calculations for **Alternative 4** take into account the landings for the previous years and increase the buffer based on the extent of the overages.

4.6.3 Direct and Indirect Effects on the Economic Environment

Because the harvest restrictions that might ultimately result from all of the actions and alternatives considered in this proposed amendment are unknown, the following assessment provides a qualitative discussion of the expected economic effects of this proposed action. Portions of the discussion of the expected economic effects for Action 1 provided in Section 4.1.3 are relevant to the discussion of the economic effects expected to result from this action. Some of this information is summarized in the following discussion and the reader is encouraged to read Section 4.1.3.

This proposed action addresses the potential imposition of a new AM. The current AMs, which include harvest monitoring and closure of the EEZ if the red snapper recreational quota is met or is projected to have been met, would continue under any of the alternatives adopted for this proposed action. AMs are a component of the management structure and their adoption is an administrative action. Because it is an administrative action, the adoption of an AM would not

cause any direct economic effects. The direct economic effects of AMs occur only when the AMs are triggered, if such occurs, and harvest restrictions are imposed. For the current proposed action, the trigger event would be a quota overage.

The proposed AM would require a post-season payback of a quota overage. Quotas represent the amount of allowable harvest that has been estimated to be acceptable given the biological status of the resource, rates of natural and bycatch mortality, and management goals. These management goals may include stock growth, decline, or maintenance at the current level of biomass and stock composition. Embedded within the decision process of selecting these management goals, and the path and pace through which they are to be reached, are considerations of the economic and social consequences of the alternative options. In effect, the management decisions reflect a balance of the best biological, economic, and social outcomes.

From this "best" perspective, despite the uncertainties that exist in the estimation process and forecast of future biological and environmental conditions, exceeding the red snapper recreational quota would logically be expected to have an adverse effect on either or both the status of the resource and achieving the management goals. This, in turn, would be expected to have adverse economic effects. Assuming this is the case, overages should be avoided and, when they occur, attempt should be made to minimize their effects. Overage payback is a logical tool to minimize the adverse effects of quota overage. The intent of a payback would be to insure that the combined harvest over successive years does not exceed the combined quota for that period.

It is noted that the proposed alternatives for this action only consider "following year" paybacks and not multiple-year considerations, e.g., only impose a payback if the quota is exceeded in at least two of the most recent three consecutive years. It is beyond the scope of this analysis to evaluate which approach is better given the uncertainties associated with stock assessment in general, forecasting stock recovery, harvest projection and monitoring, etc. Sizeable harvest overages of the red snapper recreational quota have routinely occurred in recent years without apparent disruption of stock recovery. However, because of the amount of time required to conduct stock assessments, the potential cumulative harm of successive overages, and potentially compounded payback effects on an already severely restricted open season, annual reaction (payback) may be more prudent and effective in minimizing the potential adverse economic effects of overages.

In general, it is expected that exceeding the quota and triggering AMs should be avoided. The economic benefits to fishermen, and associated businesses and communities, are expected to be greater when quotas, and associated seasons, are stable (or increasing), because this allows better planning and utilization of resources. Although anglers may have flexibility in their choice of recreational activity, businesses associated with the recreational fishing industry need regular customer traffic to meet monthly expenses. Paybacks are costly and disruptive in the short term because they disrupt this stability. Although a payback, in design, would result in a total two-year allowable harvest equal to the sum of twice the normal annual quota, and increased benefits the first year associated with the quota overage, the decline in quota the second year, and associated decline in angler demand, could jeopardize the financial status of businesses that are dependent on the harvest of the subject species.

Additionally, a quota overage that harms the resource and progress towards recovery goals could have adverse economic consequences for both the commercial and recreational harvest sectors and not just the recreational sector. Adverse stock effects would be expected to harm the total allowable harvest of the species. If the total allowable harvest is reduced as a result of an overage by the recreational sector, both the recreational and commercial sectors would be expected to experience a reduction in economic benefits.

In the long run, however, protection of the biological status of the resource and continued progress towards recovery goals, where appropriate, as in the case of red snapper, provided by paybacks would be expected to result in a net increase in economic benefits compared to not having a payback.

Alternative 1 would not result in payback of red snapper recreational quota overages. As a result, in the short term, no change in economic benefits to fishermen from either sector, or associated businesses, would be expected to occur. However, if overages are individually (an overage in a single year) or cumulatively (overages in multiple years) sufficient to harm progress towards recovery goals, then the long-term net economic benefits accruing to the recreational harvest of red snapper, and possibly the commercial harvest of red snapper, would be expected to decline.

For the other proposed alternatives, harvest overage paybacks would be required, but only if the total red snapper recreational harvest from all regions exceeded the combined quota. Otherwise, the proposed alternatives vary by whether the payback would be shared across all regions (**Alternative 2** and **Alternative 4**), or borne only by the region(s) with an overage (**Preferred Alternative 3**), and would require payback of the entire overage (**Alternative 2** and **Preferred Alternative 3**), or some portion thereof (**Alternative 4**).

With respect to sharing paybacks, the effects are less economic than an equity issue. As previously stated for other actions in this proposed amendment, available information does not support determination that valuation differs by region (i.e., anglers in one region value red snapper more than anglers in another region). As a result, assuming red snapper are equally valued by all anglers across the Gulf, the magnitude of the economic effects to anglers would be unaffected by whether they are borne only by the region(s) responsible for the overage, or shared by all regions. Distributional effects would occur (i.e., a portion of the effects of a payback would be borne by regions where the overage did not occur if the payback is shared by all regions), but the total change in economic value would be unaffected. However, from an equity perspective, penalizing anglers, and associated businesses, in all regions for overages that only occur in other regions may be perceived as inequitable because it would result in re-distribution of economic benefits without apparent justification. Thus, from this perspective, **Preferred Alternative 3** would be more equitable than **Alternative 2** and **Alternative 4**.

With respect to how much of the overage would be paid back, if an overage harms the resource or recovery of the species, and reduces the economic benefits associated with the harvest of the species, then complete payback would be expected to result in more economic benefits than partial payback. This conclusion follows even if short-term or single-year overages are not

significantly harmful to the biological status of the resource because persistent cumulative overages would eventually be expected to be harmful. Under the control rule (**Alternative 4**), the maximum payback (buffer) would be 20%, regardless of the actual overage in the most recent year, whereas the payback would equal the overage in **Alternative 2** and **Preferred Alternative 3**. Thus, **Alternative 2** and **Preferred Alternative 3** would result in a larger payback, and reduction of short-term economic benefits, if the overage is more than 20%. Under the control rule and multiple annual overages in the previous four years, however, the payback would exceed the overage in the previous year if the overage is less than 17% (a 1% to 10% overage would result in a payback of 16% and an 11% to 30% overage would result in a payback of 17%). As a result, it cannot be concluded that the payback, and short-term economic losses, would always be greater for a particular alternative among the alternatives considered. However, because of the increased opportunity for a higher payback under **Alternative 2** and **Preferred Alternative 3** compared to **Alternative 4** (the range of "more than 20%" is broader than "less than 17%"), it is logical to conclude that **Alternative 2** and **Preferred Alternative 3** would be expected to result in a greater reduction in short-term economic benefits than **Alternative 4**. In the long term, assuming that cumulative payback shortfalls would be detrimental to the resource, **Alternative 2** and **Preferred Alternative 3** would be expected to result in greater long-term economic benefits than **Alternative 4**. It should be recalled, however, as previously stated, that significant red snapper recreational harvest overages have occurred in recent years without apparent disruption of the resource recovery.

The final aspect of the proposed alternatives to consider is the immediacy of payback. **Alternatives 2-4** are each accompanied by options that would delay the payback by either one year (**Option a**, begin the quota adjustment one year after implementation) or two years (**Preferred Option b**, begin the quota adjustment two years after implementation). In the absence of the adoption of either option, assuming the implementing regulation is effective mid- to late-2014, quota adjustments could begin in 2016 based on the harvest assessment of the 2015 red snapper recreational fishing season. The economic effects of the options would depend, similar to the determination of the need for an overage payback at all, on the impact of any overage on the health of the resource and progress towards the rebuilding plan. Although the use a payback would be expected to be economically disruptive in the short term, particularly in situations where a payback has not historically been used, its use would be based on expectations that the payback would improve the health of the resource and result in greater long-term net economic benefits. As a result, if an overage is sufficiently important from a resource perspective that it needed to be paid back, it matters little whether the overage occurs in the first or second year of the "payback program." Stated a different way, the adverse economic effects of adjusting to a new program (paybacks) would not be expected to exceed the benefits of correcting for the overage. It might be argued that current management is incapable of limiting overages in the near-term (in the absence of regional management), and overages may be inevitable at the beginning of a switch to regional management, but would be expected to be reduced in subsequent years under both approaches. Nevertheless, information is not available to demonstrate that the significance of these initial overages would be less than overages in subsequent years and do not justify corrective action. As a result, from this perspective, the economic benefits would be expected to be increased the sooner paybacks are put into effect, which would occur if neither **Option a** or **Preferred Option b** is adopted, followed by **Option a**, then **Preferred Option b**.

It is noted that the magnitude of the overage (and subsequent payback) may factor into the ultimate significance of any economic effects. An overage in the near-term (i.e., within the next couple of years) could be sufficiently large that a payback be significantly economically harmful compared to potentially smaller overages in later years. If that is the case, then the overage would be expected to also be substantially harmful to the resource and reduce the associated long-term economic benefits. If this is the case, then the relevant question is not whether to require a payback at all, but rather whether to require the payback all at once or as a series of incremental paybacks cumulatively equal to or greater than the initial overage. This option, a multi-year payback, however, is not currently included as a proposed option and, as a result, is outside the scope of this analysis.

Combining the conclusions of the previous two paragraphs, **Preferred Alternative 3** would be expected to be more equitable that **Alternative 2** and **Alternative 4. Preferred Alternative 3** would also be expected to result in the same short and long-term economic benefits as **Alternative 2**, and result in more long-term benefits than **Alternative 4**.

The economic effects of the alternatives considered under this action would not be expected to be affected by the form of regional management adopted under Action 1, nor the specification of regions adopted under Action 2.

4.6.4 Direct and Indirect Effects on the Social Environment

This action proposes to add a post-season AM for recreational red snapper management based on one of two actions: 1) reduce the following year's quota by the amount it is exceeded the previous year (**Alternative 2** and **Preferred Alternative 3**), or 2) place buffers on the quota following a year in which the quota was exceeded (**Alternative 4**). The post-season AM would affect only the state or states that exceed their apportioned quota (**Preferred Alternative 3**) or would be applied Gulf-wide, regardless of where the quota overage occurred (**Alternatives 2** and **4**). Direct impacts are not expected from the adoption of a post-season AM because an AM only results in impacts if and when it is triggered. Indirect impacts would be expected from triggering the AM under any of the alternatives, as the available quota for the subsequent fishing season is decreased.

Additional impacts are not expected from maintaining the status quo (**Alternative 1**). Currently, if total recreational red snapper landings are determined to have exceeded the annual quota, the Scientific and Statistical Committee (SSC) reviews the extent of the overage in relation to the acceptable biological catch (ABC) and any potential impact on the progress of the rebuilding plan, and determines whether or not to modify the following year's quota. Because there is, as yet, no regional allocation of the recreational quota, the determination by the SSC is made in regards to the Gulf-wide quota overage.

Exceeding the Gulf-wide recreational quota would trigger the remaining alternatives (except **Alternative 1**). Different effects may be expected in terms of which region(s) would be impacted, the action that would be taken, and the magnitude of the adjustment. In general, it is expected that exceeding the quota and triggering AMs should be avoided, because fishing

opportunities would likely be reduced for the following season. **Preferred Alternative 3** would only impact a region that exceeded its portion of the quota, and no impacts would be expected in other regions. **Alternatives 2** and **4** would affect all regions and the fishermen within those regions, even if their region remained within the quota. A state or region that remained within its quota would be negatively impacted by reduced fishing opportunities the following season. The severity of the impacts would relate to the extent of the quota overage, as fishing opportunities would be reduced in the following year to make up for the quota overage (**Alternative 2** and **Preferred Alternative 3**). It could be socially disruptive if large quota overages one year are followed by severe paybacks the next. Introducing a buffer (**Alternative 4**) to the quota would impact all regions, regardless of where the quota overage occurred. The severity of impacts under the buffer (**Alternative 4**) would be expected to relate to the extent of the quota overage, but the amount of the buffer would not necessarily correspond to the exact poundage of the overage; the buffer could be more or less than the overage. The maximum buffer would be 20%, regardless of the actual overage in the last year. Thus, it is not possible to determine if the effects from triggering **Alternative 4** would be greater or less than **Alternative 2** or **Preferred Alternative 3** in terms of the reduction to fishing opportunities.

Given that post-season AMs do not currently exist for red snapper and that this is the first time regions will have to monitor landings to avoid exceeding a quota, it is assumed that overages would be most likely to occur while the regions adjust to the new management program. Adopting a grace period to allow regions time to adjust (**Alternatives 2-4**, **Option a** and **Preferred Option b**) would be expected to mitigate potential short-term negative impacts from applying a post-season AM. The long-term effects of the options would depend on the impact of any overage on the health of the resource and progress towards the rebuilding plan. An overage adjustment (**Alternative 2** and **Preferred Alternative 3**) is intended to improve the health of the resource and result in greater long-term benefits. As a result, if an overage is sufficiently important from a biological perspective that it needed to be paid back, it matters little whether the overage occurs in the first or second year of the program. Thus, there may be a trade-off in effects from avoiding application of an overage adjustment in the short-term at the expense of delayed realization of long-term benefits from rebuilding. This trade-off would be greater under a longer grace period (**Preferred Option b**) than a shorter grace period (**Option a**), depending on the magnitude of the overage. On the other hand, any overage that occurs during the grace period selected could be reviewed by the Council's SSC in terms of its effect on the rebuilding plan, as has been recent practice. Thus, adopting an option is equivalent to maintaining the status quo for addressing quota overages for red snapper.

4.6.5 Direct and Indirect Effects on the Administrative Environment

The direct and indirect effects on the administrative environment from this action would be related to analyzing the landings data and applying the post-season AM. **Alternative 1** would not change the administrative environment. However, this alternative results in continuously updating the yield stream to account for any overages and determine the ABC for red snapper each year, and developing a framework action to apply the revised ABC through updating the quotas. This creates a burden on the administrative environment. **Alternative 2**, **Preferred Alternative 3**, **Option a** and **Preferred Option b**, and **Alternative 4** would provide specific methods to determine the following years' quota and subsequent regional quotas. However,

selecting **Preferred Option b** would delay the quota adjustment for any overage until two years after the implementation of the plan. This direct effect may benefit the administrative environment if the quotas do not require a framework action to be implemented. These alternatives may indirectly affect the enforcement of the regulations negatively. By implementing adjustments for overages, the subsequent season may be shortened. **Preferred Alternative 3**, **Option b** could result in a closed season off a state if the previous year's regional quota was exceeded by over 100%. If the adjacent states were open for the harvest of red snapper, then the increased complexity of the regulations may confuse fishermen and result in an increase in noncompliance and negative effects on enforcement and the administrative environment. The necessity to increase enforcement in a state or states without a recreational red snapper fishing season would increase the burden on the administrative environment.

The direct and indirect effects on the administrative environment from this action would be related to analyzing the landings data and applying the post-season AM. **Alternative 1** would not change the administrative environment. However, this alternative results in continuously updating the yield stream to account for any overages and determine the ABC for red snapper each year, and developing a framework action to apply the revised ABC through updating the quotas. This creates a burden on the administrative environment. **Alternative 2**, **Preferred Alternative 3**, and **Alternative 4** would provide specific methods to determine the following years' quota and subsequent regional quotas. The direct and indirect effects on the administrative environment would likely be similar to status quo. **Option a** and **Preferred Option b** would likely decrease the burden on the administrative environment slightly during the delay.

These alternatives may indirectly affect the enforcement of the regulations negatively. By implementing adjustments for overages, the subsequent season may be shortened. In addition, if the SSC modifies the ABC due to an overage (**Alternative** 1) the season length could be reduced. Preferred **Alternative 3**, **Option b** could result in no fishing days for red snapper off a state if the previous year's regional quota was exceeded by over 100%. The increased complexity of the regulations may frustrate fishermen and result in an increase in noncompliance and negative effects on enforcement and the administrative environment. The necessity to increase enforcement in a state or states without a recreational red snapper fishing season would increase the burden on the administrative environment.

4.7 Action 7 – Establishing Default Regulations

4.7.1 Direct and Indirect Effects on the 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 Reef Fish Amendment 22, Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004a and 2007), and in the February 2010 Regulatory Amendment (GMFMC 2010). The potential impacts from various gear types are discussed in Section 4.1.1.

The direct and indirect effects on the physical environment from this action would be related to changes in fishing effort under delegation. **Alternative 1** would not change the impacts physical environment, if a region's delegation is not suspended or opted out. However, if a region's delegation is suspended or opted out, then **Alternative 1** could have effects on the physical environment. In the absence of default federal regulations, the Gulf EEZ would need to be closed to prevent the quota from being exceeded. This would likely decrease the direct and indirect effects on the physical environment by reducing fishing effort. **Preferred Alternative 2**, **Option a** and **Preferred Alternative 3** would have similar effects on the physical environment. Both would restrict the recreational harvest of red snapper to the NMFS default regulations. The effects are expected to remain similar to the current regulations, which are based on the fishing effort. **Alternative 2**, **Option b** would be expected to reduce fishing effort and potentially benefit the physical environment. However, if the fishing effort preceding the suspension of delegation greatly exceeded the expected fishing effort (i.e. derby fishing) then the benefits may be negated. **Alternative 2**, **Option b** could encourage a geographic effort shift to regions with open seasons for harvesting red snapper. This shift in fishing effort could slightly increase the negative effects on the physical environment to those regions with open seasons.

4.7.2 Direct and Indirect Effects on the Biological/Ecological Environment

Direct and indirect effects on the biological/ecological environment from the harvest of red snapper and from changes in total allowable catch (sector quotas) have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004a and 2007) and in the February 2010 Regulatory Amendment (GMFMC 2010). Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological/ecological environment are discussed in the January 2011 Regulatory Amendment (GMFMC 2011a).

The direct and indirect effects on the biological/ecological environments from this action would be related to changes in fishing effort under delegation. **Alternative 1** would not change the biological/ecological environment, if a region's delegation is not suspended or opted out. However, if a region's delegation is suspended or opted out, then **Alternative 1** could have effects on the biological/ecological environments as the Gulf-wide EEZ would likely be closed to prevent the quota from being exceeded which would reduce fishing effort and possibly decrease the direct and indirect effects. In the absence of default federal regulations, the Gulf EEZ would need to be closed to prevent the quota from being exceeded. **Preferred Alternative 2**, **Option a** and **Preferred Alternative 3** would have similar effects on the biological/ecological environment. Both would restrict the recreational harvest of red snapper to the NMFS default regulations. The effects are expected to remain similar to the current regulations which are based on the fishing effort. **Alternative 2**, **Option b** would be expected to reduce fishing effort and potentially benefit the biological/ecological environment. However, if the fishing effort preceding the suspension of delegation greatly exceeded the fishing effort of consistent regulations, then the benefits may be negated. **Alternative 2**, **Option b** could encourage a geographic effort shift to states still harvesting red snapper. This shift in fishing effort could slightly increase the effects on the biological/ecological environment. The concentration of fishing effort associated with the geographic shift could increase the negative effects through increased catch and bycatch.

4.7.3 Direct and Indirect Effects on the Economic Environment

As discussed Section 4.1.3, this action would only be relevant if delegation of the management authority of the recreational harvest of red snapper is selected as the preferred alternative for Action 1. If delegation is not selected, current NMFS regulations for management of the recreational harvest of red snapper would continue to be in effect. Because this action would only be relevant under this circumstance, the following discussion assumes delegation has been selected as the preferred action.

Action 4 establishes the range of management options that would be available to all regions under delegation. These may include, but not be limited to, the specification of the season, bag limit, and minimum size limit. The resultant management specifications would allow the respective regions to establish localized red snapper regulations, but would only apply to regions that accept delegation ("opt in") and implement management measures determined to be consistent with the objectives of the FMP, including, but not limited to, limiting harvest to the regional allocation. The implementation of localized regulations would be expected to allow the receipt of the associated increased economic benefits previously discussed for the other proposed actions. The localized regulation and receipt of associated increased economic benefits are likely to continue under **Alternative 1** for these regions.

For regions that do not accept delegation ("opt out") and regions with suspended delegation authority, default regulations for the delegated management measures would not exist under **Alternative 1.** As a result, for example, specification of the start of the red snapper recreational season, bag limit, and minimum size limit in the EEZ off these regions would not exist under **Alternative 1**. The economic consequences of this are undetermined. Actual harvest conditions or opportunities would not be completely unrestricted. Fishermen would still be required to land their harvest and would, therefore, be limited by the restrictions for the state of landing. For example, suppose Mississippi opts out of delegation and has a two-fish state limit, Alabama opts in and sets the bag limit at two fish, and Louisiana also opts in, but sets the bag limit at three fish. Under **Alternative 1**, an angler could fish in the EEZ off Mississippi and keep two fish if they land in Mississippi or Alabama, or three fish if they land in Louisiana. These fish would be counted against the allocation for the state the fish are landed, regardless of the fact that they were harvested in the EEZ off Mississippi. Thus, although a specific bag limit would not be in effect in the EEZ off Mississippi, harvest would be effectively constrained by the limit for the state where the fish are landed. Additionally, total red snapper recreational harvest would continue to be limited to the regional allocation and the Gulf-wide total recreational quota. Although the absence of specific regulations in a region could contribute to a harvest overage, appropriate corrective measures and adjustments could be made in subsequent years to minimize the development of persistent or long-term adverse biological and economic effects. Nevertheless, the absence of specific regulations in some areas of the EEZ may result in confusion and other problems, with associated economic costs, that would be avoided if default regulations are specified.

Preferred Alternative 2 and **Preferred Alternative 3** would establish the default regulations that would be in effect for, alternatively, regions for which delegation is suspended (**Preferred Alternative 2**) and regions that opt out of delegation (**Preferred Alternative 3**). Because these

two alternatives address different circumstances, their expected effects should not be compared. By specifying the default regulations, the adverse economic effects that may occur under **Alternative 1** would be expected to be reduced or, potentially, completely avoided. Reduction or avoidance of these adverse economic effects would be expected to occur under **Preferred Alternative 3** and **Preferred Alternative 2**, **Option a**. The same conclusion does not apply for **Alternative 2**, **Option b.** Under **Alternative 2**, **Option b**, all recreational harvest of red snapper would be prohibited in the EEZ off states where delegation is suspended for the duration of the suspension. Under the assumed worst case scenario, the suspension could last the entire calendar year if the appropriate steps are not taken. Although red snapper harvest would be allowed to continue in state waters, as allowed by state regulations, closure of the EEZ could result in the appropriate regional allocation not being harvested. If the allocation is not harvested, a net loss of economic benefits would occur at both the regional and Gulf level, because no provision is proposed to allow any fish left over to be harvested by fishermen in other regions. This conclusion assumes that the other regions do not exceed their allocation. If the other regions exceed their allocations, then the net effect of a region not harvesting their allocation as a result of the suspension of delegation would be a transfer of economic benefits to the regions that exceed their allocation, and not necessarily a net loss. If the period of suspension of delegation is less than the entire calendar year, it may be possible for the suspension to be lifted and the entire allocation harvested. If this occurs, distribution effects may result (i.e., a transfer of benefits amongst anglers, businesses, and communities within the region). The total economic benefits could be equal to, or less than, the benefits expected to occur in the absence of a suspension of delegation. These benefits would not be expected to be greater than the benefits that would occur if delegation is not suspended. This is because the resultant season and associated regulations, which would be put in place when the suspension is lifted, would be a second best solution (the region was not allowed to implement their original regulations and the season likely shifted to later in the year). Compared to **Preferred Alternative 2**, **Option a**, the total economic benefits that could result from lifting the suspension under **Alternative 2**, **Option b** could be equal to, less than, or greater than the benefits that would be expected to result from **Preferred Alternative 2**, **Option a**. The logical assumption may be that, because the regulations enacted upon lifting of the suspension should still better reflect local preferences than the default regulations under **Preferred Alternative 2**, **Option a**; **Alternative 2**, **Option b** should result in greater economic benefits than **Preferred Alternative 2**, **Option a**. However, distributional effects and the potentially increased likelihood that the allocation not be harvested could result in the economic effects of **Alternative 2**, **Option b** after suspension is lifted being less than or equal to the economic effects of **Preferred Alternative 2**, **Option a**. Because of the uncertainty with regard to the likely outcomes, definitive determinations and rankings cannot be provided.

4.7.4 Direct and Indirect Effects on the Social Environment

Because this action would only be applicable if delegation is selected in Action 1 (Preferred Alternative 2), the potential effects discussed here assume delegation has been selected as the preferred action. After implementing delegated regional management authority for the management measures selected in Action 4, there are two scenarios in which delegation may no longer be active: 1) a region opts out, choosing not to participate in regional management, or 2) a region's delegation is suspended by NMFS.

If a region opts out and does not accept delegation, or if a region has its delegation authority suspended, default regulations for the delegated management measures would not exist under **Alternative 1**. As a result, specification of the recreational season opening, bag limit, and size limit in the EEZ off these regions would not exist under **Alternative 1**. The social consequences of this are indeterminate (see Section 4.7.3 for further discussion).

The default regulations that would be in effect in regions for which delegation is suspended (**Preferred Alternative 2**, **Option a**) and for regions that opt out of delegation (**Preferred Alternative 3**) would be the same. However, because these two alternatives would result from different circumstances, their expected effects should not be compared. By specifying the default regulations, any adverse effects that may occur under **Alternative 1** would be expected to be reduced or, potentially, completely avoided. Reduction or avoidance of these adverse effects would be expected to be the case for **Preferred Alternative 3** and **Preferred Alternative 2**, **Option a**.

Among the alternatives, the greatest social impacts could result from **Alternative 2**, **Option b**, as all recreational harvest of red snapper would be prohibited in the EEZ off a region where delegation is suspended, for the duration of the suspension. Under the worst case scenario, the suspension could last the entire calendar year. Although red snapper harvest could be allowed to continue in state waters if specified by state regulations, closure of the EEZ could result in the corresponding region's allocation not being harvested. Social impacts would be expected to result at the regional level. Regional and Gulf-wide level impacts would be expected from preventing the harvest of a region's allocation, because no provision is proposed to allow an underage to be harvested by fishermen in other regions. Also, the prohibition of all harvest of red snapper in the corresponding region's portion of the EEZ would apply to all recreational vessels, affecting recreational fishermen and communities located near the closed region's borders. For a more detailed discussion of the potential impacts, see Section 4.7.3.

When delegation is effective for all regions, the EEZ will essentially remain open year round and the regions will regulate access to the EEZ by establishing their fishing season. Under this scenario, regardless if bordering regions have different fishing seasons, anglers will be able to fish in the EEZ off any region, provided they abide by their region's regulations (and a region has not closed its portion of the EEZ as allowed under Action 4's Preferred Alternative 6). On the other hand, under application of the default regulations, NMFS would establish the fishing season for a region that opts out or has its delegated authority suspended. If NMFS establishes the default season for a region, that region's portion of the EEZ (Figure 1.1.1) will be open only during the NMFS-determined fishing season, and be based on the projected time it would take for the region's portion of the quota to be caught. Recreational fishers from other regions where delegation remains effective would be prohibited from harvesting red snapper in the EEZ off such states, except while both regions fishing seasons overlap. For example, if Florida opts out of regional management, the fishing season would begin on June 1 and NMFS would project the season closure date based on their portion of the quota. If Alabama opened their season May 1, Alabama fishermen would be prohibited from harvesting red snapper in the EEZ off Florida until June 1. Thus, should a region opt out or have its delegation authority suspended, impacts could

result for fishermen in other regions. Should more than one region opt out or have its delegated authority suspended, these impacts may be compounded.

4.7.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would not change the administrative environment so long as a region's delegation is not suspended or opted out. Currently, NMFS determines the recreational season for red snapper and publishes the dates in the federal register each year. However, if a region's delegation is suspended or opted out, then **Alternative 1** could have effects on the administrative environment, specifically enforcement. In the absence of default federal regulations, the Gulf EEZ would need to be closed to prevent the quota from being exceeded. This could increase the impact on enforcement to insure angler compliance; however the effects may be similar to status quo during the closed season. The effects on the administrative environment for **Preferred Alternative 2**, **Option a** and **Preferred Alternative 3** would remain similar to **Alternative 1**. **Alternative 2**, **Option b** could cause both negative and positive effects to the administrative environment. If harvest of red snapper in the region's EEZ is prohibited due to suspension, then NMFS would not need to determine the season length. However, NMFS would still be required to publish notice of the closure in the *Federal Register*. In addition, an increase in enforcement may be necessary to ensure compliance with the closure. It is expected these effects would not significantly alter the administrative environment.

4.8 Cumulative Effects Analysis (CEA)

As directed by NEPA, federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. NEPA defines a cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect is when the combined effects are greater than the sum of the individual effects.

This section uses an approach for assessing cumulative effects that is based upon guidance offered by CEQ, Considering Cumulative Effects (1997). The report outlines 11 items for consideration in drafting a CEA for a proposed action.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.
2. Establish the geographic scope of the analysis.
3. Establish the timeframe for the analysis.
4. Identify the other actions affecting the resources, ecosystems, and human communities of concern.
5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.
6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.
7. Define a baseline condition for the resources, ecosystems, and human communities.
8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.
9. Determine the magnitude and significance of cumulative effects.
10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.
11. Monitor the cumulative effects of the selected alternative and adapt management.

Cumulative effects on the biophysical environment, socio-economic environment, and administrative environments are analyzed below.

1. Identify the significant cumulative effects issues associated with the proposed action and define the assessment goals.

The CEQ cumulative effects guidance states this step is accomplished through three activities as follows:

I. The direct and indirect effects of the proposed actions (Sections 4.1-4.7);
II. Which resources, ecosystems, and human communities are affected (Chapters 3 and 4); and
III. Which effects are important from a cumulative effects perspective (information revealed in this CEA)

2. Establish the geographic scope of the analysis.

The geographic scope affected by this action is described in Section 3.2 and pertains directly to the Gulf. The Gulf has a total area of approximately 600,000 square miles (1.5 million km^2), including state waters (Gore 1992). It is a semi-enclosed, oceanic basin connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel (Figure 3.2.1). Oceanographic conditions are affected by the Loop Current, discharge of freshwater into the northern Gulf, and a semi-permanent, anti-cyclonic gyre in the western Gulf. The Gulf includes both temperate and tropical waters (McEachran and Fechhelm 2005). Gulf water temperatures range from 54º F to 84º F (12º C to 29º C) depending on time of year and depth of water. Mean annual sea surface temperatures ranged from 73 º F through 83º F (23-28º C) including bays and bayous (Figure 3.2.1) between 1982 and 2009, according to satellite-derived measurements (NODC 2012: http://accession.nodc.noaa.gov/0072888). In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters. The physical environment for Gulf reef fish, including red snapper, is also detailed in the EIS for the Generic EFH Amendment and the Generic ACL/AM Amendment (refer to GMFMC 2004a; GMFMC 2011b). Detailed information pertaining to seasonal area closures and preserves/sanctuaries is provided in the February 2010 Regulatory Amendment (GMFMC 2010).

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions; natural vertical relief structures such as coral reefs, rock outcroppings, and gravel bottoms; and artificial structures such as oilrigs and artificial reefs (GMFMC 2004b). Many of these vertical relief areas are identified as protected areas.

Red snapper demonstrate the typical reef fish life history pattern (Table 3.3.1). Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom. Spawning occurs over firm sand bottom with little relief during the summer and fall. Adult females may mature as early as 2 years and most are mature by 4 years (Schirripa and Legault 1999). Red snapper have been aged up to 57 years. Until recently, most caught by the directed fishery were 2- to 4-years old (Wilson and Nieland 2001), but a recent stock assessment suggests that the age and size of red snapper in the directed fishery has increased (SEDAR 31 2013). A more complete description of red snapper life history can be found in the EIS for the Generic EFH Amendment (GMFMC 2004a).

Red snapper are an important component of the recreational sector's harvest of reef fish in the Gulf. Recreational red snapper fishing includes charter boats, headboats (or party boats), and private anglers fishing primarily from private or rental boats. As with the commercial sector, red snapper are primarily caught with hook-and-line gear in association with bottom structures. For-hire vessels have operated under a limited access system with respect to the issuance of new for-hire permits for fishing reef fish or coastal migratory pelagics since 2003.

3. Establish the timeframe for the analysis

The timeframe for this analysis is 1986 to 2016. Additional information for the history of management is provided in Section 1.4 and 3.1. Before 1984, there were no restrictions on the recreational harvest of red snapper. In November 1984, a 12-inch TL size limit was implemented, but with an allowance for five undersized fish per person. In 1990, the undersized allowance was eliminated, and the recreational sector was managed through bag and size limits with a year-round open season. In 1997, the recreational red snapper allocation was converted into a quota with accompanying quota closure should the sector exceed its quota. Recreational quota closures occurred in 1997, 1998, and 1999, becoming progressively shorter each year even though the quota remained a constant 4.47 mp.

A fixed recreational season of April 21 through October 31 (194 days) was established for 2000 through 2007. However, NMFS and the Council returned to variable length seasons beginning in 2008. Under this management approach, due to a lag in the reporting of recreational catches, catch rates over the course of the season were projected in advance based on past trends and changes in the average size of a recreationally harvested red snapper. The recreational season opened each year on June 1 and closed on the date when the quota was projected to be reached. In 2008, the season length was reduced from 194 days to 65 days in conjunction with a reduction in quota to 2.45 mp. The season length then increased to 75 days in 2009. In 2010, the recreational red snapper season was originally projected to be 53 days. However, due to reduced effort and large emergency area closures resulting from the Deepwater Horizon MC252 oil spill, catches were below projections, and a one-time supplemental season of weekend only openings (Friday, Saturday, and Sunday) was established from October 1 through November 22. This added 24 fishing days to the 2010 season for a total of 77 days. In 2011, the season was reduced to 48 days despite an increase in the quota, due to an increase in the average size of a recreationally harvested fish. In 2012 the season was initially scheduled to be 40 days, but was extended to 46 days to compensate for the loss of fishing days due to storms (Table 3.1.3).

During the six years when the recreational harvest was an allocation, not a quota (1991 – 1996), actual recreational harvests in pounds of red snapper exceeded the allocation every year except 1996. However, these harvests may have been overestimated due to the sampling method which was altered in 1996 by implementing the for-hire phone surveys. During the period when the recreational harvest was managed as a quota (1997 – 2012), actual recreational harvest in pounds of red snapper exceeded the quota in 9 out of 16 years, including 5 of the last 6 years (Table 3.1.3). Historical recreational landings estimates have recently been revised to reflect changes in methodology under MRIP.

The following is a list of reasonably foreseeable future management actions. These are described in more detail in Step 4. Should new regulations be needed for the management of this stock, they will likely not be implemented until 2015 at the earliest, or the end of the timeframe discussed in this analysis.

- The Council is developing an amendment to consider the allocation between the commercial and recreational sectors.
- The Council is developing an amendment to modify the individual fishing quota program

based on the five year review.

- Inter-sector trading
- Sector Separation

4. Identify the other actions affecting the resources, ecosystems, and human communities of concern.

a. Past actions affecting the red snapper sector of the reef fish fishery are summarized in Section 1.4. The following list identifies more recent actions (Note past actions taken prior to Amendment 30B, and the cumulative effects of those past actions on the Reef Fish Resources of the Gulf of Mexico, are described in detail in that amendment (GMFMC 2008b) and incorporated here by reference).

- Amendment 30B was approved by the Secretary in January 2009 and the final rule was effective May 18, 2009, except for the "Edges" portion for area closures, which was effective June 24, 2009. The purpose of the amendment was to end overfishing of gag, revise red grouper management measures as a result changes in the stock condition, establish ACLs and AMs for gag and red grouper, manage shallow-water grouper to achieve optimum yield, and improve the effectiveness of federal management measures. In addition, the amendment requires that all vessels with federal commercial or charter reef fish permits must comply with the more restrictive of state or federal reef fish regulations when fishing in state waters.
- Amendment 29 was approved by the Secretary July 2009. This amendment established a grouper and tilefish individual fishing quota program (IFQ) for the commercial reef fish sector.
- Amendment 31 addressed sea turtle interactions with bottom longline fishing gear in the reef fish fishery of the Gulf of Mexico. This was implemented May 26, 2010. The management measures included a longline endorsement requirement, a restriction that only allowed longline fishing seaward of the 35-fathom depth contour from June – August, and a limitation to 1,000 hooks of which no more than 750 of which can be rigged for fishing or fished. During development of the amendment, an emergency rule was requested by the Council, effective May 18, 2009, restricting the bottom longline component of the reef fish fishery in the eastern Gulf to fishing seaward of 50 fathoms until the deepwater grouper and tilefish quotas were filled. The quotas were filled in June 2009, at which point, the reef fish bottom longline component of the fishery was closed.
- Amendment 32 established annual catch limits and annual catch targets for 2012 through 2015 for gag and for 2012 for red grouper. The amendment also established a rebuilding plan for gag; set recreational bag limits, size limits and closed seasons for gag/red grouper in 2012; contained a commercial gag and shallow-water grouper quota adjustment to account for dead discards; made adjustments to multi-use IFQ shares in the grouper individual fishing quota program; reduced the commercial gag size limit; modified the offshore time and areas closures; and revised gag, red grouper, and shallow-water grouper accountability measures. Amendment 32 became effective March 12, 2012.
- Amendment 34 to the Reef Fish Fishery Management Plan was approved by the Gulf of Mexico Fishery Management Council in February 2012, and implemented November 19,

2012. The amendment addressed crew size limits for dually permitted vessels. Dually permitted vessels are vessels with both a charter for-hire permit and a commercial reef fish permit. The amendment eliminated the earned income qualification requirement for the renewal of commercial reef fish permits and increases the maximum crew size from three to four.

- Amendment 35 set the ACL for greater amberjack at 1,780,000 pounds whole weight and established an ACT of 1,539,000 pounds whole weight. The amendment also established a 2,000-pound commercial trip limit. The rule was effective January 13, 2013.
- Amendment 37 modified the gray triggerfish rebuilding plan based on new information from the 2011 Update Assessment, which determined that the stock was not rebuilding on target. This amendment reduced the commercial and recreational annual catch targets to 60,900 and 217,100 pounds whole weight, respectively. To meet the necessary reductions, a fixed closed season from June 1 through July 31 was established for the commercial and recreational sectors. In addition, this amendment implemented a commercial trip limit of 12 gray triggerfish, established a recreational bag limit of 2-gray triggerfish per angler bag limit within the 20 reef fish aggregate, and modified the recreational accountability measures.

b. The following are recent reef fish actions not summarized in Section 1.4 but are important to the reef fish fishery in general (Note actions taken prior to Amendment 30B are described in detail in that amendment (GMFMC 2008b) and incorporated here by reference).

A 2011 regulatory amendment was approved that closed the recreational sector to harvesting greater amberjack in June and July. This measure was implemented on May 28, 2011, with the purpose of closing the sector in the summer to avoid closures in the fall and winter.

At their November 2007 meeting, the Council recognized the difficulties involved in decisions allocating reef fish total allowable catches between recreational and commercial fisheries. They established an Allocation Ad Hoc Committee to examine fair and equitable ways to allocate all fishery management plan resources between recreational and commercial fisheries. This resulted in the Council completing a Principles and Guidelines for Allocation document that is to be used to guide the Council in its allocation deliberations. These guidelines provide for a more transparent and understandable process to the various sectors in the fishery. Reef Fish Amendment 28 will likely be the amendment addressing allocation for red snapper.

The Magnuson-Stevens Reauthorization Act was enacted on January 12, 2007. It added provisions strengthening the requirements to end and prevent overfishing and rebuild U.S. stocks. It required ACLs and corresponding AMs to ensure that overfishing does not occur. It also required conservation and management measures be prepared and implemented within two years of notification that a stock is "overfished" or "subject to overfishing" to end overfishing immediately and begin rebuilding stocks. An ACL means a specified amount of a fish stock (e.g., measure of weight or numbers of fish) for a fishing year that is a maximum amount of annual total catch that can be taken, taking into account projected estimates for landings and discard mortality from all user groups and sectors (total annual catch limits can be divided into sector ACLs, provided that the sum of all sector limits cannot exceed the total ACLs). The

Magnuson-Stevens Act states that ACLs cannot exceed the recommendations of Council's SSC. Measures are required by the Magnuson-Stevens Act to ensure AMs, to specify mechanisms for establishing and setting ACLs. Reef Fish Amendments 30A and 30B addressed catch limits and accountability measures for stocks undergoing overfishing, and a 2010 red snapper regulatory amendment established that the red snapper total allowable catch is functionally equivalent to an ACL. The modified accountability measure reduced the recreational season of only the species for which the ACL was exceeded. Amendment 38, implemented in 2013, modified the reef fish framework procedure to include the addition of accountability measures to the list of items that can be changed through the standard framework procedure. This allowed for faster implementation of measures designed to maintain harvest at or below the ACL. Measures for the remaining reef fish species were developed through the Generic ACL/AM Amendment implemented in 2012.

The Marine Recreational Information Program (MRIP) is modifying the catch estimation method for recreational harvest from 2004-2010 to address improvements identified for estimation algorithms. The modifications address concerns raised in the National Resource Council (2006) that concluded the estimation methods were not be consistent with the sampling probabilities of individually sampled access sites and could result in biased estimates. Revised estimation procedures have been developed and have been applied to existing data going back to 2004. Correction of estimates prior to 2004 will also be considered in the future.

To meet the Magnuson-Stevens Act mandates to establish ACLs and AMs, the Council and NMFS implemented the Generic Annual Catch Limit Amendment in 2012, using the older Marine Recreational Fishery Statistics Survey landings (MRFSS) data. The Council is fully aware of issues surrounding changes resulting from the shift from MRFSS to MRIP. Currently, the Council is working on an amendment to revise ACLs and AMs to match the changes from MRFSS to MRIP.

c. The following are non-FMP actions which can influence the reef fish fishery.

Amendment 30B (GMFMC 2008b) describes in detail non-FMP actions relating liquefied natural gas terminals, hurricanes, fuel prices, imports, and global climate change. These are as follows:

- Some liquefied natural gas terminals use sea water to heat the gas back to its gaseous phase. For open systems, high volumes of sea water are required and are likely to result in large mortalities of marine organism eggs and larvae.
- For hurricanes, direct losses to the fishing industry and businesses supporting fishing activities occur ranging from loss of vessels to destruction of fishery infrastructure (Walker et al. 2006). However, while these effects may be temporary, those fishing related businesses whose profitability is marginal may be put out of business should a hurricane strike.
- Rising fuel costs have negative impacts on communities by increasing business costs and lowering profits.
- Most seafood consumed in the United States is imported and the quantity of imports has been steadily increasing. The effects of imports on domestic fisheries can cause fishermen to lose markets through commercial sector closures as dealers and processors

use imports to meet demand, and limit the price fishermen can receive for their products through competitive pricing of imports.

In 2005, a red tide event on the west-Florida shelf may have impacted reef fish, including red snapper populations. It has only been in the last 10 years that mortalities of higher vertebrates have been indisputably demonstrated to be due to acute red tide blooms and their brevetoxins (Landsberg et al. 2009). The extent of this event and possible effects of fish community structure has been described in Gannon et al. (2009).

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. At its maximum extent, oil from the Deepwater Horizon MC252 incident has affected more than one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico.

The cumulative effects from the Deepwater Horizon MC252 oil spill may not be known for several years. If there had 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 adult spawning population and be caught by red snapper fishers. For red snapper, this occurs at approximately 3 years of age, so a year class failure in 2010 may not be detected in the spawning populations or by harvesters of red snapper until 2013 at a minimum. The results of the studies detecting these impacts would not be available until approximately 2015. The impacts would result in reduced fishing success and reduced spawning potential, and would need to be taken into consideration in the next SEDAR assessment. An increase in the ABC, combined with possible short-term increase in natural mortality to the stock from the oil spill, could negatively impact the stock. While there have been informal reports of lesions on red snapper in the oil affected areas, the information is preliminary and has not been correlated with impacts from the oil spill. Nevertheless, absent any firm information regarding the impacts to the red snapper stock from the Deepwater Horizon MC252 oil spill, the proposed actions to delegate management measures for the recreational harvest of red snapper would better account for biological, social, and economic differences among the regions of the Gulf while providing a biological and ecological conservation equivalent management strategy and optimizing the economic and social benefits.

There is a large and growing body of literature on past, present, and future impacts of global climate change induced by human activities (Kennedy et al. 2002). 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 Web page provides basic background information on these and other measured or anticipated effects. In addition, Intergovernmental Panel on Climate Change has numerous reports addressing their assessments of climate change (http://www.ipcc.ch/publications_and_data/publications_and_data.shtml). Additional reports are provided on the Global Climate Change website http://climate.nasa.gov/scientific-consensus. 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). It is unclear how climate change would affect reef fishes, and likely would affect species differently; however, would be reasonable for the species to migrate with the optimal environmental ranges, such as water temperature. For example, there are anecdotal observations of the migratory king mackerel stocks not moving as far south in the winter as in previous years and the Gulf group king mackerel, which historically have migrated around the Florida peninsula to the east coast have been observed in smaller numbers recently. 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 in the carbon footprint from fishing.

5. Characterize the resources, ecosystems, and human communities identified in scoping in terms of their response to change and capacity to withstand stress.

This step should identify the trends, existing conditions, and the ability to withstand stresses of the environmental components. To do so requires information on socioeconomic driving variables, such as the types, distribution, and intensity of key social and economic activities within the region. In addition, indicators of stress on specific resources, ecosystems, and communities need to be identified. To assess the cumulative effects, valued environmental components (VECs) were applied.

VECs are "any part of the environment that is considered important by the proponent, public, scientists and government involved in the assessment process. Importance may be determined on the basis of cultural values or scientific concern" (NMFS 2012b). These VECs are the important resources and communities potentially affected by the proposed actions. Specifically, the important VECs for this analysis include 1) reef fish fishery; 2) Gulf ecosystem for red snapper; 3) red snapper; and 4) administrative environment relative to the management of red snapper where past present and future actions combine to have a potential cumulative effect. These are discussed in the sections that follow.

Previously, in Amendment 30B (GMFMC 2008b), important VECs were identified to examine the magnitude and significance of the cumulative effects. A total of 25 VECs were identified; however some were combined into a revised VEC because many of the past, current, and reasonably foreseeable future actions were similar. Four VECs were determined to be the most important for further consideration. These are shown in Table 4.8.1. The consequences of each alternative proposed within this document on each VEC were evaluated.

Table 4.8.1. VECs considered, consolidated, or not included for further evaluation.

VECs considered for further evaluation	VECs consolidated for further evaluation	VECs not included for further evaluation
Recreational Sector of the Reef Fish Fishery	Recreational Fishermen For-hire Fishermen Infrastructure Fishing Communities	Consumers Commercial Fishermen Dealers
Red snapper	Red Snapper	
Ecosystem - hard bottom - EFH other reef fish species	Other snapper shallow water grouper Deepwater grouper Other reef fish Prey species Competitors Predators	Sharks Protected species
Administration	Federal Rulemaking Federal Permitting Federal Education State Rulemaking/Framework	

Reef Fish Fishery

This amendment does not propose any changes to the commercial sector of the reef fish fishery, which is currently under an IFQ and has not exceeded the commercial quota since the implementation of the IFQ. Thus, the commercial sector is excluded from further analysis.

The recreational sector of the reef fish fishery is the focus of this amendment, specifically the red snapper component. Recreational red snapper fishing includes charter boats, headboats (or party boats), and private anglers fishing primarily from private or rental boats. A description of the recreational component of the fishery is provided in Section 3.1. Descriptions of the economic and social environments are provided in Section 3.4.2 and 3.5, respectively.

Determining the response to change and resilience of the recreational sector of the fishery can be related to the changes in fishing effort. Recreational effort derived from the MRFSS/MRIP databases can be characterized in terms of the number of trips as follows:

1. Target effort - The number of individual angler trips, regardless of duration, where the intercepted angler indicated that the species or a species in the species group was targeted as either the first or second target for the trip. The species did not have to be caught.
2. Catch effort - The number of individual angler trips, regardless of duration and target intent, where the individual species or a species in the species group was caught. The fish did not have to be kept.
3. Total recreational trips - The total estimated number of recreational trips in the Gulf, regardless of target intent or catch success.

Other measures of effort are possible, such as the number of harvest trips (the number of individual angler trips that harvest a particular species regardless of target intent), and directed trips (the number of individual angler trips that either targeted or caught a particular species), among other measures, but the three measures of effort listed above are used in this assessment. Because of the Deepwater Horizon MC252 oil spill, 2010 was not a typical year for recreational

fishing due to the extensive closures (Figure 3.3.1) and associated decline in fishing in much of the Gulf. For information on the Deepwater Horizon MC252 oil spill and associated closures, see: http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm. The effects of 2010 on fishing effort can be seen by comparing average effort for the period 2006-2011 with and without 2010 effort (Table 3.4.2.1). The average annual red snapper target effort for 2006-2011 was increased by approximately 9% when 2010 effort data is excluded. For red snapper catch effort, the difference was approximately 7%. Because of these differences, this assessment excludes recreational effort data for 2010 from further analysis.

Social and economic characteristics of recreational anglers are collected periodically as an add-on survey to the MRIP. Data used to monitor recreational reef fish effort in the sector primarily comes from MRFSS and MRIP and includes the number of trips and number of catch trips. Declines in effort may be a signal of stress within the sector. These trends are described in GMFMC (2010 and NMFS (2010). The level and pattern of change in recreational effort have remained stable from 1993 through 1996, fluctuated between 1997 and 1999, and then increased relatively fast since 2000. Private and charter fishing modes accounted for most of target trips, for red snapper.

Summary characteristics of the for-hire fleet were analyzed as part of the analyses for the development of the current limited access system (GMFMC 2005c). These analyses indicated for-hire operations were generally profitable. Costs associated with these businesses include bookkeeping services, advertising and promotion, fuel and oil, bait expenses, docking fees, food/drink for customers and crew, ice expenses, insurance expenses, maintenance expenses, permits and licenses, and wage/salary expense. Most vessels carry per trip about half of the maximum passenger capacity. Therefore, substantial excess capacity exists in the sector. As with the commercial sector, increases in fishing costs, increases in harvesting efficiency, more restrictive regulations, and changes in the stock status of certain species may affect effort in this sector.

In addition to the current stresses on the reef fish fishery, it is likely able to withstand the additional stress from the actions implemented for regional management. The effects of regional management previously analyzed indicate limited impacts to the recreational sector of the fishery and the associated environments. The quota for red snapper would remain similar to status quo, with limited adjustments based on new stock assessment advice. Therefore, the fishing effort for red snapper should remain similar to status quo and not cause additional stress to the reef fish fishery.

Red Snapper

The actions in this amendment could decrease the stress on the red snapper stock, if the fishing effort is distributed over a longer time period and the harvest is constraining the recreational red snapper catch to its quota. As discussed in Section 3.3, the response to change and resilience of the red snapper stock is incorporated into the stock assessment. Variation in the spawning stock biomass and yield per recruit could be indicators of changes to the status and resilience of the stock. Some sources of stress include changes in fishing pressure, habitat degradation, and derby fishing conditions from the progressively shortened seasons. Changes in fishing pressure can be examined through the recreational fishing effort information. Although the recreational sector of

the fishery does not likely cause significant habitat degradation, events such as the Deepwater Horizon MC252 Oil Spill likely caused areas with habitat degradation. Unfortunately, the information for this related habitat degradation information is not currently available. Additional stress arises from the derby fishing conditions which have been an artifact of the progressively shorter recreational seasons over the past few years. In 2013, the recreational sector had 28 days to fish for red snapper in federal waters. This concentrates the fishing effort into a short time period and likely increases the potential for high-grading, and intensified effort (vessels making more than one trip per day to catch fish). High-grading refers to keeping a bigger fish that is caught and, in turn, throwing back a previously caught smaller fish. In addition, the increased catch rates, effort increases, and short seasons suggest that the harvest could exceed the quota and OFL within a few days if the season projection is not accurate. Currently, federal management calculates the recreational red snapper landings from MRIP including the for-hire charter survey, headboat survey, and the Texas Parks and Wildlife Department's charter and private/rental creel survey. After analysis, the projected season for the following year is determined based on the bag limit and size limit. If regional management is implemented, each region would need to calculate landings and catch rates, and project the season. It is unknown whether the regions would be able to constrain harvest and that could increase the probability of exceeding the quota and OFL, thus impacting the rebuilding plan. It is likely red snapper could withstand the stress of exceeding the OFL on a short term basis, however continuous overages could affect the progress of the rebuilding plan. In turn, the regions may be able to constrain harvest as well as the current federal management, especially if the regions increase the in-season monitoring programs and real-time data for red snapper landings. This uncertainty complicates the analysis of cumulative effects.

Ecosystem

With respect to stresses to the ecosystem from actions in this amendment, regional management is not likely to create additional stress. Ideally, regional management would be a conservation equivalent to the current management measures. However, if a geographical shift in fishing effort occurs from fisherman moving to areas with different open red snapper seasons, then the impacts could be spatially concentrated during the open seasons. In turn, these focused areas could experience greater impacts on the ecosystem related to the increase in fishing pressure.

The primary gear type in the recreational harvest of red snapper is hook and line which can damage habitat through snagging or entanglement; however, as described in Section 5.1.1, these impacts are minimal compared to the overall effects of the fishery. Changes in the population size structure as a result of shifting red snapper 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. Efforts to model these interactions are still in their development stages, and so predicting possible stresses on the ecosystem in a meaningful way is not possible at this time.

As described in Part 4c of this cumulative effects analysis, the Deepwater Horizon MC252 incident affected more than one-third of the Gulf area from western Louisiana east to the panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the oil spill on the physical and biological environments are expected to be significant and may be long-term.

Administrative Environment

The stresses to the administrative environment from these actions would likely focus on the determinations of regional consistency with the FMP, and the increase in complexity of the regulations by changing from one to potentially five sets of regulations in the Gulf. However, these stresses are not expected to significantly differ from the current stresses. In 2013, several states established recreational red snapper regulations that were inconsistent with federal regulations. This caused additional stress on the administrative environment requiring additional regulations, analysis, presence of law enforcement, and increased confusion among the fishing public. The actions in this amendment would allow regions to adjust regulations to meet their regional needs while maintaining consistency with the FMP and likely reduce stress in this environment. It is unknown whether the regions would be able to constrain harvest to the quota. However, with the current federal management, the recreational sector has exceeded the allocation in 14 of 22 years in which an allocation was specified. The stock could likely withstand some overages without jeopardizing the rebuilding plan; however, continuous overages could result in a change of the stock status. However, the regions have indicated they intend to establish new monitoring procedures, which could improve the estimations for landings, but the SEFSC would need to review the sampling designs and data to insure compatibility with the current methods.

6. Characterize the stresses affecting these resources, ecosystems, and human communities and their relation to regulatory thresholds.

This section examines whether resources, ecosystems, and human communities are approaching conditions where additional stresses could have an important cumulative effect beyond any current plan, regulatory, or sustainability threshold (CEQ 1997). Sustainability thresholds can be identified for some resources, which are levels of impact beyond which the resources cannot be sustained in a stable state. Other thresholds are established through numerical standards, qualitative standards, or management goals. The CEA should address whether thresholds could be exceeded because of the contribution of the proposed action to other cumulative activities affecting resources.

Reef Fish Fishery

Both reef fish anglers and for-hire fishermen are subject to stress as a result of increases in fishing costs, increases in harvesting efficiency, more restrictive regulations, and changes in the stock status of certain species (effort shifting). Reductions in dollars generated by these entities would likely be felt in the fishery infrastructure. For the reef fish fishery, an indicator of stress would be a decline in the number of permitted vessels. Anglers are subject to increases in fuel prices and boat maintenance. For the for-hire sector, analyses conducted on the effects of the moratorium on for-hire vessel permits indicated operations were generally profitable (GMFMC 2005c). However, public testimony from for-hire operators in light of recent red snapper regulations have suggested some for-hire operators may go out of business, particularly in the northeastern Gulf (GMFMC 2007). The number of for-hire permits has declined since the moratorium, both due to failure to renew the permits in a timely manner by the fishermen and going out of business. Fishing for other species may generate distributional effects (i.e., the trips may occur from different ports, modes, or seasons, resulting in one port/entity/season losing business while another gains). These distributional effects, however, cannot be predicted with

current data. It is possible that the progressively shorter red snapper seasons could cause a fishing effort shift to other reef fish species. This additional fishing pressure could trigger AMs for the targeted species. It is likely the targeted species can withstand the addition fishing pressure, but it could alter the future quotas and season lengths.

Red Snapper

While the objective of this amendment is to provide for regional flexibility to reduce the stresses on the stock, it is possible the stresses and their relation to the regulatory threshold would remain consistent with the existing conditions. However, the ability of the red snapper stock to withstand the pressures of continual overages, fishing, and rebuilding is unknown. However, it may be assumed that more stresses on the stock may slow the rebuilding of the stock. It is possible that the regional management would better constrain harvest than the current federal management. In the past 22 years, the harvest has exceeded the quota or allocation 14 times. In response, the federal management has improved the estimations and projections for the season lengths. The implementation of regional management would provide five separate management strategies. The uncertainty of the regional management measures and season lengths could increase the probability of overages. In addition, delaying the AMs until two years after the implementation of regional management could contribute to overages. Regardless of the differences in regulatory management strategies of the regions, they are still constrained by the recreational quota for red snapper. When the harvest of red snapper reaches the quota, the federal waters must be closed to prevent overfishing. It is likely the red snapper stock could tolerate some additional stresses associated with the uncertainty of regional management.

Ecosystem

The stresses associated with the proposed actions in relation to regulatory thresholds are not likely to cause beneficial or adverse effects on the ecosystem. The actions would not change the way the fishery is prosecuted. Thus, significant effects on the ecosystem are not expected. The overall Gulf-wide fishing effort would remain constrained by the recreational quota.

Administrative Environment

The proposed actions could increase the stress on the law enforcement component of the administrative environment. If each region establishes different management measures and seasons, then the enforcement would be complicated. Although substantial enforcement occurs at the landing dock, gross violations could still be enforced at sea. With the varying regional management measures, enforcement at sea would rely on compliance with the ranges established in Action 4. Although the stress on the enforcement would likely increase with the implementation of regional management, the administrative environment should not experience significant lasting effects. In turn, the stress on the regulatory component of the administrative environment could decrease if all the regions are able to constrain recreational red snapper harvest within the regional quota. However, if the regions exceed their quotas or establish management measures inconsistent with the FMP, then the stress in relation to regulatory thresholds could increase as corrective action would be required.

7. Define a baseline condition for the resources, ecosystems, and human communities.

The purpose of defining a baseline condition for the resource and ecosystems in the area of the proposed action is to establish a point of reference for evaluating the extent and significance of expected cumulative effects.

Reef Fish Fishery

As noted in Section 3.1, a description of the fishery and affected environment relative to red snapper was last fully discussed in joint Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007). Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent on recreational fishing for red snapper. Data reflecting commercial landings of red snapper may or may not reflect areas of importance for recreational fishing of red snapper. It cannot be assumed that the proportion of commercial red snapper landings among other species in a community would be similar to its proportion among recreational landings within the same community because of sector differences in fishing practices and preferences. Thus, in addition to communities with the greatest commercial red snapper landings, the referenced analysis identifies communities with the greatest recreational fishing engagement, based on numbers of: 1) federal for-hire permits, 2) vessels designated recreational by owner address, and 3) vessels designated recreational by homeport, plus availability of recreational fishing infrastructure. The 20 Gulf communities to score highest for recreational fishing engagement based on the described analysis are listed in Table 3.4.1. Because the analysis used discrete geo-political boundaries, Panama City and Panama City Beach had separate values for the associated variables. Calculated independently, each still ranked high enough to appear in the top 20 list suggesting a greater importance for recreational fishing in that region.

Information is lacking on the social environment of these fisheries, although some economic data are available, although primarily for the commercial sector. Fishery-wide ex-vessel revenues are available dating to the early 1960s, and individual vessel ex-vessel revenues are available from 1993 when the logbook program was implemented for all commercial vessels.

Red Snapper

The baseline for the red snapper stock is based on the most recent red snapper stock assessment completed in 2013 (SEDAR 31 2013). The details are discussed in Section 3.3. The primary assessment model selected for the Gulf red snapper stock evaluation assessment was Stock Synthesis (Methot 2010). Under the base model, it was estimated that the red snapper stock has been overfished since the 1960s. Current (2011) stock status was estimated relative to two possible proxies for F_{MSY}: $F_{SPR26\%}$ (i.e., the fishing mortality rate that would produce an equilibrium spawning potential ratio (SPR) of 26%) and F_{MAX}, which corresponded to $F_{SPR20.4\%}$ (i.e., the fishing mortality rate that would produce an equilibrium SPR 20.4%). A proxy of $F_{SPR26\%}$ was previously used as the overfishing and F_{MSY} proxy in SEDAR 7 and the SEDAR 7 update assessment in 2009. F_{MAX} was evaluated as an alternative proxy because at high spawner-recruit steepness values near 1.0, such as the value of 0.99 fixed in the red snapper assessment, F_{MAX} approximates the actual estimate of F_{MSY}. However, the actual estimate of F_{MSY} is sensitive to the parameters of the spawner-recruit relationship. The SSC did not have confidence in using the direct F_{MSY} estimate due to the fact that the spawner-recruit function is poorly estimated and data exist for a very limited range of potential spawning stock biomass (SSB) for the stock. In addition, the SSC felt that the equivalent SPR for F_{MAX} (20.4%) was

inappropriately low for species such as to red snapper. The SSC felt that the $F_{SPR26\%}$ proxy, while still somewhat low for species with life history parameters similar to red snapper, was more realistic than the 20.4% SPR associated with $F_{MAX.}$ Furthermore, the $F_{SPR26\%}$ proxy is consistent with the current fishery management plan (FMP) and rebuilding plan for red snapper.

Although the red snapper stock continues to recover, spawning stock biomass is estimated to remain below both the minimum stock size threshold (MSST) and the spawning stock size associated with maximum sustainable yield ($SSB_{MSY\ proxy}$) using either proxy described above. Therefore, the SSC concluded that the stock remains overfished. With respect to overfishing, the current fishing mortality rate (geometric mean of 2009-2011) was estimated to be below both F_{MSY} proxies. Therefore, the SSC estimated the stock is not currently experiencing overfishing.

Ecosystem

A baseline for analysis of the physical environment, as discussed in Section 3.2, was conducted in the EIS for the Generic EFH Amendment (GMFMC 2004a). Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010). In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions; natural vertical relief structures such as coral reefs, rock outcroppings, and gravel bottoms; and artificial structures such as oilrigs and artificial reefs (GMFMC 2004b). Many of these vertical relief areas are identified as protected areas.

Other species in the ecosystem are discussed in Section 3.3. The Reef Fish FMP currently encompasses 31 species (Table 3.3.2). Eleven other species were removed from the FMP in 2012 through the Generic ACL/AM Amendment (GMFMC 2011b). Stock assessments and stock assessment reviews have been conducted for 13 species and can be found on the Council (www.gulfcouncil.org) and SEDAR (www.sefsc.noaa.gov/sedar) websites.

Administrative Environment

The administrative environment is described in Section 3.6. Responsibility for federal fishery management is shared by the Secretary of Commerce (Secretary) and the Council for the federal waters of the Gulf. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. The state governments of Texas, Louisiana, Mississippi, Alabama, and Florida have the authority to manage their respective state fisheries. Each of the five Gulf states exercise legislative and regulatory authority over their respective state's natural resources through discrete administrative units. Although each agency is the primary administrative body with respect to the states' natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources.

Regulations contained within FMPs are enforced through actions of NOAA's Office of Law Enforcement, the United States Coast Guard, and various state authorities. To better coordinate enforcement activities, federal and state enforcement agencies have developed cooperative agreements to enforce the Magnuson-Stevens Act. These activities are being coordinated by the Council's Law Enforcement Advisory Panel and the Gulf States Marine Fisheries Commission's Law Enforcement Committee, which have developed a 5-year "Gulf of Mexico Cooperative Law Enforcement Strategic Plan – 2008-2012."

The ability of the regions to constrain harvest causes uncertainty surrounding the effects of implementing regional management. The federal management has experienced overages of the quota or allocation in 14 of the last 22 years. However, the methods for estimating landings and projecting the season have improved consistently over time. The question remains if regions could constrain the harvest within the regional quotas; however, the regions have indicated they intend to improve monitoring for their specific regions under this plan, which should ameliorate any concerns about overages being worse. Nevertheless, NMFS would need to continue analyzing the catch rates and landings to determine whether the regional management measures constrain the harvest. If the quota is exceeded for Gulf recreational red snapper harvest, then NMFS would be required to prohibit harvest in the EEZ regardless of the regional management plans.

8. Identify the important cause-and-effect relationships between human activities and resources, ecosystems, and human communities.

Cause-and–effect relationships are presented in the tables below.

Table 4.8.2. The cause and effect relationship of fishing and regulatory actions for red snapper within the time period of the CEA.

Time periods	Cause	Observed and/or expected effects
1986 -1989	Growth and recruitment overfishing	Declines in mean size and weight
1984 -1990	Growth and recruitment overfishing Minimum size limit 13-inch	Declines in mean size and weight
1990	Rebuilding Plan established Commercial - 3.1 mp quota; Rebuilding goal of 20% SSBR	Actions estimated to achieve 20% reduction in harvest and rebuild the stock
1990-1994	Recreational- 7-fish bag limit; Minimum size limit 13 inches; open 365 days; 1.96 mp quota	Actions estimated to achieve 20% reduction in harvest
1992-2006	Commercial- Various quotas, trip limits, and seasons ranging from 52 to 236 days leading to exceeding the quota during 9 years.	Constrain commercial harvest.
1995-1996	Recreational- 5-fish bag limit; Minimum size limit 15 inches; open 365 days	Constrain recreational harvest to the quota.
1997-2006	Recreational- Adjustments in minimum size from 15 inches to 16 inches, bag limit 5 to 4 fish and length of season.	Constrain recreational harvest to the quota.
2007-2013	Commercial- Established Individual Fishing Quota Program (IFQ)	End overfishing; reduce harvest; provide harvest limits to achieve sustainability; IFQ to further control commercial sector to prevent overages; increase in administrative work to manage the IFQ.
2007-2013	Recreational - Reduction of bag limit to 2 fish and adjustment of season length	Constrain recreational harvest to the quota. Progressively shorter seasons.
2013	Overfishing has ended, but the stock remains overfished.	Continue rebuilding plan

9. Determine the magnitude and significance of cumulative effects.

The primary objectives of this amendment and associated EIS are to facilitate state management of the recreational red snapper component in the reef fish fishery by reorganizing the federal fishery management strategy to better account for biological, social, and economic differences among the regions of the Gulf. Actions 1-4 address the components of the delegation of management for the recreational harvest of red snapper. Action 5 considers a provision for the charter for-hire vessels in the case of inconsistent regulations. Action 6 and 7 provide provisions

for accountability measures and default measures. The short- and long-term direct and indirect effects of each these actions are provided in Sections 4.1 through 4.7.

Recreational Sector of the Reef Fish Fishery

Adverse or beneficial effects of actions to vessel owners, captains, and crew are tied to the ability for a vessel to make money. The greater the difference between expenses and payment for caught fish or services, the more revenue is generated by the fishing vessel. Relative to this amendment, both the commercial and recreational sectors have benefited from past actions in the reef fish fishery. By being able to harvest these species unhindered by regulations prior to 1990, many vessels have been able to enter the fishery. However, lack of management led to the depletion of many stocks. Current management measures have had negative, short-term economic impacts and have resulted in limiting fishing effort. Many reasonably foreseeable future actions are likely to continue these short-term negative impacts on the sectors to rebuild stocks as needed. However, as stocks continue to improve, economic benefits are being realized by the sectors through increased harvest levels for some species. Non-management related reasonably foreseeable future actions, which could affect the sectors, include hurricanes and increases in fishing costs (e.g., fuel). Hurricanes are unpredictable and localized in their effects. Increases in fishing costs, unless accompanied by a similar increase in price per pound of fish (commercial) or price per trip (for hire), are likely to decrease the profitability of fishing operations.

The effects of various past, present, and reasonably foreseeable future actions on anglers are measured through levels of participation in the sector. It is difficult to assess what affects past and present management measures have had on anglers because the amount of effort by the private sector has continually increased where data were available. Therefore, it is difficult to link changes in participation to specific management actions. Likely, the effects of how various management measures have affected participation by anglers is similar to the effects on the for-hire industry discussed above. This includes outside factors such as hurricanes and increasing fuel and other costs.

The infrastructure that supports fisheries is tied to the commercial and recreational sectors and can be affected by adverse and beneficial economic conditions in those fisheries. Therefore, the effects of past, present, and reasonably foreseeable future actions to the infrastructure should reflect responses by the sectors.

Red Snapper

In the past, the lack of management of reef fish has allowed many stocks to undergo both growth and recruitment overfishing. This has allowed some stocks to decline as indicated in numerous stock assessments. Present management measures work to limit the harvest to sustainable levels; however, these measures may have redirected fishing effort towards other reef fish species. Reasonably foreseeable future actions are expected to benefit managed species as described in steps 3 and 4 of this cumulative effects analysis.

While the objective of this amendment is to provide for regional flexibility to account for differences between regions, the overall effects should remain consistent with the existing conditions. Regardless of the differences in regulatory management strategies of the regions,

they are still constrained by the recreational quota for red snapper. When the harvest of red snapper reaches the quota, the federal waters must be closed to prevent overfishing. Action 4 limits the management measures and ranges for the regions to establish. It is uncertain if the regions would be able to constrain harvest with their management measures. However, even if a region does not establish management measures to adequately constrain the harvest, the alternatives in Action 6 and Action 7 should prevent significant harvest overages of red snapper. NMFS would need to analyze the landings in a timely manner and, if necessary, prohibit harvest in the EEZ to prevent exceeding the OFL. It may be necessary to improve the timeliness of the monitoring data to decrease the chance of exceeding the OFL.

Ecosystem

The past and present effects of different actions on habitat are described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b). Past management measures have provided protections to reef fish by constraining gear types to those that have lower adverse effects on habitat (e.g., vertical and longline) and outlawing gear types that damage habitat (e.g., roller trawls and fish traps). Current management measures of the reef fish fishery have likely been beneficial to hard bottom areas because they limit effort, thus restricting the amount of gear that interacts with the bottom. Reef fish EFH, particularly coral reefs and submerged aquatic vegetation, are particularly susceptible to non-fishing activities (GMFMC 2004b) such as dredge-and-fill activities, and oil and gas activities, and changes in freshwater inflows. As described in Part 4c of this cumulative effects analysis, the potential harm to reef fish habitat was highlighted by the Deepwater Horizon MC252 incident. Essential fish habitat (EFH) and habitat areas of particular concern (HAPC) designations described in the Generic Essential Fishery Habitat Amendment (GMFMC 2004b) are intended to promote careful review of proposed activities that may affect these important habitats to assure that the minimum practicable adverse impacts occur on EFH. However, NMFS has no direct control over final decisions on such projects. The cumulative effects of these alternatives depend on decisions made by agencies other than NMFS, as NMFS and the Council have only a consultative role in non-fishing activities.

In the past, the lack of management of reef fish has allowed many stocks to undergo both growth and recruitment overfishing. This has allowed some stocks to decline as indicated in numerous stock assessments. Present management measures work to limit the harvest to sustainable levels; however, these measures may have redirected fishing effort towards other reef fish species. Reasonably foreseeable future actions are expected to benefit managed species as described in steps 3 and 4 of this cumulative effects analysis. These measures are intended to prevent overfishing and allow for sustainable fisheries.

Administrative Environment

The past and present effects of different actions on the administration of fisheries are described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b). Administration of fisheries is conducted through federal (including the Council) and state agencies which develop and enforce regulations, collect data on various fishing entities, and assess the health of various stocks. As more regulations are required to constrain stock exploitation to sustainable levels, greater administration of the resource is needed. The NMFS law enforcement, in cooperation with state agencies, would continue to monitor regulatory

compliance with existing regulations and NMFS would continue to monitor both recreational and commercial landings to determine if landings are meeting or exceeding specified quota levels. Further, stock status needs to be periodically assessed to ensure stocks are being maintained at proper levels. Some present actions have assisted the administration of fisheries in the Gulf such individual fishing quota programs and the use of vessel monitoring systems to track vessels. Reasonably foreseeable future actions are designed to improve stock status. This will require increases in the administrative burden to ensure harvest is constrained at a level maintaining stock sustainability.

The Council aims to have consistent recreational red snapper regulations in the federal and state waters. For the most part, the states have established consistent regulations for the red snapper recreational season, excluding Texas. However, in 2013, only Alabama and Mississippi established consistent regulations. The lack of consistent regulations is likely related to the reduction of the season length from 2012 of 45 days to 2013 of 28 days. This amendment aims to encourage consistent regulations in state and federal waters by delegating specific management measures to the regions.

10. Modify or add alternatives to avoid, minimize, or mitigate significant cumulative effects.

The objective of regional management is to provide flexibility to the regions to establish management measures that account for the differences between regions while maintaining conservation equivalent measures in comparison to the current regulations. It is reasonably expected the effects on the physical environment would not change under the current management regime. It is more likely cumulative effects from this action would occur in the biological environment for red snapper stock to be overfished. Overfishing the stock would jeopardize the goals of the rebuilding plan. Changing from one to potentially five management regions through these actions could potentially lead to overharvesting the stock if proper controls on fishing are not implemented. While NMFS would still oversee the management strategies of each region to determine consistency, the regions would have authority establish various regulations. In order to avoid, minimize, or mitigate significant cumulative effects; the amendment includes Action 4, Action 6, and Action 7. The alternatives in Action 4 specify the management measures delegated to the regions. The limited delegation minimizes the potential for the region to set management measures inconsistent with the fishery management plan (FMP) which would reduce the cumulative effects. The alternatives in Action 6 provide post-season accountability measures to mitigate for a region not constraining harvest to the apportioned regional quota. The states have indicated they will implement additional monitoring programs to better estimate the recreational harvest during the open season. In addition, the alternatives in Action 7 establish default regulations for situations in which a region is determined to be inconsistent with the FMP or opts out of regional management. Action 6 and Action 7 minimize and mitigate for the overharvest of red snapper by accounting for the potential overharvest and constraining harvest.

11. Monitor the cumulative effects of the selected alternative and modify management as necessary.

The implementation of regional management would require NMFS to continue monitoring the harvest of red snapper and analyzing the landings. Monitoring the harvest is necessary to determine if the quota is exceeded and to prohibit further harvest to insure the OFL is not also exceeded. It is uncertain if the regions would be able to constrain harvest within their quotas and whether the monitoring data would provide timely data to prevent overages. The timing of the data may be critical for NMFS to determine is the quota has been met. At this time, the MRIP data is provided at two month intervals. This is problematic for analysis when the recreational red snapper season is shorter than two months. The states have indicated they will implement additional monitoring programs to provide more timely data for landings. However, to integrate new datasets into the stock assessment, the SEFSC would need to determine the monitoring programs would be compatible.

The effects of the proposed actions are, and will continue to be, monitored through collection of landings data by NMFS, 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 MRIP, NMFS' Headboat Survey, and the Texas Marine Recreational Fishing Survey. MRIP replaced an older system (MRFSS), and is designed to improve the monitoring of recreational fishing. Commercial data is collected through trip ticket programs, port samplers, and logbook programs; for red snapper commercial data is collected in near real-time through the IFQ system. The most recent SEDAR assessment of Gulf red snapper was in May 2013 and the next is scheduled for 2015.

4.9 Unavoidable Adverse Effects

Unavoidable adverse effects are described in detail in Section 5.15 of Amendment 30B (GMFMC 2008b). Until now, the Council has constrained recreational harvest of red snapper by establishing catch quotas, minimum size limits, bag limits, and seasonal closures which are generally effective in limiting total fishing mortality, the type of fish targeted, the number of targeted fishing trips, and/or the time spent pursuing a species. However, these management tools have the unavoidable adverse effect of creating regulatory discards. Discard mortality must be accounted for in a stock assessment as part of the allowable biological catch, and thus restricts total allowable catches. By delegating management measures to the regions, it will be more difficult to estimate these adverse effects. The alternatives considered in this amendment for the delegated management measures provide a range for the minimum size and bag limits. However, the management measures set by the region will either directly or indirectly affect the bycatch and discards. In addition, if regions establish varying seasons, then fishing effort shift may occur. This would need to be considered for the catch and fishing effort.

Actions considered in this amendment should not have adverse effects on public health or safety because these measures should not alter actual fishing practices, just how, when, and where activities can occur. This could have indirect effects if a region selected an open season that was more impacted by non-fishing events, such as weather (i.e., winter seasons with strong cold

fronts and high seas, or a core fishing season during prime Gulf hurricane season). Unique characteristics of the geographic area are highlighted in Chapter 3. Adverse effects of fishing activities on the physical environment are described in detail in Section 3.2. This section concludes little impact on the physical environment should occur from actions proposed in this document as it will not change the way in which the fishery is prosecuted. Uncertainty and risk associated with the measures are described in detail in the same sections as well as assumptions underlying the analyses.

4.10 Relationship between Short-term Uses and Long-term Productivity

The primary objective of this amendment and associated EIS is to facilitate management of the recreational red snapper component in the reef fish fishery by reorganizing the federal fishery management strategy to better account for biological, social, and economic differences among the regions of the Gulf. The relationship between short-term economic uses and long-term economic productivity are discussed in the preceding section. However, because red snapper is but one species in the reef fish complex, these effects may be mitigated through effort shifting to other species and may not be significant.

The alternatives being considered are not likely to have short-term negative effects. However, if regional management is established and the regions cannot constrain harvest of red snapper to the apportioned quota, then long-term negative effects on the biological environment could occur from overharvests. In addition, corrective action to constrain harvest could have negative impacts on the social and economic environments. The range of alternatives has varying degrees of economic costs and administrative burdens. In general, some alternatives have relatively small short-term economic costs and administrative burdens, but would also provide smaller and more delayed long-term benefits. Other alternatives have greater short-term costs, but provide larger and more immediate long-term benefits.

4.11 Mitigation, Monitoring, and Enforcement Measures

Mitigation, monitoring and enforcement measures are described in detail in the cumulative effects analysis of Amendment 30B (GMFMC 2008b). The process of delegating the management for the harvest of recreational red snapper is expected to be a conservation equivalent to the current management strategy concerning the impacts on the physical and biological environments. The allocation of the recreational quota to the regions (Action 3) would mitigate for overharvest by maintaining the total harvest to the Gulf-wide recreational ACL even though it is divided between regions. The delegated management measures (Action 4) limit the ranges for the bag limit and minimum size limit based on the previous management strategies and biological information, respectively. The impacts of the management strategies established by the regions would be further mitigated by specifying the range for the delegated management measures. The provision of the federal for-hire permit requiring compliance with the more restrictive federal regulations while fishing in state waters (Action 5) was intended to

mitigate for the potential overharvest of the for-hire/charter fishermen and promote state consistency with the federal regulations. However, with regional management, this provision is no longer necessary for red snapper and can be removed as the regions would be establishing consistent regulations throughout their state and federal waters. The post-season accountability measures (Action 6) intend to mitigate the potential overharvest of recreational red snapper by encouraging the regions to constrain harvest each year to prevent a reduction of their quota for the following year. The establishment of default federal regulations (Action 7) would mitigate the harvest of red snapper in regions with suspended delegation or have opted out of regional management. The default regulations provide the authority to close areas associated with those regions, while still allowing compliant regions to be open for the recreational harvest of red snapper.

To ensure red snapper continue to rebuild and harvest does not exceed optimum yield, periodic reviews of stock status are needed. These reviews are designed to incorporate new information and to address unanticipated developments in the respective fisheries and would be used to make appropriate adjustments in the reef fish regulations should harvest not achieve optimum yield objectives. The details for how assessments are developed, reviewed, and applied are described in Amendment 30B, as are the rule-making options the Council and NMFS have for taking corrective actions (GMFMC 2008b).

Providing regions flexibility to establish management measures is expected to benefit the social and economic environments. This action may slightly increase resources needed by the administrative environment through the increased complexity of the enforcement. This complexity develops from each region setting regulations for season, bag limit, and size limit. In contrast, the current management sets a Gulf-wide season for federal waters. Most states have previously established seasons consistent with the federal season, excluding Texas. However, Florida and Louisiana had inconsistent regulations in 2012. Thus, the current management system could increase the degree of state inconsistency. Regardless, the effects of the actions are not likely to require mitigation.

Current reef fish regulations are labor intensive for law enforcement officials. NMFS law enforcement officials work cooperatively with other federal and state agencies to keep illegal activity to a minimum. Violators are penalized, and for reef fish commercial and reef fish for-hire operators, permits required to operate in their respective fisheries can be sanctioned.

Reef fish management measures include a number of area-specific regulations where reef fish fishing is restricted or prohibited in order to protect habitat or spawning aggregations of fish, or to reduce fishing pressure in areas that are heavily fished. Additionally, this amendment includes alternative to expand existing or create new marine reserves. To improve enforceability of these areas, the Council has established a vessel monitoring system program for the commercial reef fish sector to improve enforcement. Vessel monitoring systems allows NMFS enforcement personnel to monitor compliance with these area-specific regulations, and track and prosecute violations.

4.12 Irreversible and Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of agency resources proposed herein. The actions establishing regional management are changeable by the Council at any time in the future. In addition, there are provisions for regions to opt out of regional management. These actions should better account for biological, social, and economic differences among the regions of the Gulf and provide social and economic benefits while maintaining conservation equivalent management.

4.13 Any Other Disclosures

CEQ guidance on environmental consequences (40 CFR §1502.16) indicates the following elements should be considered for the scientific and analytic basis for comparisons of alternatives. These are:

a) Direct effects and their significance.
b) Indirect effects and their significance.
c) Possible conflicts between the proposed action and the objectives of federal, regional, state, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned.
d) The environmental effects of alternatives including the proposed action.
e) Energy requirements and conservation potential of various alternatives and mitigation measures.
f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.
g) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.
h) Means to mitigate adverse environmental impacts.

Items a, b, d, e, f, and h are addressed in Chapters 2 and 3, and Sections 4.1-4.7. Items a, b, and d are directly discussed in Sections 2 and 5. Item e is discussed in the economic analyses. It is unknown if these actions would result in energy conservation through fewer fishing trips; however, it is more likely to be an energy conservation equivalent. Item f is discussed throughout the document as fish stocks are a natural and depletable resource. A goal of this amendment is to make these stocks sustainable resources for the nation. Mitigations measures are discussed in Section 5.11. Item h is discussed in Chapters 3 and 5, with particular mention in Section 5.12. (further update after RIR is provided)

The other elements are not applicable to the actions taken in this document. Because this amendment concerns the management of a marine fish stock, it is not in conflict with the objectives of federal, regional, state, or local land use plans, policies, and controls (Item c). Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures (Item g) is

not a factor in this amendment. The actions taken in this amendment will affect a marine stock and its fishery, and should not affect land-based, urban environments.

On September 30, 2011, the Protected Resources Division released a biological opinion that analyzed the best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC 252 oil release event in the northern Gulf of Mexico), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf of Mexico reef fish fishery is also not likely to jeopardize the continued existence of green, hawksbill, Kemp's ridley, leatherback, or loggerhead sea turtles, nor the continued existence of smalltooth sawfish (NMFS 2011). On December 7, 2012, NMFS published a proposed rule to list 66 coral species under the ESA and reclassify *Acropora* from threatened to endangered (77 FR 73220). In a memorandum dated February 13, 2013, NMFS determined the reef fish fishery was not likely to adversely affect *Acropora* because of where the fishery operates, the types of gear used in the fishery, and that other regulations protect *Acropora* where they are most likely to occur.

With regards to the Marine Mammal Protection Act, fishing activities under the FMP should have no adverse impact on marine mammals. The proposed actions are not expected to substantially change the way the fishery is currently prosecuted (e.g., types of methods, gear used, etc.). The primary gears used in the recreational sector of Gulf reef fish fishery (hook-and-line) are classified in the updated 2013 Marine Mammal Protection Act List of Fisheries as Category III fishery (78 FR 53336). This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to one percent of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock, while allowing that stock to reach or maintain its optimum sustainable population.

CHAPTER 5. REGULATORY IMPACT REVIEW

[This review is completed after selection of all preferred alternatives.]

CHAPTER 6. REGULATORY FLEXIBILITY ACT ANALYSIS

[This analysis is completed after selection of all preferred alternatives.]

CHAPTER 7. BYCATCH PRACTICABILITY ANALYSIS

Introduction

Bycatch is defined as fish harvested in a fishery, but not sold or retained for personal use. This definition includes both economic and regulatory discards, and excludes fish released alive under a recreational catch-and-release fishery management program. Economic discards are generally undesirable from a market perspective because of their species, size, sex, and/or other characteristics. Regulatory discards are fish required by regulation to be discarded, but also include fish that may be retained but not sold.

Agency guidance provided at 50 CFR 600.350(d)(3) identifies ten factors to consider in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable. These are:

1. Population effects for the bycatch species;
2. Ecological effects due to changes in the bycatch of that species (effects on other species in the ecosystem);
3. Changes in the bycatch of other species of fish and the resulting population and ecosystem effects;
4. Effects on marine mammals and birds;
5. Changes in fishing, processing, disposal, and marketing costs;
6. Changes in fishing practices and behavior of fishermen;
7. Changes in research, administration, and enforcement costs and management effectiveness;
8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources;
9. Changes in the distribution of benefits and costs; and
10. Social effects.

The Regional Fishery Management Councils are encouraged to adhere to the precautionary approach outlined in Article 6.5 of the Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries when uncertain about these factors.

Bycatch practicability analyses of the reef fish fishery have been provided in several reef fish amendments and focused to some degree on the component of the fishery affected by the actions covered in the amendment. For red snapper, bycatch practicability analyses were completed for Amendments 22 and 27 to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico (GMFMC 2004b and 2007). Other bycatch practicability analyses were conducted in the following amendments (component of the fishery affected by the actions): Amendment 23 (vermilion snapper; GMFMC 2004c), Amendment 30A (greater amberjack and gray triggerfish; GMFMC 2008a), Amendment 30B (gag, red grouper, and other shallow-water grouper; GMFMC 2008b), Amendment 31 (longline sector; GMFMC 2009), Amendment 32 (gag and red grouper; GMFMC 2011c), Amendment 35 (greater amberjack; GMFMC 2012a); Amendment 37 (gray triggerfish; GMFMC 2012b), and Amendment 38 (shallow-water grouper; GMFMC 2012c). In addition, a bycatch practicability analysis was conducted for the Generic Annual Catch Limits/Accountability Measures Amendment (GMFMC 2011b) that covered the Reef

Fish, Coastal Migratory Pelagics, Red Drum, and Coral Fishery Management Plans. In general, these analyses found that reducing bycatch provides biological benefits to managed species as well as benefits to the fishery through less waste, higher yields, and less forgone yield. However, in some cases, actions are approved that can increase bycatch through regulatory discards such as increased minimum sizes and closed seasons. In these cases, there is some biological benefit to the managed species that outweighs any increases in discards.

Red Snapper Bycatch

The reef fish fishery directed at red snapper has been regulated to limit harvest in order that the stock can recover from an overfished condition. Regulations for the recreational sector include catch quotas, minimum size limits, bag limits, and seasonal closures. These are used to limit the harvest to levels allowed under the rebuilding plan. For the commercial sector, regulations previously included catch quotas, minimum size limits, seasonal closures, and trip limits. Now the sector is managed under an individual fishing quota (IFQ) program that was established in 2007. The program eliminates the need for seasonal closures and trip limits. Red snapper regulations have been generally effective in limiting fishing mortality, the size of fish targeted, the number of targeted fishing trips, and/or the time fishermen spend pursuing a species. However, these management tools have the unavoidable adverse effect of creating regulatory discards, which makes reducing bycatch challenging, particularly in the recreational sector.

An important aspect to red snapper bycatch is the penaeid shrimp fishery as previously described in Amendment 27/14 (GMFMC 2007). The shrimp fishery catches primarily 0-2 year old red snapper. To reduce red snapper bycatch, the Gulf of Mexico Fishery Management Council (Council) implemented regulations requiring the use of bycatch reduction devices (GMFMC 2002) and setting bycatch reduction targets (currently a 67% reduction from the baseline years 2001-2003; GMFMC 2007). Between the use of bycatch reduction devices and reductions in shrimp effort due to economic factors (Figure 7.1), the target reductions have been met.

Although red snapper bycatch in the shrimp fishery is an important source of mortality for this stock, this bycatch practicability analysis will focus on the directed reef fish fishery managed under the Fishery Management Plan for Reef Fish Resources of the Gulf of Mexico. Bycatch from the shrimp fishery has been and will be analyzed in the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters.

Figures 7.2 and 7.3 show the relative number of discards for the recreational and commercial sectors as estimated by SEDAR 31 (2013). For the recreational sector, open season discards estimated through the Marine Recreational Information Program (MRIP) (charter and private angler) declined around 2007 as the recreational season got shorter due lower quotas. This trend is also apparent in the headboat data for the western Gulf of Mexico (Gulf). However, with shorter seasons of the past few years, the number of discards during the longer closed seasons increased (Figure 7.2). For the commercial sector, discards in the eastern handline and longline sectors have increased since the implementation of the IFQ program relative to the western Gulf. This may reflect a shift in fishing effort that has resulted in the program. Note that for the commercial sector, closed season discards after the IFQ program was implemented refers to vessels with little or no red snapper allocation (see SEDAR 31 2013).

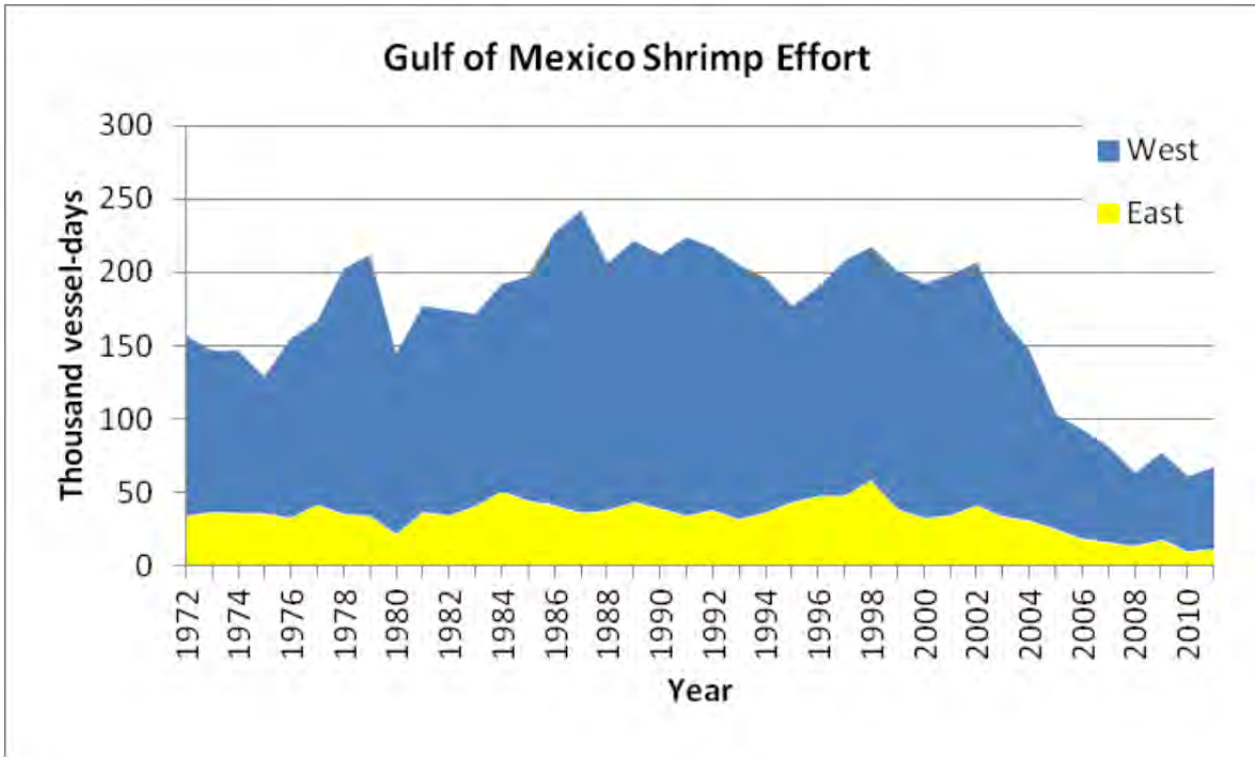

Figure 7.1. Gulf shrimp fishery effort (thousand vessel-days) provided by the National Marine Fisheries Service Galveston Lab. The reported effort does not include the average effort values used to fill empty cells. Source: Linton 2012b.

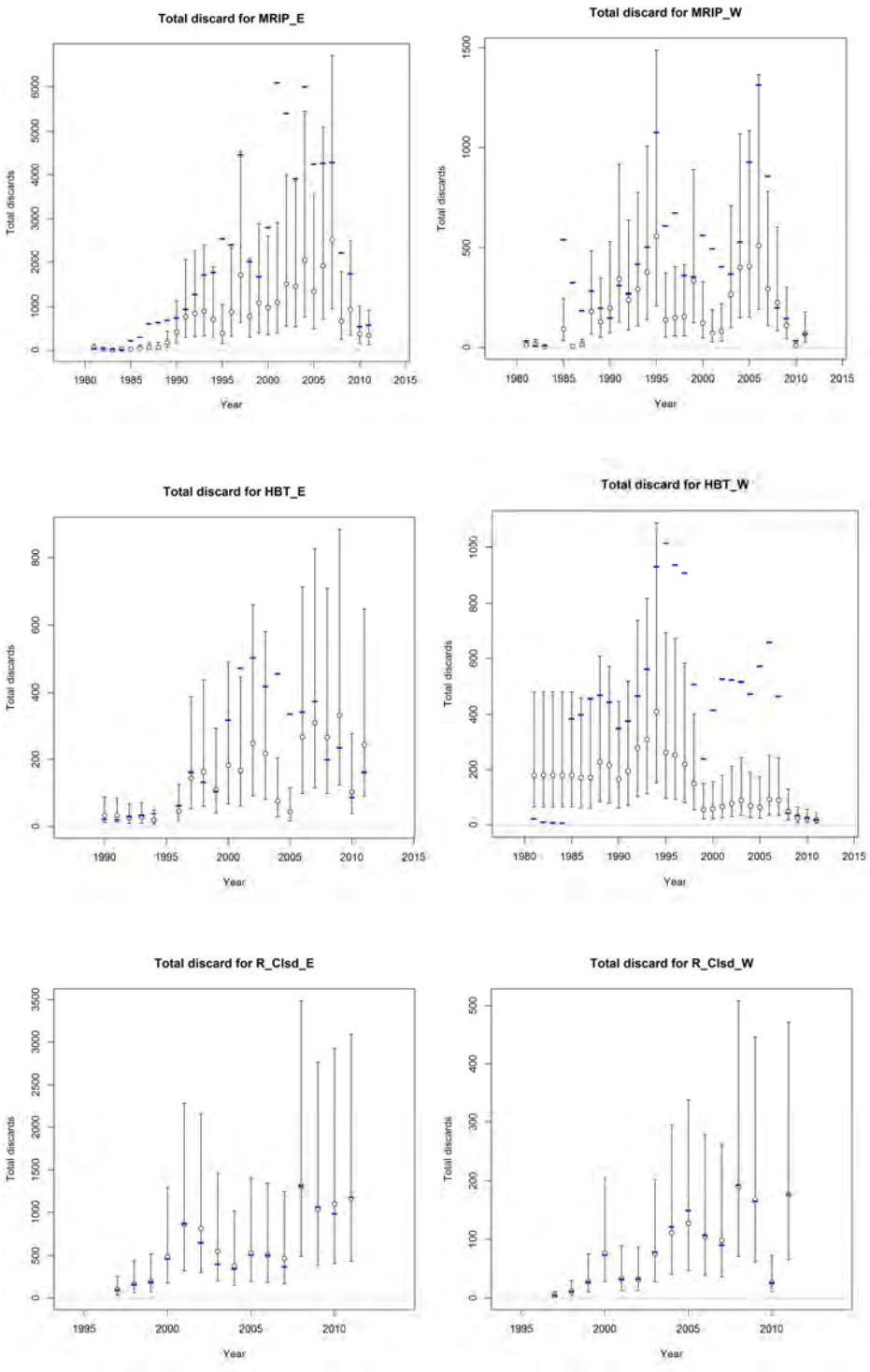

Figure 7.2. Observed (open circles) and predicted total discards (blue dashes) of red snapper from the private angler open season (top), headboat open season (middle), and recreational closed season in the eastern (left) and western (right) Gulf, 1997-2011. Source: SEDAR 31 2013.

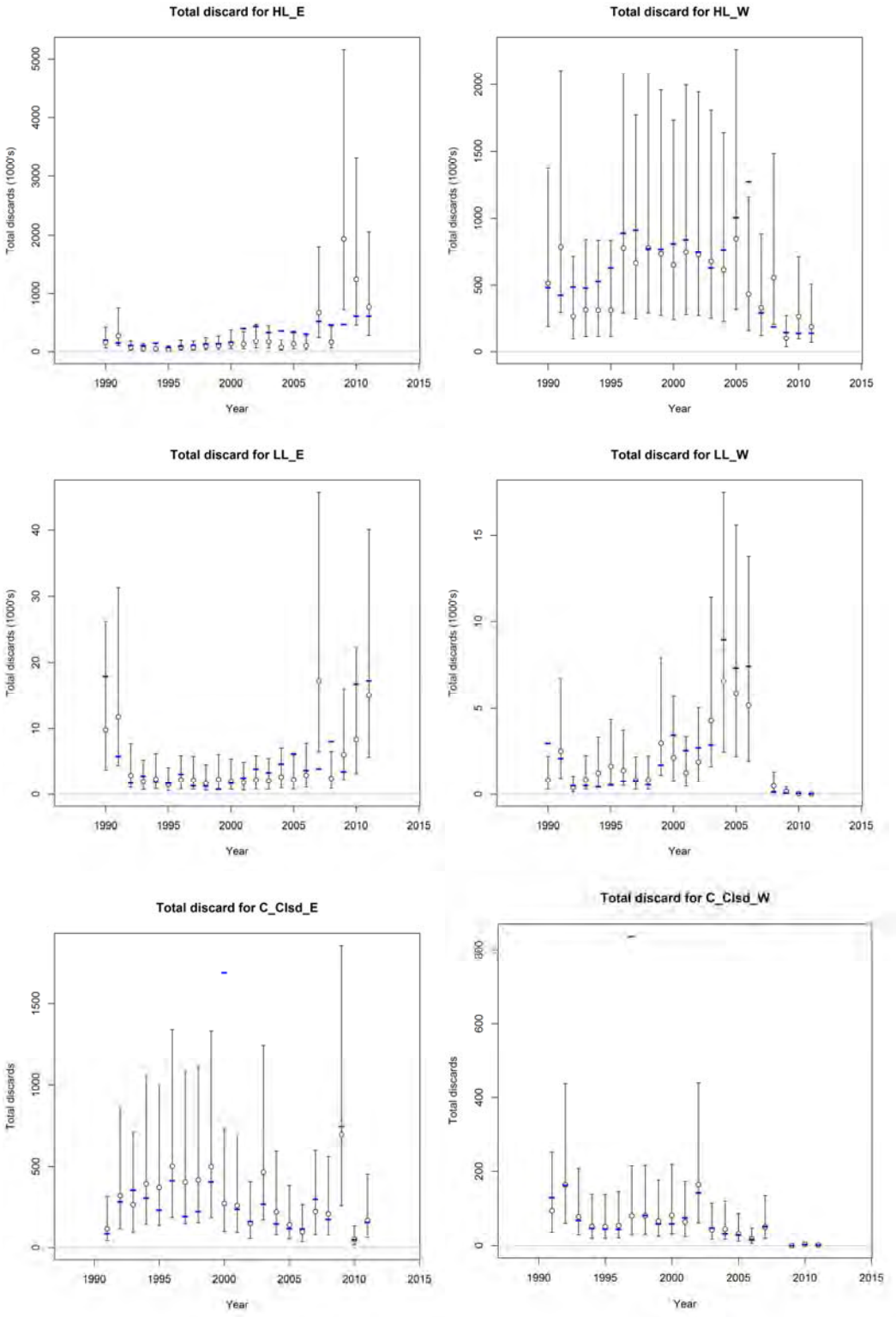

Figure 7.3. Observed (open circles) and predicted total discards (blue dashes) of red snapper from the commercial handline open season (top), longline open season (middle), and commercial closed season in the eastern (left) and western (right) Gulf, 1997-2011. Source: SEDAR 31 2013.

Campbell et al. (2012) identified several causes of red snapper discard mortality in their review of release mortality in the directed reef fish fishery. These included hooking injuries, thermal stress, and barotrauma. Campbell et al. (2012) reviewed 11 studies that listed discard (release) mortality rates ranging from 0 to 79%. They reported that mortality tended to increase with capture depth, increasing water depth, or from some compounding effect of these two factors. Burns et al. (2004) and Burns and Froeschke (2012) examined the feeding behavior of red snapper and found red snapper quickly chew and swallow their prey. As a result, there is less time to set a hook while fishing, resulting in greater probability of hooking related injuries. Burns et al. (2004) concluded hook-related trauma accounted for a greater portion of release mortality than depth, despite catching red snapper at depths ranging from 90 to 140 feet.

Although Campbell et al. (2012) did not specifically address surface interval and predation, these factors were identified in GMFMC (2007) as contributing to release mortality. Burns et al. (2002) found survival of red snapper increased the faster red snapper were returned to the water, thus they considered any reductions in surface interval/handling time an important way to reduce release mortality. Several studies have documented predation on released red snapper. Dolphins and pelicans are the two most commonly observed predators and are known to pursue released fish, as well as fish before they are landed (SEDAR 7 2005). Several studies, which assessed release mortality through surface observations, accounted for predation when estimating release mortality (Patterson et al. 2001; Burns et al. 2004; Wilson et al. 2004).

A variety of release mortality rates have been used in different stock assessment. The 1999 red snapper stock assessment (Schirripa and Legault 1999) assumed release mortality rates of 33 percent for the commercial fishery and 20 percent for the recreational fishery. These release mortality rates were derived from the literature and were determined by the Council's Reef Fish Stock Assessment Panel to be the best available estimates at the time (RFSAP 1999). During development of the 2005 red snapper stock assessment, the SEDAR 7 data workshop panel (SEDAR 7 2005) reviewed available information on depth of fishing and release mortality by depth to produce fishery specific release mortality rates by region (eastern and western Gulf), season (open and closed), and by sector (commercial and recreational). Estimates of release mortality rates ranged 15% for recreationally caught and released red snapper in the eastern Gulf to 88% for commercially caught and released red snapper in the western Gulf caught during a season closure (Table 7.1).

Table 7.1. Mean/median depth of fishing and corresponding release mortality rates for red snapper by fishery, region, and season.

Fishery	Region	Season	Depth of Capture	Release Mortality
Commercial	East	Open	180 ft (55 m)	71%
	East	Closed	180 ft (55 m)	71%
	West	Open	190 ft (58 m)	82%
	West	Closed	272 ft (83 m)	88%
Recreational	East	Open	65-131 ft (20-40 m)	15%
	East	Closed	65-131 ft (20-40 m)	15%
	West	Open	131 ft (40 m)	40%
	West	Closed	131 ft (40 m)	40%

Source: SEDAR 7 2005.

In the most recent benchmark stock assessment (SEDAR 31, 2013), a meta-analysis was used to estimate red snapper release mortality using the 11 studies reviewed by Campbell et al. (2012). A venting/no venting component was added to account for the requirement to vent reef fish put in place through Amendment 27 (GMFMC 2007) as well as a gear component. For the commercial sector, average depths at which discards occurred for each gear (handline or long line), region (eastern or western Gulf), and season (open or closed) were calculated using commercial observer program data. Consistent with how commercial discards have been treated in other parts of the assessment, discards from trips with IFQ allocation were considered open season discards, while discards from trips with no IFQ allocation were considered closed season discards. For the recreational sector, average depths at which discards occurred for each region (eastern or western Gulf) and season (open or closed) were calculated using self-reported data from the iSnapper program. Estimated release mortality rates ranged from 10 to 95% with commercial release mortality rates greater than recreational release mortality rates (Tables 7.2 and 7.3).

SEDAR 31 (2013) estimated the total number of fish killed (landed and discarded dead) by the commercial and recreational sectors from 1983 to 2011 (Table 7.4). For the recreational sector, the percentage of dead discards to total fish killed has declined since a peak in 2001. However, it was not until 2007 that the number of dead discards was consistently less than the number of landed fish. For the commercial sector, the percentage of dead discards peaked in 2000, but it was not until 2010 that the number of dead discards declined less than 40% of the total fish killed.

Since 1996, more red snapper have been landed in the eastern Gulf than the western Gulf by the recreational sector (Table 7.5). A drop in the percentage of dead discards relative to the total number of fish killed occurred in both regions in 2008. The percentage of dead discards fell from 49.4% to 36.7% between 2007 and 2008 for the eastern Gulf and from 50.0% to 20.3% between 2007 and 2008 in the western Gulf. For the commercial sector, in the eastern Gulf the number of dead discards has generally been above 50% indicating that there are more discards were killed than landed (Table 7.5). In contrast, in the western Gulf there has been a falling off in the percentage of dead discards relative to the total number of killed fish since 2006 to well below 50%.

Table 7.2. Average depths and associated discard mortality rates for commercial discards of red snapper in the Gulf.

Gear	Handline				Longline			
Region	East		West		East		West	
Season	Closed	Open	Closed	Open	Closed	Open	Closed	Open
Average Depth (m)	24	45	84	53	66	62	132	104
Disc Mort - no venting	0.74	0.75	0.87	0.78	0.82	0.81	0.95	0.91
Disc Mort - venting	0.55	0.56	0.74	0.60	0.66	0.64	0.88	0.81

Source: SEDAR 31 2013.

Table 7.3. Average depths and associated discard mortality rates for recreational discards of red snapper in the Gulf.

Gear	Recreational			
Region	East		West	
Season	Open	Closed	Open	Closed
Average Depth (m)	33	34	36	35
Disc Mort - no venting	0.21	0.21	0.22	0.22
Disc Mort - venting	0.10	0.10	0.11	0.10

Source: SEDAR 31 2013.

Table 7.4. Estimates of the total number of red snapper landed, the number of dead discards, and percent dead discards for all killed fish for the recreational and commercial sectors by year in the Gulf.

	Recreational			Commercial		
Year	Landed	Dead Discards	Percent dead discards	Landed	Dead Discard	Percent dead discards
1983	3,314,185	8,599	0.3%	4,559,794	80,758	1.7%
1984	1,232,024	2,699	0.2%	2,775,042	33,579	1.2%
1985	1,427,026	255,716	15.2%	1,234,986	351,105	22.1%
1986	1,265,955	223,079	15.0%	875,494	304,026	25.8%
1987	1,022,844	271,426	21.0%	661,469	277,787	29.6%
1988	1,241,859	302,800	19.6%	950,904	366,876	27.8%
1989	1,060,456	289,201	21.4%	742,388	296,024	28.5%
1990	625,933	270,824	30.2%	703,020	549,250	43.9%
1991	1,060,610	353,327	25.0%	691,943	635,961	47.9%
1992	1,609,040	434,448	21.3%	995,013	817,581	45.1%
1993	2,202,931	581,455	20.9%	1,011,914	781,941	43.6%
1994	1,615,241	695,102	30.1%	869,075	796,390	47.8%
1995	1,384,049	1,008,873	42.2%	698,404	767,187	52.3%
1996	1,180,361	859,431	42.1%	1,011,328	1,120,205	52.6%
1997	1,547,317	1,342,121	46.4%	1,122,447	1,674,115	59.9%
1998	1,235,683	679,689	35.5%	1,167,877	949,481	44.8%
1999	1,031,284	549,708	34.8%	1,190,580	1,063,684	47.2%
2000	1,002,899	985,281	49.6%	1,088,667	2,065,579	65.5%
2001	1,075,115	1,792,155	62.5%	1,030,580	1,214,566	54.1%
2002	1,372,415	1,586,095	53.6%	1,145,169	1,171,069	50.6%
2003	1,224,547	1,204,754	49.6%	1,080,662	996,171	48.0%
2004	1,365,946	1,677,071	55.1%	1,036,860	1,027,510	49.8%
2005	1,024,641	1,433,508	58.3%	973,109	1,170,293	54.6%
2006	1,196,183	1,533,800	56.2%	1,193,134	1,343,644	53.0%
2007	1,397,237	1,370,519	49.5%	851,537	903,242	51.5%
2008	821,804	417,509	33.7%	671,979	481,599	41.7%
2009	979,945	339,988	25.8%	656,148	772,463	54.1%
2010	447,991	170,959	27.6%	833,253	472,930	36.2%
2011	670,910	220,515	24.7%	808,582	533,198	39.7%

Source: Recreational data is from MRIP; headboat and commercial data is from the logbook and SEDAR 31 2013; Jacob Tetzlaff, pers. comm. Southeast Fisheries Science Center, Miami, Florida.

Table 7.5. Estimates of the total number of red snapper landed the number of dead discards, and percent dead discards for all killed fish for the recreational and commercial sectors by year and region of the Gulf.

	Recreational						Commercial					
	East			West			East			West		
Year	Landed	Dead Discard	Percent dead discards	Landed	Dead Discard	Percent dead discards	Landed	Dead Discard	Percent dead discards	Landed	Dead Discard	Percent dead discards
1983	1,055,691	4,455	0.4%	2,258,494	4,144	0.2%	1,851,965	23,983	1.3%	2,707,829	56,775	2.1%
1984	192,098	332	0.2%	1,039,926	2,367	0.2%	1,077,487	5,872	0.5%	1,697,555	27,707	1.6%
1985	482,587	51,497	9.6%	944,439	204,219	17.8%	575,540	109,179	15.9%	659,446	241,926	26.8%
1986	574,495	63,839	10.0%	691,460	159,240	18.7%	237,499	31,193	11.6%	637,996	272,833	30.0%
1987	548,813	129,871	19.1%	474,031	141,555	23.0%	179,088	35,679	16.6%	482,381	242,108	33.4%
1988	524,591	137,182	20.7%	717,268	165,618	18.8%	197,784	72,004	26.7%	753,120	294,872	28.1%
1989	474,670	147,657	23.7%	585,786	141,544	19.5%	166,355	59,518	26.4%	576,033	236,506	29.1%
1990	314,036	161,286	33.9%	311,897	109,538	26.0%	208,799	169,101	44.7%	494,221	380,150	43.5%
1991	548,912	202,238	26.9%	511,698	151,089	22.8%	156,339	187,293	54.5%	535,604	448,669	45.6%
1992	886,594	272,181	23.5%	722,446	162,267	18.3%	155,044	294,315	65.5%	839,969	523,266	38.4%
1993	1,336,961	366,226	21.5%	865,970	215,229	19.9%	160,428	346,349	68.3%	851,486	435,592	33.8%
1994	819,900	379,092	31.6%	795,341	316,010	28.4%	161,842	341,927	67.9%	707,233	454,464	39.1%
1995	664,786	547,997	45.2%	719,263	460,876	39.1%	47,994	234,693	83.0%	650,411	532,493	45.0%
1996	608,817	519,005	46.0%	571,544	340,426	37.3%	66,458	384,466	85.3%	944,870	735,739	43.8%
1997	966,914	992,702	50.7%	580,403	349,419	37.6%	52,616	231,911	81.5%	1,069,832	1,442,204	57.4%
1998	814,811	485,790	37.4%	420,872	193,899	31.5%	112,125	271,377	70.8%	1,055,751	678,104	39.1%
1999	788,097	413,395	34.4%	243,187	136,313	35.9%	148,788	407,417	73.2%	1,041,792	656,267	38.6%
2000	741,378	753,560	50.4%	261,521	231,721	47.0%	169,886	1,375,667	89.0%	918,781	689,912	42.9%
2001	858,210	1,559,948	64.5%	216,905	232,208	51.7%	209,036	487,449	70.0%	821,544	727,118	47.0%
2002	1,137,262	1,374,869	54.7%	235,153	211,226	47.3%	300,706	459,631	60.5%	844,463	711,438	45.7%
2003	956,693	992,640	50.9%	267,854	212,113	44.2%	281,921	459,040	62.0%	798,741	537,130	40.2%
2004	1,128,710	1,429,531	55.9%	237,236	247,540	51.1%	251,425	392,841	61.0%	785,435	634,669	44.7%
2005	759,036	1,071,240	58.5%	265,605	362,268	57.7%	220,412	352,853	61.6%	752,697	817,440	52.1%
2006	839,855	1,076,677	56.2%	356,328	457,123	56.2%	212,766	329,879	60.8%	980,368	1,013,764	50.8%

2007	1,087,060	1,059,975	49.4%	310,177	310,544	50.0%		311,729	626,004	66.8%	539,808	277,238	33.9%
2008	642,570	371,930	36.7%	179,233	45,579	20.3%		284,937	366,341	56.2%	387,042	115,258	22.9%
2009	773,394	303,722	28.2%	206,551	36,266	14.9%		302,568	682,585	69.3%	353,579	89,878	20.3%
2010	360,404	162,119	31.0%	87,587	8,840	9.2%		413,808	384,519	48.2%	419,445	88,411	17.4%
2011	552,878	192,184	25.8%	118,032	28,331	19.4%		423,809	445,771	51.3%	384,773	87,427	18.5%

Source: Recreational data is from MRIP; headboat and commercial data is from the logbook and SEDAR 31 2013; Jacob Tetzlaff, pers. comm. Southeast Fisheries Science Center, Miami, Florida.

Other Bycatch

Species incidentally encountered by the directed red snapper fishery include sea turtles, sea birds, and reef fishes. The primary gears of the Gulf reef fish fishery (longline and vertical line) are classified in the proposed List of Fisheries for 2013 (78 FR 53336, August 29, 2013) as Category III gear. This classification indicates the annual mortality and serious injury of a marine mammal stock resulting from any fishery is less than or equal to one percent of the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock, while allowing that stock to reach or maintain its optimum sustainable population.

The most recent biological opinion for the Reef Fish Fishery Management Plan was completed on September 30, 2011 (NMFS 2011a). The opinion determined the continued authorization of the Gulf reef fish fishery managed under this fishery management plan is not likely to adversely affect Endangered Species Act-listed marine mammals or coral, and would not likely jeopardize the continued existence of sea turtles (loggerhead, Kemp's ridley, green, hawksbill, and leatherback), or smalltooth sawfish. However, in the past, actions have been taken by the Council and NMFS to increase the survival of incidentally caught sea turtle and smalltooth sawfish by the commercial and recreational sectors of the fishery. These include the requirements for permitted vessels to carry specific gear and protocols for the safe release in incidentally caught endangered sea turtle species and smalltooth sawfish (GMFMC 2005) as well as restrictions on the longline portion of the commercial sector. Restrictions for longlines in the reef fish fishery include a season-area closure, an endorsement to use longline gear, and a restriction on the total number of hooks that can be carried on a vessel (GMFMC 2009).

Three primary orders of seabirds are represented in the Gulf, Procellariiformes (petrels, albatrosses, and shearwaters), Pelecaniformes (pelicans, gannets and boobies, cormorants, tropic birds, and frigate birds), and Charadriiformes (phalaropes, gulls, terns, noddies, and skimmers) (Clapp et al., 1982; Harrison, 1983) and several species, including: piping plover, least tern, roseate tern, bald eagle, and brown pelican (the brown pelican is endangered in Mississippi and Louisiana and delisted in Florida and Alabama) are listed by the U.S. Fish and Wildlife Service as either endangered or threatened. Human disturbance of nesting colonies and mortalities from birds being caught on fishhooks and subsequently entangled in monofilament line are primary factors affecting sea birds. Oil or chemical spills, erosion, plant succession, hurricanes, storms, heavy tick infestations, and unpredictable food availability are other threats. There is no evidence that the directed red snapper fishery is adversely affecting seabirds. However, interactions, especially with brown pelicans consuming red snapper discards and fish before they are landed, are known to occur (SEDAR 7 2005).

Other species of reef fish are also incidentally caught when targeting red snapper. In the western Gulf, vermilion snapper and some deep-water groupers are incidentally caught as bycatch when harvesting red snapper. In the eastern Gulf, various species of shallow-water grouper and vermilion snapper are the primary species caught as bycatch when targeting red snapper. Vermilion snapper are not overfished or undergoing overfishing (SEDAR 9 Update 2011a) and bycatch is not expected to jeopardize the status of this stock. Deep-water groupers are caught both in the eastern and western Gulf primarily with longline gear (> 80 percent). The deep-water

grouper fishery was managed with a 1.02 million pound quota. From 2004 until the implementation of the grouper/tilefish IFQ program in 2010 (SERO 2012a), the fishery met their quota and closed no later than July 15 each year. Deep-water grouper closures during this time period may have resulted in some additional discards of grouper by longliners targeting red snapper. Since the IFQ program was implemented, deep-water grouper species are landed year-round by holders of IFQ allocation and the quota has not been exceeded. Longliners account for approximately 5% of the annual commercial red snapper landings since 2000 (SEDAR 31 2013). It is unknown how increases in closed season discards might have affected the status of deep-water grouper stocks or the change to an IFQ managed sector. An updated assessment for yellowedge grouper found the stock was not overfished or undergoing overfishing (SEDAR 22 2011a).

Red grouper and gag are the two most abundant shallow-water grouper species in the Gulf and primarily occur on the west Florida shelf. Gag was recently assessed (SEDAR 10 Update 2009) and determined to be overfished and undergoing overfishing. A rebuilding plan that takes into account gag dead discards was implemented through Amendment 32 (GMFMC 2011c). Red grouper were found not to be in an overfished condition and not undergoing overfishing (SEDAR 12 Update 2009). Within the reef fish fishery, discards represent a large and significant portion of mortality for gag and red grouper. In the past, these species were managed under a shallow-water grouper quota which was met prior to the end of the 2004 and 2005 fishing years. For the recreational sector, shallow-water grouper including gag and red grouper are managed with size limits, bag limits, and season and area closures. The recreational gag season begins July 1 and extends until the catch target is projected to be caught. Since 2010, the commercial harvest of gag, red grouper, and other shallow-water grouper are managed under an IFQ program and the commercial sector has not exceeded its quota under the program. Prior to the IFQ program, quota closures at the end of the year have likely resulted in some additional commercial discards when the red snapper fishery is open. However, most commercial landings of red snapper occur in the western Gulf where gag and red grouper are less abundant or infrequently caught.

Practicability of current management measures in the directed red snapper fishery relative to their impact on bycatch and bycatch mortality.

The bycatch practicability analysis in Amendment 27 (GMFMC 2007) indicated directed fishery bycatch was believed to have a greater effect on red snapper stock recovery than the shrimp fishery. Although shrimp bycatch still accounts for a majority of bycatch, bycatch from the directed fishery is now known to have a greater effect on stock recovery. A quota, 16-inch total length (TL) minimum size limit, 2-fish bag limit, closed season, and gear restrictions are presently used to manage the recreational fishery. The commercial fishery is managed with an IFQ program, a quota, a 13-inch TL minimum size limit, and gear restrictions. Prior to 2007 when the red snapper IFQ program was implemented, the commercial fishery was also managed with closed seasons and trip limits. The following discusses current and historic management measures with respect to their relative impacts on bycatch with particular reference to specific management measures considered in Action 4 - Regional Management Measures.

Closed Seasons

Prior to 1997, the recreational sector was able to fish for red snapper year round. To prevent the recreational quota from being exceeded, recreational fishing for red snapper was closed on November 27, 1997, September 30, 1998, and August 29, 1999. In 2000, an April 21 through October 31 red snapper season was established. This was modified to a June 1 through October 31 season in 2008 by Amendment 27 (GMFMC 2007). Currently, the recreational directed red snapper fishery is closed in the exclusive economic zone from January 1 through May 31 each year through a 2012 framework action. However, since 2008, the sector has been closed early when the quota is projected to be caught. In addition, since 2008, the length of time red snapper fishing has been open has become increasingly shorter such that for 2011 and 2012, the season length has shrunk to 48 and 46 days, respectively. With these shorter seasons, the number of released fish has decreased during the open season, but the number of releases during the closed season has increased (Figure 7.2; SEDAR 31 2013). Reflected in this trend is that although the estimated number of dead discards has decreased during the fishing season, the number of dead discards has increased during the longer closed periods (Figure 7.4).

With the implementation of the IFQ program, there is no closed season for the commercial sector. However, commercial vessels with little or no red snapper allocation cannot land red snapper on most or all their trips. Thus, they effectively operate under closed season conditions. SERO (2013b) indicated most discards were likely due to insufficient allocation, rather than the minimum size limit, especially in the longline fleet. Most of these discards were recorded as released alive.

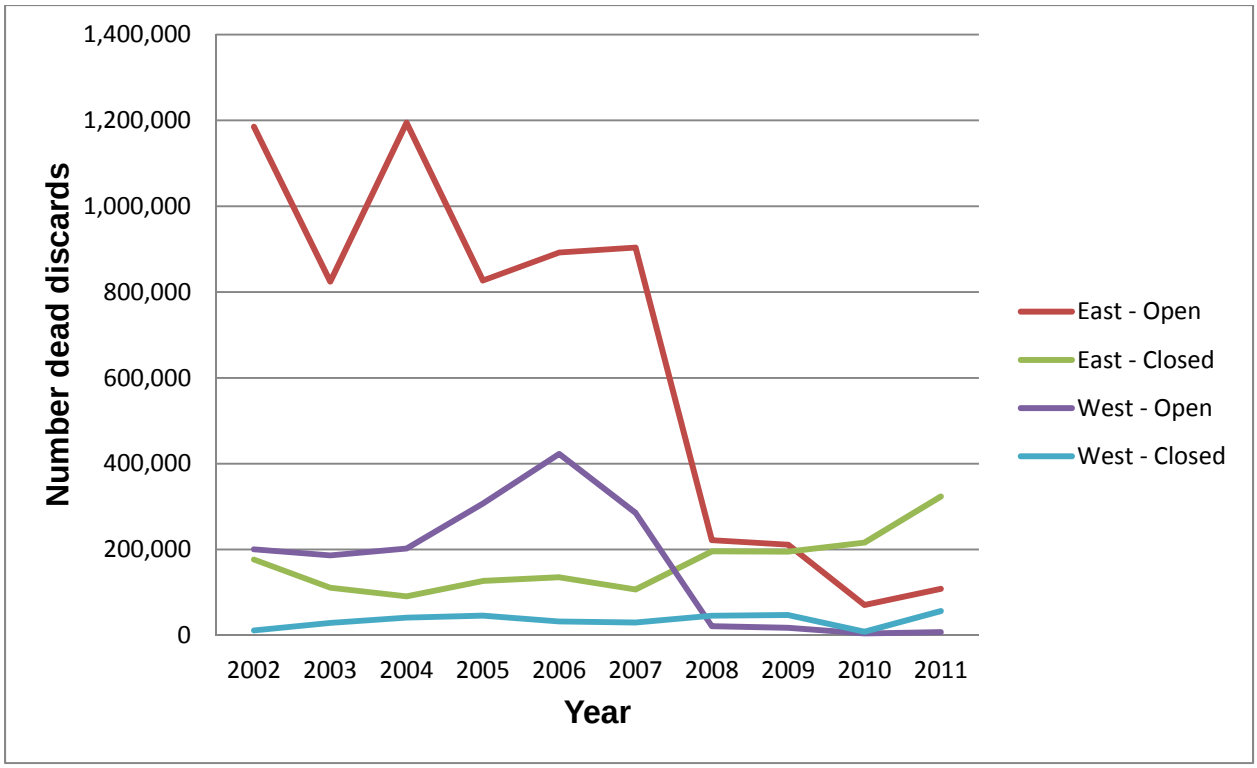

Figure 7.4. The number of Gulf red snapper dead discards from the recreational sector by year and by area. Source: Jakob Tetzlaff., pers. comm. Southeast Fisheries Science Center, Miami, Florida.

Bag Limits

The recreational fishery is regulated by a 2-red snapper daily bag limit per person. Red snapper discards while harvesting the daily bag limit are a result of incidental capture of undersized fish prior to reaching the bag limit and targeting of other reef fish residing in similar habitat as red snapper after bag limits have been reached. SERO (2012c) reported for-hire anglers, on average, landed 1.23 red snapper per trip and private anglers landed 1.58 red snapper per trip when the season is open. Based on average catch rates, the current two red snapper bag limit is not a limiting factor for many trips. Therefore, the release of undersized fish while harvesting the bag limit is still an important factor contributing to discards in addition to the release of legal-sized red snapper after the bag limit is reached.

Size limits

The 16-inch recreational and 13-inch commercial TL minimum size limits are important factors when considering bycatch in the directed fishery. Size limits are intended to protect immature fish and reduce fishing mortality. The recreational minimum size limit is above the size at 50% maturity and the commercial size limit is near the size at 50% maturity. Size-at-maturity varies by region, with 75% of eastern Gulf female red snapper mature by 12 inches TL and 50% of western Gulf red snapper mature by 13-14 inches TL (Fitzhugh et al. 2004).

Several yield-per-recruit (YPR) analyses have previously been conducted to identify the size that balances the benefits of harvesting fish at larger sizes against losses due to natural mortality. Goodyear (1995) concluded YPR was maximized in the red snapper fishery between 18 and 21 inches TL, assuming 20 and 33% release mortality in the recreational and commercial red snapper fisheries, respectively. A subsequent yield per recruit (YPR) analysis by Schirripa and Legault (1997) indicated increasing the minimum size limit above 15 inches TL would result in no gains in yield. Analyses of minimum size limits run for Amendment 27 (GMFMC 2007) indicated red snapper projected recovery rates are slightly faster if the commercial minimum size limit is reduced or eliminated, but increasingly slowed by smaller recreational minimum size limits (Porch 2005). Decreasing the recreational and commercial minimum size limits was projected to increase stock recovery slightly over the short term, but stock recovery would be increasingly slowed if the recreational size limit were lowered over the long term (Porch 2005). However, as discussed in Amendment 27, changes in spawning potential and the rate of stock recovery were found to be negligible for recreational size limits ranging from 13 to 15 inches TL. An YPR analysis conducted by SERO (2006), using current fishery selectivities and release mortality rates from SEDAR 7 (2005) supported Porch's (2005) findings. SERO (2006) examined four commercial minimum size limits (12, 13, 14, and 15 inches TL) and five recreational minimum size limits (6, 13, 14, 15, and 16 inches TL). Based on the range of size limits analyzed, YPR was maximized at 16 inches TL in both the eastern and western Gulf recreational fisheries, 12-inches TL in the western Gulf commercial fishery, and 15-inches TL in the eastern Gulf commercial fishery. However, there was virtually no difference in maximum YPR (< 0.3 percent) for any of the eastern Gulf commercial size limits analyzed. In a study by Wilson et al. (2004) aboard commercial vessels using bandit rigs, 61% of red snapper released were greater than 13 inches and 86% were greater than 12 inches.

For this amendment, an YPR analysis was applied to the recreational sector (SERO 2013). This analysis indicates the Gulf-wide YPR is maximized at a recreational size limit of 15 inches TL. However, there was not much of a change in YPR between lengths of 13 and 18 inches TL. Thus, if the minimum size limit were changed from 16 to 15 inches TL, any gain in YPR would be minimal. SERO (2013) also showed than any increase in the minimum size limit would reduce the number of fish landed. This would probably result in more regulatory discards and an increase in the number of dead discards.

Given the above discussion, a larger recreational minimum size limit is considered to be more effective than a similar sized commercial minimum size limit because of lower release mortality rates in the recreational fishery (Tables 7.2 and 7.3). High release mortality rates in the commercial fishery provide little, if any, protection to the stock because the released fish mostly die rather than contribute to filling the quota. In contrast, the current 16-inch TL minimum recreational size limit was found to afford some protection to the stock, because a greater percentage of discarded fish will survive to spawn and later contribute to the quota as larger animals.

Area closures

Although the Council has not developed area closures specifically for red snapper, the Council has created areas to protect other species. For example, two restricted fishing areas were

developed to specifically protect spawning aggregations of gag in 2000 (GMFMC 1999). The Madison-Swanson and Steamboat Lumps marine restricted fishing areas are located in the northeastern Gulf at a depth of 40 to 60 fathoms. Both areas prohibit bottom fishing. Bottom fishing is also prohibited in the Tortugas North and South marine reserves in the southern Gulf near the Dry Tortugas. Marine reserves and time/area closures benefit fish residing within reserve boundaries by prohibiting their capture during part or all of the year. Within marine reserves, fish that are undersized potentially have an opportunity to grow to legal size and are no longer caught as bycatch. If these fish emigrate from the marine reserve (i.e., spillover effect), then they may be caught as legal fish outside the reserve, thereby reducing bycatch. However, anglers and commercial fishermen may redistribute their effort to areas surrounding the area closure. If fishing pressure in these areas is increased, then any benefits of reduced bycatch of fish in the marine reserve will likely be offset by increases in bycatch of fish residing outside the marine reserve. Within restricted fishing areas or time/area closures, fishing is allowed under restrictions that are intended to protect certain components of the populations within the area (e.g., prohibitions on bottom fishing gear), or to protect populations during a critical phase of their life history, such as during spawning. If area closures were to be developed under Action 4, Alternative 6, the area where the closure occurs could increase or reduce bycatch. For example, if the proposed area is primarily in deeper water, establishing a time/area closure is unlikely to reduce bycatch by any significant amount unless the area is closed year-round. Any incidental capture of red snapper in the area would likely suffer from barotrauma and die. If such areas are sited in shallow-water, then reductions in dead discards may be more likely to occur because of lower discard mortality rates.

The Council did develop a season area closure to reduce bycatch of sea turtles for the longline component of the commercial sector. The use of longlines had been prohibited from waters less than 20 fathoms east of Cape San Blas, Florida, and 50 fathoms west of Cape San Blas; however, due to higher estimates of sea turtles caught in longline gear, measures were put in place through Amendment 31 (GMFMC 2009) to reduce this bycatch. One of these measures was the prohibition of the use of bottom longline gear in the Gulf reef fish fishery, shoreward of a line approximating the 35-fathom contour east of Cape San Blas, Florida from June through August. Most sea turtle takes by longline occur during the summer months.

Other measures

Allowable gear - Vertical hook-and-line gear (bandit rigs, manual handlines) is the primary gear used in the commercial fishery (> 96% of annual landings). Longlines, spears, and fish traps account for a small portion of the commercial harvest (< 5%). Longlines account for only a small fraction of red snapper dead discards as most of the landings come from handline-caught fish (Table 7.6). In addition, longlines are fished in deeper water, particularly in the west, and select for larger, legal-sized red snapper. Longline vessels east of Cape San Blas, Florida are also restricted to carrying 1,000 hooks onboard (only 750 rigged for fishing at any given time) as part of a suite of measures put in place through Amendment 31 (GMFMC 2009) to reduce sea turtle bycatch.

Rod-and-reel is the primary gear used in the recreational fishery. Recreational anglers also use spears to capture red snapper. Spearfishing does not affect release mortality since all fish caught

are killed. Only undersized red snapper mistakenly killed while spearfishing would contribute to discard mortality. During the red snapper recreational fishing season, discards are primarily due to the recreational size limit; however, allowable gears can affect release mortality rates.

Fishermen in both the commercial and recreational sectors are required to use non-stainless steel circle hooks, if using natural baits, to reduce discard mortality. The size of circle hooks used in the fishery varies by manufacturer, gear type, and species targeted (i.e., if targeting vermilion snapper, smaller circle hooks may be used). Although circle hooks may not work as well to reduce red snapper discard mortality, they are effective in reducing mortality in other species such as red grouper (Burns and Froeschke 2012).

In addition to the circle hook requirement, Amendment 27 (GMFMC 2007) also put in place requirements for both commercial and recreational fishermen in the reef fish fishery to carry onboard dehooking devices. These gears are all intended to reduce bycatch and release mortality. A dehooking device is a tool intended to remove a hook embedded in a fish. It reduces the handling time releasing a fish from a hook and allows a fish to be released with minimum damage.

IFQ program - The commercial sector was previously regulated by 2,000-lb and 200-lb trip limits. With the establishment of the red snapper IFQ program, red snapper discards after a trip limit was reached are no longer a factor. However, reef fish observer data since the IFQ program was implemented indicate a large proportion of legal-sized red snapper continue to be discarded by both the handline and longline fleets (2013). Discard rates do vary by gear. In 2011, 3.5 red snapper were landed for every fish released in the vertical line fleet compared to a 0.5 red snapper landed for each fish released in the longline fleet (SERO 2012). Discard rates greatly varied by region. In 2011, 87% of observed red snapper caught in the Florida Panhandle were landed, compared to 79% off Louisiana and Texas, and 47% off the Florida Peninsula. There was also a noticeable difference in the size of red snapper caught, with red snapper along the Florida Peninsula (mostly19-24 inches TL) generally larger than fish caught in other areas of the Gulf (mostly 15-21 inches TL). Most discards were estimated to be released alive, regardless of gear type used. Discards were likely due to insufficient allocation, rather than the minimum size limit, especially in the longline fleet. In a study by Wilson et al. (2004) aboard commercial vessels using bandit rigs, 61% of red snapper released were greater than 13 inches TL, the minimum size limit.

Table 7.6. Commercial red snapper landings and dead discards in the Gulf by year and area.

	Eastern Gulf				Western Gulf			
	Landings		Dead discards		Landings		Dead discards	
Year	Handline	Longline	Handline	Longline	Handline	Longline	Handline	Longline
1983	1,646,550	205,415	1,587	1,237	2,698,740	9,089	56,690	85
1984	949,341	128,146	309	388	1,625,800	71,755	27,160	547
1985	550,063	25,477	79,906	2,239	608,624	50,822	233,753	8,173
1986	222,738	14,761	21,314	646	564,277	73,719	261,093	11,740
1987	168,788	10,300	20,091	743	412,668	69,713	229,400	12,708
1988	186,924	10,860	51,433	738	686,680	66,440	285,429	9,443
1989	156,071	10,284	32,961	1,714	531,066	44,967	230,318	6,188
1990	198,778	10,021	94,242	4,552	482,224	11,997	377,444	2,706
1991	152,971	3,368	79,800	1,647	527,667	7,937	332,927	1,905
1992	153,940	1,104	54,930	484	837,699	2,270	380,571	460
1993	157,367	3,061	57,447	843	849,065	2,421	375,085	471
1994	160,369	1,473	87,448	568	705,354	1,879	412,546	407
1995	46,528	1,466	54,453	658	648,399	2,012	491,941	501
1996	65,129	1,329	62,736	925	941,768	3,102	695,812	699
1997	51,767	849	79,005	515	1,066,360	3,472	713,290	729
1998	111,068	1,057	99,004	494	1,052,750	3,001	605,570	522
1999	147,499	1,289	102,825	340	1,032,070	9,722	602,380	1,564
2000	168,301	1,585	107,368	556	899,899	18,882	634,841	3,146
2001	207,257	1,779	278,236	894	809,218	12,326	658,252	2,334
2002	297,471	3,235	319,910	1,555	830,146	14,317	584,024	2,481
2003	279,295	2,626	235,502	1,190	782,006	16,735	492,094	2,618
2004	247,833	3,592	251,909	1,633	741,737	43,698	598,933	8,157
2005	216,596	3,816	230,654	2,081	725,819	26,878	785,721	6,686
2006	209,704	3,062	221,631	1,394	955,637	24,731	992,193	6,781
2007	308,237	3,492	949,770	14,520	521,931	17,877	231,164	443
2008	277,716	7,221	660,738	24,096	381,349	5,693	115,150	108
2009	299,480	3,088	748,261	10,548	347,913	5,666	89,641	68
2010	398,806	15,002	1,111,727	53,620	415,081	4,364	85,851	56
2011	408,346	15,463	1,274,735	60,252	382,630	2,143	86,460	18

Source: SEDAR 31 2013; Jacob Tetzlaff, pers. comm. Southeast Fisheries Science Center, Miami, Florida)

Alternatives being considered and bycatch minimization

The actions in this amendment can indirectly affect bycatch in the Gulf reef fish fishery. These actions are administrative and would develop regional management for red snapper recreational fishing. Action 4 would establish what types of measures could be used in regional management to constrain the recreational harvest to a region's allocation. Depending on how these measures are applied, as discussed above, they could either reduce or increase bycatch in the reef fish fishery. The impacts of changing these measures from status quo will need to be evaluated if changed.

Practicability Analysis

Criterion 1: Population effects for the bycatch species

This action establishes a red snapper regional management system for the recreational sector and so does not directly affect bycatch minimization. However, management measures that result from regional management are expected to affect bycatch. These include regional changes to fishing seasons, bag limits, size limits, and area closures. Longer fishing seasons, higher bag limits, smaller minimum size limits, and larger area closures can all minimize bycatch. However, constraining the harvest to a certain regional quota (allocation) could result in measures that work against each other in terms of reducing bycatch (e.g., a higher bag limit would require a shorter fishing season). Therefore, it is difficult to predict how regional management would affect bycatch.

As described above, the Council and NMFS have developed a variety of management measures to reduce red snapper bycatch and these measures are thought to benefit the status of the stock. These include bycatch reduction devices and effort targets in the shrimp fishery, size limit reductions and the IFQ program for the commercial sector, and gear requirements, such as dehooking devices and the use of circle hooks by the reef fish fishery. In addition, any increases in bycatch resulting from proposed management actions are accounted for when reducing directed fishing mortality. Any reductions in bycatch not achieved must be accounted for when setting the annual catch limits; the less bycatch is reduced, the more the annual catch limits must be reduced.

Criterion 2: Ecological effects due to changes in the bycatch of red snapper (effects on other species in the ecosystem)

The relationships among species in marine ecosystems are complex and poorly understood, making the nature and magnitude of ecological effects difficult to predict with any accuracy. The most recent red snapper stock assessment (SEDAR 31 2013) indicated the stock is rebuilding. Consequently, it is possible that forage species and competitor species could decrease in abundance in response to an increase in red snapper abundance. Changes in the bycatch of red snapper are not expected to directly affect other species in the ecosystem. Although birds, dolphins, and other predators may feed on red snapper discards, there is no evidence that any of these species rely on red snapper discards for food.

Criterion 3: Changes in the bycatch of other species of fish and invertebrates and the resulting population and ecosystem effects

Population and ecosystem effects resulting from changes in the bycatch of other species of fish and invertebrates are difficult to predict. As discussed in Amendment 27 (GMFMC 2007), groupers, snappers, greater amberjack, gray triggerfish and other reef fishes are commonly caught in association with red snapper. Many of these species are in rebuilding plans (gag, gray triggerfish, and greater amberjack) with the stocks improving. Regulatory discards significantly contribute to fishing mortality for all of these reef fish species, with the exceptions of gray triggerfish and vermilion snapper.

No measures are proposed in this amendment to directly reduce the bycatch of other reef fish species. Bycatch minimization measures implemented through Amendment 18A, Amendment 27 and Amendment 31 are expected to benefit reef fish stocks, sea turtles, and smalltooth sawfish. As mentioned, this action establishes a red snapper regional management system for the recreational sector and so would indirectly affect bycatch depending on which management measures are used in specific regions. For species with quotas (greater amberjack, gray triggerfish, and recreational red snapper), this could lead to a shift in fishing effort during red snapper season closures and negatively impact reef fish stocks not currently constrained by annual quotas or IFQ programs. The magnitude of this impact would depend on the size of the particular quota, the length of the closure, and the amount of effort shifting that occurs. Annual catch limits and accountability measures are now in effect for species not considered undergoing overfishing or overfished, thus potential for effort shifting and changes in bycatch may be lessened for these species.

Criterion 4: Effects on marine mammals and birds

The effects of current management measures on marine mammals and birds are described above. Bycatch minimization measures evaluated in this amendment are not expected to significantly affect marine mammals and birds. There is no information to indicate marine mammals and birds rely on red snapper for food, and measures in this amendment are not anticipated to alter the existing prosecution of the fishery, and thus interactions with marine mammals or birds.

Criterion 5: Changes in fishing, processing, disposal, and marketing costs

The proposed management measures in this amendment would not be expected to result in any changes in fishing, processing, disposal, or marketing costs of commercially harvested red snapper because the measures only apply to the harvest of red snapper by the recreational sector. Red snapper that are harvested by the recreational sector in the Gulf may not be sold.

Criterion 6: Changes in fishing practices and behavior of fishermen

It is not possible to determine whether bycatch, including the amount of regulatory discards, will be affected following implementation of this action. The proposed measures of this amendment will enable each Gulf state to establish management measures for its assigned portion of the recreational red snapper quota. However, this action does not establish what those management

measures will be, which remains unknown. Thus, it also remains unknown how the management measures that will be adopted by the regions will differ from the current regulations for red snapper and thus, how newly established regional regulations will differ from current fishing practices and affect fishermen behavior. It is possible that bycatch could be reduced if a region adopts a recreational red snapper season that is contemporaneous with periods of highest fishing activity. However, it is also likely that fishing activity will continue after the fishing season, and regulatory discards will occur. The amount of red snapper quota to be harvested by each state should theoretically approximate the catch that has been landed in that region, historically. Thus, it is possible that the amount of regulatory discards remains more or less the same.

Criterion 7: Changes in research, administration, and enforcement costs and management effectiveness

Proposed management measures are not expected to significantly impact administrative costs at the federal level, but could increase costs at the regional level. Size limits, bag limits, quotas, and closed seasons are currently used to regulate the recreational sector harvesting red snapper. All of these measures will require additional research to determine the magnitude and extent of impacts to bycatch and bycatch mortality. None of the measures are expected to affect research, administration, or enforcement of the commercial sector.

Criterion 8: Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources

The establishment of a regional management program is not expected to affect the economic, social, or cultural value of red snapper fishing. Red snapper is a highly desirable target species and the proposed measures are intended to support the adoption of fishing regulations that better satisfy the preferences of local constituents. This would be expected to improve fishing opportunities, thereby increasing the economic and social benefits for fishermen and associated coastal businesses and communities. No effects would be expected on the non-consumptive uses of the fishery resources.

Criterion 9: Changes in the distribution of benefits and costs

The net effects of the proposed management measures in this amendment on bycatch are unknown because the resultant management measures that will be enacted by the respective regions are unknown. The proposed management measures would not be expected to affect the amount of red snapper harvest normally harvested by anglers in each region. However, the ability of each region to enact management measures that better match the preferences of local constituents would be expected to increase the benefits, and possibly decrease the costs, associated with the recreational harvest of red snapper.

Criterion 10: Social effects

Bycatch is considered wasteful by fishermen and it reduces overall yield obtained from the fishery. Minimizing bycatch to the extent practicable will increase efficiency, reduce waste, and benefit stock recovery, thereby resulting in net social benefits. It is assumed that if regions

establish a red snapper fishing season to coincide with regionally preferred fishing times, the social effects will be positive.

Conclusion

Analysis of the ten bycatch practicability factors indicates there would be positive biological impacts associated with further reducing bycatch and bycatch mortality in the reef fish fishery. The main benefits of reducing red snapper bycatch are less waste and increased yield in the directed fishery. Reducing discards and discard mortality rates would result in less forgone yield.

When determining reductions associated with various management measures, release mortality is factored into the analyses to adjust the estimated reductions for losses due to dead discards. The increases in discards associated with each of these management measures varies and is contingent on assumptions about how fishermen's behavior and fishing practices will change. In this action, establishing a regional recreational red snapper management system would indirectly affect discards and bycatch. Discards and bycatch would be affected depending on the application of regional management measures allowed under Action 4.

The Council needed to consider the practicability of implementing the bycatch minimization measures discussed above with respect to the overall objectives of the Reef Fish Fishery Management Plan and Magnuson-Stevens Fishery Conservation and Management Act. Therefore, given actions in this amendment combined with previous actions, management measures, to the extent practicable, minimize bycatch and to the extent bycatch cannot be avoided, minimize the mortality of that bycatch.

CHAPTER 8. LIST OF PREPARERS

PREPARERS

Name	Expertise	Responsibility	Agency
Ava Lasseter	Anthropologist	Co-Team Lead – Amendment development, introduction, social analyses	GMFMC
Cynthia Meyer	Fishery biologist	Co-Team Lead – Amendment development, purpose and need, cumulative effects analysis	SERO
Carrie Simmons	Fishery biologist	Biological analyses	GMFMC
Stephen Holiman	Economist	Economic analyses, Regulatory Impact Review, Regulatory Flexibility Act analysis	SERO
Steven Atran	Fishery biologist	Biological analyses	GMFMC
Peter Hood	Fishery biologist	Biological analyses, bycatch practicability analysis	SERO
Andy Strelcheck	Fishery biologist	Scientific analyses	SERO

REVIEWERS (Preparers also serve as reviewers)

Name	Expertise	Responsibility	Agency
Assane Diagne	Economist	Economic review	GMFMC
Heather Blough	Policy	Policy review	SERO
Akbar Marvasti	Economist	Economic review	SEFSC
Noah Silverman	Natural resource management specialist	National Environmental Policy Act review	SERO
Mara Levy	Attorney	Legal review	NOAA GC
Jason Brand	Law enforcement	Law enforcement review	USCG

GMFMC = Gulf of Mexico Fishery Management Council; NOAA GC = National Oceanic and Atmospheric Administration General Counsel; SEFSC = Southeast Fisheries Science Center; SERO = Southeast Regional Office of the National Marine Fisheries Service; USCG = United States Coast Guard

CHAPTER 9. LIST OF AGENCIES, ORGANIZATIONS AND PERSONS TO WHOM A COPY OF THE EIS WAS SENT

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office
- Office for Law Enforcement
- Endangered Species Division
- Domestic Fisheries Division

NOAA General Counsel

Environmental Protection Agency (Region 4 and 6)
United States Coast Guard
United States Fish and Wildlife Services
Department of Interior. Office of Environmental Policy and Compliance
Department of State, Office of Marine Conservation,
Marine Mammal Commission

Texas Parks and Wildlife Department
Alabama Department of Conservation and Natural Resources/Marine Resources Division
Louisiana Department of Wildlife and Fisheries
Mississippi Department of Marine Resources
Florida Fish and Wildlife Conservation Commission

CHAPTER 10. REFERENCES

American Fisheries Society. 2013. Common and Scientific Names of Fishes from the United States, Canada, and Mexico. Seventh Edition. Special Publication 34. Bethesda, MD.

Ault, J. S., S. G. Smith, G. A. Diaz, and E. Franklin. 2003. Florida hogfish fishery stock assessment. University of Miami, Rosenstiel School of Marine Science. Contract No. 7701 617573 for Florida Marine Research Institute, St. Petersburg, Florida.

Barnette, M. C. 2001. A review of the fishing gear utilized within the Southeast Region and their potential impacts on essential fish habitat. NOAA Technical. Memorandum. NMFS-SEFSC-449. National Marine Fisheries Service. St. Petersburg, Florida.

Berkes, Fikret. 2009. Evolution of co-management: Role of knowledge generation, bridging organizations and social learning. Journal of Environmental Management 90:1692-1702.

Burns, K. M., and J. T. Froeschke. 2012. Survival of red grouper (*Epinephalus morio*) and red snapper (*Lutjanus campechanus*) caught on J-hooks and circle hooks in the Florida recreational and recreational-for-hire fisheries. Bull. Mar. Sci. 88(3):633-646.

Burns, K. M., N. F. Parnell, R. R. Wilson. 2004. Partitioning release mortality in the undersized red snapper bycatch: Comparison of depth vs. hooking effects. Final Report MARFIN Grant No. NA97FF0349 36 pp.

Burns, K. M., C. C. Koenig, and F. C. Coleman. 2002. Evaluation of multiple factors involved in release mortality of undersized red grouper, gag, red snapper, and vermilion snapper. Mote Marine Laboratory Technical Report No. 814. (MARFIN grant #NA87FF0421). 53 pp.

Campbell, M.D., W.B. Driggers, and B. Sauls. 2012. Release mortality in the red snapper fishery: a synopsis of three decades of research. SEDAR31-DW22. SEDAR, North Charleston, SC. 25 pp.

Canter, L. 2012. Guidance on cumulative effects analysis in environmental assessments and environmental impact statements. Prepared for National Oceanic & Atmospheric Administration National Marine Fisheries Service, Northeast Regional Office, Gloucester, Massachusetts.

Carter, D. W., and Liese, C. 2012. The Economic Value of Catching and Keeping or Releasing Saltwater Sport Fish in the Southeast USA. North American Journal of Fisheries Management, 32:4, 613-625. Available at: http://dx.doi.org/10.1080/02755947.2012.675943

Cass-Calay, S. L., and M. Bahnick. 2002. Status of the yellowedge grouper fishery in the Gulf of Mexico. Contribution SFD 02/03 – 172. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Census Bureau. 2010. United States 2010 Census. http://www.census.gov/2010census/.

CEQ. 1997 Considering cumulative effects under the National Environmental Policy Act. Council on Environmental Policy, Executive Office of the President. 64 pp. + appendices. Available at http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm.

Chester, W. 2001. Full box! One hundred years of fishing and boat building in Bay County. Fire in the Water Publishing Company, South port, Florida. 314 p.
Clapp, R. B., R. C. Banks, D. Morgan-Jacobs, and W. A. Hoffman. 1982. Marine birds of the southeastern United States and Gulf of Mexico. U.S. Dept. of Interior, Fish and Wildlife Service, Office of Biological Services, Washington D.C. FWS/OBS-82/01. 3 vols.

Collins, L.A., G.R. Fitzhugh, L. Mourand, L.A. Lombardi, W.T. Walling Jr., W.A. Fable, M.R. Burnett, R.J. Allman. 2001. Preliminary results from a continuing study of spawning and fecundity in the red snapper (Lutjanidae: *Lutjanus campechanus*) from the Gulf of Mexico, 1998-1999. Proceedings of the 52nd Gulf and Caribbean Fisheries Institute. 52: 34-47.

EPA. 1999. EPA Region 4: Interim Policy to Identify and Address Potential Environmental Justice Areas. EPA-904-R-99-004

Gannon, D. P., E. J. Berens McCabe, S. A. Camilleri, J. G., Gannon, M. K. Brueggen, A. A. Barleycorn, V. I. Palubok, G. J. Kirkpatrick, and R. S. Wells. 2009. Effects of *Karenia brevis* harmful algal blooms on nearshore fish communities in southwest Florida. Mar. Ecol. Prog. Ser. 378:171–186.

GMFMC. 1981. Environmental impact statement and fishery management plan for the reef fish resources of the Gulf of Mexico and environmental impact statement. Gulf of Mexico Fishery Management Council, Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20FMP%20and%20EIS%201981-08.pdf

GMFMC. 1989. Amendment 1 to the reef fish fishery management plan including environmental assessment, regulatory impact review, and regulatory flexibility analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20Amend-01%20Final%201989-08-rescan.pdf

GMFMC. 1999. Regulatory amendment to the reef fish fishery management plan to set 1999 gag/black grouper management measures (revised), includes environmental assessment, regulatory impact review, and initial regulatory flexibility analysis. Gulf of Mexico Fishery Management Council, Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20RegAmend%20-%201999-08.pdf

GMFMC. 2000. Regulatory amendment to the reef fish fishery management plan to set total allowable catch and management measures for red snapper for the 2000 and 2001 seasons. Gulf of Mexico Fishery Management Council. Tampa, Florida.

http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20RegAmend%20-%202000-02.pdf

GMFMC. 2002. Amendment number 10 to the fishery management plan for the shrimp fishery of the Gulf of Mexico, U.S. Waters with environmental assessment, regulatory impact review, initial regulatory flexibility analysis, and social impact assessment. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/SHRIMP%20Amend-10%20Final%202002-07.pdf

GMFMC. 2004a. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: 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. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf

GMFMC. 2004b. 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. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend%2022%20Final%2070204.pdf

GMFMC. 2004c. Final amendment 23 to the reef fish fishery management plan to set vermilion snapper sustainable fisheries act targets and thresholds and to establish a plan to end overfishing and rebuild the stock, including a final supplemental environmental impact statement and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/VS%2023%20Oct%20Final%2010-21-04%20with%20Appendix%20E.pdf

GMFMC. 2005. Final amendment 18A to the fishery management plan for the reef fish resources of the Gulf of Mexico, including environmental assessment, regulatory impact review, and initial regulatory flexibility analyses. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amendment_18A_Final.pdf

GMFMC. 2007. Final amendment 27 to the reef fish fishery management plan and amendment 14 to the shrimp fishery management plan including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. 490 pp with appendices.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20RF%20Amend%2027-%20Shrimp%20Amend%2014.pdf

GMFMC. 2008a. Final reef fish amendment 30A: greater amberjack – revised rebuilding plan, accountability measures; gray triggerfish – establish rebuilding plan, end overfishing, accountability measures, regional management, management thresholds and benchmarks including supplemental environmental impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://www.gulfcouncil.org/docs/amendments/Amend-30A-Final%20208.pdf

GMFMC. 2008b. Final reef fish amendment 30B: gag – end overfishing and set management thresholds and targets. Red grouper – set optimum yield, TAC, and management measures, time/area closures, and federal regulatory compliance. Gulf of Mexico Fishery Management Council, 2203 North Lois Avenue, Suite 1100, Tampa, FL. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Amendment%2030B%2010_10_08.pdf

GMFMC. 2009. Final amendment 31 to the fishery management plan for reef fish resources in the Gulf of Mexico addresses bycatch of sea turtles in the bottom longline component of the Gulf of Mexico reef fish fishery, includes draft environmental impact statement and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida. 261 pp with appendices. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Draft%20RF%20Amend%2031%206-11-09.pdf

GMFMC. 2010. Final regulatory amendment the reef fish fishery management plan to set total allowable catch for red snapper including revised environmental assessment, regulatory impact review, and regulatory flexibility analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://www.gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Regulatory%20Amendment%203_26_10.pdf

GMFMC. 2011a. Regulatory amendment to the reef fish fishery management plan to set 2011 total allowable catch for red snapper. Gulf of Mexico Fishery Management Council, Tampa, Florida. http://www.gulfcouncil.org/docs/amendments/Red%20Snapper%202011%20Regulatory%20Amendment%20-%201-11.pdf

GMFMC. 2011b. Final generic annual catch limits/accountability measures amendment for the Gulf of Mexico fishery management council's red drum, reef fish, shrimp, coral and coral reefs fishery management plans, including environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

GMFMC. 2011c. Final reef fish amendment 32 – gag grouper – rebuilding plan, annual catch limits, management measures, red grouper – annual catch limits, management measures, and grouper accountability measures. Gulf of Mexico Fishery Management Council. Tampa,

Florida.
http://www.gulfcouncil.org/docs/amendments/Final%20RF32_EIS_October_21_2011[2].pdf

GMFMC. 2012a. Final amendment 35 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – modifications to the greater amberjack rebuilding plan and adjustments to the recreational and commercial management measures, including an environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final_Amendment_35_Greater_Amberjack_Rebuilding_8_May_2012.pdf

GMFMC. 2012b. Final amendment 37 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – Modifications to the gray triggerfish rebuilding plan including adjustments to the annual catch limits and annual catch targets for the commercial and recreational sectors. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/docs/amendments/Final_Reef_Fish_Amend_37_Gray_Triggerfish_12_06_12[1].pdf

GMFMC. 2012c. Final amendment 38 to the reef fish fishery management plan for the reef fish resources of the Gulf of Mexico – modifications to the shallow-water grouper accountability measures, including an environmental assessment, fishery impact statement, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/docs/amendments/Final%20Amendment%2038%2009-12-2012.pdf

GMFMC. 2012d. Final regulatory amendment to the fishery management plan for the reef fish resources of the Gulf of Mexico, revise fall recreational fixed closed season and set 2012 and 2013 quotas for red snapper. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20Red%20Snapper%20Fall%20Season%20and%20Quota%20RegAmend%20-%2003-20-2012.pdf

GMFMC. 2013a. Framework action to set the 2013 red snapper commercial and recreational quotas and modify the recreational bag limit, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://gulfcouncil.org/docs/amendments/Red%20Snapper%20Framework%20Action%20to%20Set%202013%20Quotas.pdf

GMFMC. 2013b. Red snapper 2013 quota increase and supplemental recreational season, including environmental assessment, regulatory impact review, and regulatory flexibility act analysis. Framework action to the fishery management plan for the reef fish resources of the Gulf of Mexico. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/docs/amendments/Final%20Red%20Snapper%20Framework%20Action%20Set%202013%20Quotas%2008-01-13.pdf

GMFMC and SAFMC. 1982. Fishery management plan final environmental impact statement for coral and coral reefs. Gulf of Mexico Fishery Management Council. Tampa, Florida; and South Atlantic Fishery Management Council. Charleston, South Carolina. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Coral%20FMP.pdf

Goodyear, C. P. 1988. The Gulf of Mexico fishery for reef fish species, a descriptive profile. Unpublished report. National Marine Fisheries Service, Southeast Fisheries Center, Miami Laboratory, CRD 87/88-19. https://grunt.sefsc.noaa.gov/P_QryLDS/DisplayDocuments.jsp?min_series_code=CR&min_record_id=935&direction=next&total_rows=2955&description=SEFSC%20Technical%20Memorandum#

Goodyear, C. P. 1995. Red snapper in U.S. waters of the Gulf of Mexico. NOAA, NMFS, SEFSC, 75 Virginia Beach Drive, Miami, Florida 33149. Contribution: MIA 95/96-05. 171 pp.

Gore, R. H. 1992. The Gulf of Mexico: A treasury of resources in the American Mediterranean. Pineapple Press. Sarasota, Florida.

Hamilton, A. N., Jr. 2000. Gear impacts on essential fish habitat in the Southeastern Region. , National Marine Fisheries Service, Southeast Fisheries Science Center. Pascagoula, Mississippi.

Hanisko, David S., Joanne Lyczkowski-Shultz, and G.Walter Ingram. 2007. Indices of larval red snapper occurrence and abundance for use in stock assessment. American Fisheries Society Symposium 60:285-300.

Harrison, P. 1983. Seabirds: an identification guide. Houghton Mifflin Company, Boston, MA. Field Notes 48: 976-978.

Hood, P. B., A. J. Strelcheck, and P. Steele. 2007. A history of red snapper management in the Gulf of Mexico. Pages 267-284. in W. F. Patterson, III, J. H. Cowan, G. R. Fitzhugh, and D. L. Nieland, editors. Red snapper ecology and fisheries in the U.S. Gulf of Mexico. AFS, Symp 60, Bethesda, MD.

IPCC. 2007. Climate Change 2007: the physical science basis. Contribution of working group I to the fourth assessment report of the Intergovernmental Panel on Climate Change. S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller, editors. Cambridge University Press, Cambridge, United Kingdom and New York, New York, USA.

Jentoft, Svein, Bonnie J. McCay and Douglas C. Wilson. 1998. Social theory and fisheries co-management 22(4-5):423-436.

Johnson, D.R., H.M. Perry, J. Lyczkowski-Shultz, and D. Hanisko. 2009. Red snapper larval transport in the northern Gulf of Mexico. Transactions of the American Fisheries Society 138:458-470.

Kennedy, V., Twilley, R. Klypas, J. Cowan, J. and Hare, S. 2002. Coastal and marine ecosystems & global climate change: Potential effects on U.S. resources. Prepared for the Pew Center on Global Climate Change.

Landsberg, J.H., L.J. Flewelling, J. Naar. 2009. *Karenia brevis* red tides, brevetoxins in the food web, and impacts on natural resources: Decadal advancements. Harmful Algae 8:598–607.

Linton, B. 2012a. Population projections for Gulf of Mexico red snapper with preliminary 2012 landings estimates. National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, FL.

Linton, B. 2012b. Shrimp fishery bycatch estimates for Gulf of Mexico red snapper, 1972-2011. SEDAR31-DW30. SEDAR, North Charleston, SC. 11 pp.

McEachran, J.D. and J.D. Fechhelm. 2005. Fishes of the Gulf of Mexico, Vol. 2. University of Texas Press. Austin, Texas.

Methot, R. D. 2010. User manual for stock synthesis, model version 3.10b. Seattle, Washington The most recent version of this manual and software is available at http://nft.nefsc.noaa.gov/Download.html .

Muller, R. G., M. D. Murphy, J. de Silva, and L. R. Barbieri. 2003. Final report submitted to the national marine fisheries service, the Gulf of Mexico fishery management council, and the South Atlantic fishery management council as part of the southeast data, assessment, and review (SEDAR) iii. Florida Fish and Wildlife Conservation Commission, FWC-FMRI Report: IHR 2003-10. Florida Fish and Wildlife Research Institute. St. Petersburg, Florida.

National Commission. 2010. The use of surface and subsea dispersants during the BP Deepwater Horizon oil spill. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (National Commission). Staff Working Paper No. 4. http://www.oilspillcommission.gov/sites/default/files/documents/Updated%20Dispersants%20Working%20Paper.pdf

NMFS. 2002. Status of red grouper in United States waters of the Gulf of Mexico during 1986-2001, revised. Contribution No. SFD-01/02-175rev. National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

NMFS. 2005. Endangered Species Act – Section 7 consultation on the continued authorization of reef fish fishing under the Gulf of Mexico reef fish fishery management plan and proposed amendment 23. February 15, 2005. National Marine Fisheries Service. St. Petersburg, Florida.

NMFS. 2009. Biological Opinion - the continued authorization of reef fish fishing under the Gulf of Mexico reef fish fishery management plan, including Amendment 31, and a rulemaking to reduce sea turtle bycatch in the Eastern Gulf bottom longline component of the fishery. October 13, 2009. National Marine Fisheries Service. St. Petersburg, Florida. Available at:

http://sero.nmfs.noaa.gov/pr/esa/Fishery%20Biops/2009%20GOM%20Reef%20Fish%20Re-in%20BO.pdf

NMFS. 2010. 2010 Recreational Red Snapper Quota Closure Analysis – Fall Reopening. SERO-LAPP-2010-04. Southeast Regional Office, National Marine Fisheries Service. St. Petersburg, Florida. Available at: http://sero.nmfs.noaa.gov/sf/pdfs/2010_Recreational_Red_Snapper_Quota_Closure_Analysis_Fall_Reopening.pdf

NMFS. 2011a. Biological opinion on the continued authorization of Reef Fish fishing under the Gulf of Mexico Reef Fish Fishery Management Plan. September 30, 2011. Available at: http://sero.nmfs.noaa.gov/pr/esa/Fishery%20Biops/03584%20GOM%20Reef%20Fish%20BiOp%202011%20final.pdf

NMFS. 2011b. Fisheries Economics of the United States, 2009. U.S. Department of Commerce, NOAA Technical Memorandum. National Marine Fisheries Service-F/SPO-118. Available at: http://www.st.nmfs.noaa.gov/st5/publication/fisheries_economics_2009.html

NMFS. 2012a. Gulf of Mexico 2011 red snapper individual fishing quota annual report. SERO-LAPP-2012-04. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701. 42 pp. Available at: http://sero.nmfs.noaa.gov/sf/ifq/2011_RS_AnnualReport_Final.pdf.

NMFS. 2012b. Guidance on Cumulative Effects Analysis.

NMFS. 2013. Updated 2013 Gulf of Mexico red snapper recreational season length estimates. National Marine Fisheries Service, Southeast Regional Office, St. Petersburg, Florida. SERO-LAPP-2013-02 Addendum. 12 p. http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/red_snapper/documents/pdfs/2013_red_snapper_emergency_regs.pdf

NOAA. 2010. Deepwater Horizon Oil: Characteristics and Concerns. NOAA Office of Response and Restoration, Emergency Response Division. 2 p. http://www.noaa.gov/deepwaterhorizon/publications_factsheets/documents/OilCharacteristics.pdf

O'Hop, J., M. Murphy, and D. Chagaris. 2012. The 2012 stock assessment report for yellowtail snapper in the south Atlantic and Gulf of Mexico. Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute, St. Petersburg, Florida.

Parrack, N.C. and D.B. McClellan. 1986. Trends in Gulf of Mexico red snapper population dynamics, 1979-85. National Marine Fisheries Service, Southeast Fisheries Center, Miami, Florida. Coastal Resources Division Contribution No. CRD-86/87-4. 116 p.

Patterson, W. F. III, J. C. Watterson, R. L. Shipp, and J. H. Cowan, Jr. 2001. Movement of tagged red snapper in the northern Gulf of Mexico. Transactions of the American Fisheries Society 130: 533-545.

Porch, C. E., and S. L. Cass-Calay. 2001. Status of the vermilion snapper fishery in the Gulf of Mexico – assessment 5.0. Sustainable Fisheries Division Contribution No. SFD-01/01-129. National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Porch, C. E., A. M. Eklund, and G. P. Scott. 2003. An assessment of rebuilding times for goliath grouper. Contribution: SFD 2003-0018. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Porch, C. E. 2005. Projected effects of changes in minimum size regulations on the future status of the red snapper (*Lutjanus campechanus*) fishery in the U. S. Gulf of Mexico. NOAA, NMFS, SEFSC, 75 Virginia Beach Drive, Miami, Florida 33149. Contribution: SFD-2005-009. 7 pp.

Porch, C.E., G.R. Fitzhugh, and B.C. Linton. 2013. Modeling the dependence of batch fecundity and spawning frequency on size and age for use in stock assessment of red snapper in U.S. Gulf of Mexico waters-SEDAR31-AW03. Southeast Fisheries Science Center, Miami, Florida 33149.

RFSAP. 1999. September 1999 Report of the Reef Fish Stock Assessment Panel. Gulf of Mexico Fishery Management Council. Tampa, FL.

Rico-Martínez, R., T.W. Snell, and T.L. Shearer. 2013. Synergistic toxicity of Macondo crude oil and dispersant Corexit 9500A® to the *Brachionus plicatilis* species complex (Rotifera). Environmental Pollution 173:5-10.

Savolainen, M. A., R. H. Caffey, and R. F. Kazmierczak, Jr. 2012. Economic and Attitudinal Perspectives of the Recreational For-hire Fishing Industry in the U.S. Gulf of Mexico. Center for Natural Resource Economics and Policy, LSU AgCenter and Louisiana Sea Grant College Program, Department of Agricultural Economics and Agribusiness, Louisiana State University, Baton Rouge, LA. 171 p. Available at: http://www.laseagrant.org/pdfs/Gulf-RFH-Survey-Final-Report-2012.pdf

Schirripa, M. J., and C. M. Legault. 1999. Status of the red snapper fishery in the Gulf of Mexico: Updated through 1998. SFD-99/00-75. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

SEA (Strategic Environmental Assessment Division, NOS). 1998. Product overview: Products and services for the identification of essential fish habitat in the Gulf of Mexico. NOS, Page 7-62 DEIS for EFH for the Gulf of Mexico FMPs July 2003 Silver Spring MD; National Marine Fisheries Service, Galveston, Texas; and Gulf of Mexico Fishery Management Council. Tampa Florida.

SEDAR 3. 2003. Complete stock assessment report of yellowtail snapper in the southeastern United States – SEDAR 3, Assessment report 1. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 6. 2004a. SEDAR report 1 the goliath grouper in southern Florida: Assessment review and advisory report. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 6. 2004b. SEDAR report 2 the hogfish in Florida: Assessment review and advisory report. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 7. 2005. Stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 7 Update. 2009. Update stock assessment report of SEDAR 7 Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9. 2006a. Stock assessment report 1 of SEDAR 9: Gulf of Mexico gray triggerfish. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9. 2006b. Stock assessment report 2 of SEDAR 9: Gulf of Mexico greater amberjack. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9. 2006c. Stock assessment report 3 of SEDAR 9: Gulf of Mexico vermilion snapper assessment report 3. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9 Update. 2010. SEDAR 9 stock assessment update report, Gulf of Mexico greater amberjack. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9 Update. 2011a. SEDAR update stock assessment of vermilion snapper in the Gulf of Mexico. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 9 Update. 2011b. SEDAR update stock assessment of gray triggerfish in the Gulf of Mexico. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 10. 2006. Gulf of Mexico Gag Grouper Stock Assessment Report 2. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 10 Update. 2009. Stock assessment of gag in the Gulf of Mexico. – SEDAR update assessment. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 12. 2007. SEDAR12-Complete Stock Assessment Report 1: Gulf of Mexico Red Grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.
SEDAR 12 Update. 2009. Stock assessment of red grouper in the Gulf of Mexico – SEDAR update assessment. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 15A. 2008. Stock assessment report 3 (SAR 3) South Atlantic and Gulf of Mexico mutton snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 19. 2010. Stock assessment report Gulf of Mexico and South Atlantic black grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 22. 2011a. Stock assessment report Gulf of Mexico tilefish. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 22. 2011b. Stock assessment report Gulf of Mexico yellowedge grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 23. 2011. Stock assessment report South Atlantic and Gulf of Mexico goliath grouper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SEDAR 31. 2012. SEDAR 31 Section II: Data workshop report, Gulf of Mexico red snapper. SEDAR, North Charleston, SC.

SEDAR 31. 2013. Stock assessment report Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

SERO. 2006. Red snapper yield-per-recruit analyses. NOAA, NMFS, SERO, 263 13th Ave. South, St. Petersburg, Florida 33701. 13 pp.

SERO. 2012a. 2011 Gulf of Mexico grouper-tilefish individual fishing quota annual report. SERO-LAPP-2012-09. Southeast Regional Office. St. Petersburg, Florida. 49 p.

SERO. 2012b. Southeast Regional Office National Marine Fisheries Service. 2013 Recreational Red Snapper Quota Closure Analysis. Southeast Regional Office, St. Petersburg, FL.

SERO. 2012c. Southeast Regional Office National Marine Fisheries Service. Estimated reduction in Gulf of Mexico recreational red snapper harvest associated with various bag limits. Southeast Regional Office, St. Petersburg, Florida.

SERO. 2013a. Establishing Recreational Closure Authority Specific to Federal Waters off Individual States for the Red Snapper Component of the Gulf of Mexico Reef Fish Fishery. Emergency Action to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico. Southeast Regional Office, St. Petersburg, FL.

SERO. 2013b. Red snapper individual fishing quota program 5-year review. Southeast Regional Office. St. Petersburg, Florida. 94 p.

SERO-LAPP-2013-02. Southeast Regional Office National Marine Fisheries Service. 2013 Gulf-wide and State-specific Projected 2013 Red Snapper Federal Season Closure Dates. Southeast Regional Office, St. Petersburg, FL.

Shipp, R.L. 2001. The snapper fishery in the Gulf of Mexico, an historical perspective, and management implications. PowerPoint presentation to the Gulf of Mexico Fishery Management Council, January 2001.

Sutton, S. G., R. B. Ditton, J. R. Stoll, and J. W. Milon. 1999. A cross-sectional study and longitudinal perspective on the social and economic characteristics of the charter and party boat fishing industry of Alabama, Mississippi, Louisiana, and Texas. Report by the Human Dimensions of Recreational Fisheries Research Laboratory, Texas A&M University, MARFIN program grant number NA77FF0551.

Turner, S. C., N. J. Cummings, and C. P. Porch. 2000. Stock assessment of Gulf of Mexico greater amberjack using data through 1998. SFD-99/00-100. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Turner, S. C., C. E. Porch, D. Heinemann, G. P. Scott, and M. Ortiz. 2001. Status of the gag stocks of the Gulf of Mexico: assessment 3.0. August 2001. Contribution: SFD-01/02-134. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Valle, M., C. Legault, and M. Ortiz. 2001. A stock assessment for gray triggerfish, *Balistes capriscus*, in the Gulf of Mexico. Contribution: SFD-01/02-124. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center. Miami, Florida.

Walker, B. M., R. F. Zales II, and B. W. Rockstall. 2006. Charter fleet in peril: losses to the Gulf of Mexico charter fleet from hurricane storms during 2005. National Association of Charterboat Operators. 208 pp.

Wilson, C.A. and D.L. Nieland. 2001. Age and growth of red snapper, Lutjanus campechanus, from the northern Gulf of Mexico off Louisiana. Fishery Bulletin 99:653-664. http://fishbull.noaa.gov/994/wil.pdf

APPENDIX A. ALTERNATIVES CONSIDERED BUT REJECTED

REMOVED AT APRIL 2013 COUNCIL MEETING:

Two alternatives from **Action 2 – Establish Regions for Management**

Alternative 3: Establish an east (Florida, Alabama) and west (Mississippi, Louisiana, Texas) region and allow for different management measures for each region.
* ALTERNATIVE 3 (ABOVE) SUBSEQUENTLY REPLACED IN ACTION 2 AT OCTOBER 2013 COUNCIL MEETING.

Alternative 4: Establish three regions representing the west (Texas), north (Louisiana, Mississippi, Alabama), and east (Florida) region and allow for different management measures for each region.

Remove entire Action 7:
Action 7 – In-Season Accountability Measure Establishing Regional Closures in the EEZ
*Note: Both **Alternative 2** and **Alternative 3** could be selected as Preferred Alternatives.

Alternative 1: No action. When the recreational red snapper quota is reached, or is projected to be reached, the National Marine Fisheries Service (NMFS) files a notification with the Office of the Federal Register that prohibits the recreational harvest of red snapper in the economic exclusive zone (EEZ) for the remainder of the fishing year.

Alternative 2: If a region, as defined in Action 2, establishes an approved regional regulations, NMFS has the authority to alter the recreational red snapper season in the EEZ off those states (including a zero-day season) by the amount necessary to compensate for the additional harvest that would occur in state waters as a result of the region's regulations. (Boundaries for the EEZ off each state are in Figure 1.2.1.)

Alternative 3: If a region, as defined in Action 2, does not have an approved regional regulations and establishes regulations inconsistent with federal red snapper regulations, NMFS has the authority to adjust the recreational red snapper season in the EEZ off those states (including a zero day season) by the amount necessary to compensate for the additional harvest that would occur in state waters as a result of the region's inconsistent regulations. (Boundaries for the EEZ off each state are in Figure 1.2.1.)

Discussion:
Under current management, state and federal waters Gulf wide are open during the red snapper season. If the regions, as defined in Action 2, set their own fishing seasons through an approved management plan or inconsistent regulations, some areas of the Gulf could be open while other areas are closed. This action allows the Council to extend boundary lines of state waters into the EEZ, to correspond with the regions. These boundaries would enable NMFS to close federal

waters off of a region when its regional quota has been reached. Or, the boundaries could be used to close a portion of the EEZ off a state or region that establishes inconsistent regulations. This in-season accountability measure would help prevent the annual catch limit from being exceeded. The in-season and post-season (Action 6) accountability measures are not mutually exclusive and could be used together where appropriate. Further information on accountability measures is described in the Generic ACL/AM Amendment in Section 2.8 (GMFMC 2011).

In March 2013, NMFS implemented a temporary emergency rule that gives NMFS the authority to set separate closure dates for the recreational red snapper season in federal waters off individual Gulf states (Figure 1.2.1). This action was requested by the Council to provide a fairer and more equitable distribution of recreational red snapper fishing opportunities among anglers in all the Gulf states for the 2013 season. Although a temporary emergency rule will be in effect for the 2013 season, it will not be used as the analytical baseline. The temporary emergency rule, even if extended, would not be effective for the 2014 red snapper recreational fishing season.

Alternative 1 would continue the current method of determining the closure date for the recreational red snapper season and apply that date to all federal waters of the Gulf. NMFS determines the length of the season based on the quota, average weight of fish, and estimated catch rates. Because NMFS must ensure the entire stock harvest does not exceed the quota, including harvest in state waters, if states establish less restrictive regulations, the federal season must be adjusted to account for the additional expected harvest. For example, when calculating the projected 27-day 2013 season length, NMFS adjusted the mean catch rate to account for the year-round open season in state waters and 4-fish bag limit in Texas (SERO 2012). In addition, Louisiana has proposed an 88-day season with a 3-fish bag limit and Florida has proposed a 44-day season with a 2-fish bag limit in state waters. Based on the estimated catch rate with those regulations in the three state waters, the 2013 federal recreational red snapper season could be reduced to 22 days (SERO 2013). After the 22-day season, the entire EEZ would be closed for the recreational harvest of red snapper.

Both **Alternative 2** and **Alternative 3** would use regions developed in Action 2 to establish boundaries and allow NMFS to set different closure dates for the red snapper recreational season in the EEZ adjacent to each Gulf state. If the Council chooses to delegate management to the regions in Action 1 and Action 4, then there may be a review process to assess if the region's management plan is consistent with the goals of the FMP and red snapper rebuilding plan. A specific process would need to be established for plan approval. **Alternative 2** would apply to regions with approved management plans. If the region has an approved management plan, but the regional quota is determined to be met before the planned season closure, then NMFS could close the harvest in federal waters to prevent overharvest. **Alternative 3** would apply to regions that do not have an approved management plan and establishes regulations inconsistent with the federal regulations. If a region were to set red snapper regulations that were not less restrictive than federal regulations, NMFS would calculate the red snapper recreational season within those boundaries using an adjusted catch rate, to account for a longer season or larger bag limit in state waters. In some cases, this could allow the EEZ off regions with consistent regulations to have more days than if the season for the entire Gulf was adjusted. For example, if the 2013 federal season was reduced off Texas, Louisiana, and Florida to account for inconsistent regulations in

those waters, the federal seasons could be as follows: Texas = 12 days, Louisiana = 8 days, Mississippi = 28 days, Alabama = 28 days, and Florida = 21 days (SERO-LAPP-2013-2). If increased catch from a region with inconsistent regulations exceeds its sub-quota regardless of the adjacent EEZ being closed, then NMFS may need to adjust the federal season in other regions to account for harvest. Conversely, if a state were to implement regulations in state waters that were more restrictive than federal regulations, the federal season in the EEZ off that state could potentially be increased. The Council could choose both **Alternative 2** and **Alternative 3** to address situations where a region or state may or may not have an approved management plan.

If the current regulations are maintained (**Alternative 1**), they could confound the goals of regional management. If regions set varying seasons, it is possible the activities of one or more regions could exceed the recreational sector quota before another region's season occurs. In turn, NMFS would close the remainder of the season to prevent over-fishing. When the total recreational quota is met, all recreational harvest of red snapper would be prohibited regardless of whether one or more regions have reached their respective apportionments. By establishing varying closed areas, the enforcement issues would likely increase. Recreational fishermen would need to abide by the area closures and be mindful of transiting through closed areas. Provisions for transit through closed areas may need to be considered. If the EEZ was closed off a region due to inconsistent regulations (**Alternative 3**), then a clear definition of the state/federal boundary would help recreational fishermen to insure compliance. Currently, this boundary is the 9-nautical mile buffer off of Texas and Florida, and 3-nautical mile buffer off or Alabama, Mississippi, and Louisiana.

References

GMFMC. 2011. Final generic annual catch limits/accountability measures amendment for the Gulf of Mexico fishery management council's red drum, reef fish, shrimp, coral and coral reefs fishery management plans, including environmental impact statement, regulatory impact review, regulatory flexibility analysis, and fishery impact statement. Gulf of Mexico Fishery Management Council. Tampa, Florida. http://www.gulfcouncil.org/docs/amendments/Final%20Generic%20ACL_AM_Amendment-September%209%202011%20v.pdf

SERO 2012. Southeast Regional Office National Marine Fisheries Service. 2013 Recreational Red Snapper Quota Closure Analysis. Southeast Regional Office, St. Petersburg, FL.

SERO 2013. Southeast Regional Office National Marine Fisheries Service. 2013 Gulf-wide and State-specific Projected 2013 Red Snapper Federal Season Closure Dates. Southeast Regional Office, St. Petersburg, FL.

APPENDIX B. OTHER APPLICABLE LAW

The Magnuson-Stevens Fishery Conservation and Management Act (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 Procedure 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 (NMFS) 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 NMFS 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, NMFS 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, NMFS 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 (DQA) (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 DQA directs the Office of Management and Budget 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 Office of Management and Budget on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (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 NMFS, 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.

On September 30, 2011, the Protected Resources Division released a biological opinion which, after analyzing best available data, the current status of the species, environmental baseline (including the impacts of the recent Deepwater Horizon MC 252 oil release event in the northern Gulf of Mexico), effects of the proposed action, and cumulative effects, concluded that the continued operation of the Gulf of Mexico reef fish fishery is also not likely to jeopardize the continued existence of green, hawksbill, Kemp's ridley, leatherback, or loggerhead sea turtles, nor the continued existence of smalltooth sawfish (NMFS 2011). On December 7, 2012, NMFS published a proposed rule to list 66 coral species under the ESA and reclassify *Acropora* from threatened to endangered (77 FR 73220). In a memorandum dated February 13, 2013, NMFS determined the reef fish fishery was not likely to adversely affect *Acropora* because of where the fishery operates, the types of gear used in the fishery, and that other regulations protect *Acropora* where they are most likely to occur.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) 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 MMPA, the Secretary of Commerce (authority delegated to NMFS) 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 NMFS has under the MMPA 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 MMPA, 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 fisheries, and studies of pinniped-fishery interactions.

Under Section 118 of the MMPA, NMFS 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 MMPA, such as registration, observer coverage, and take reduction plan requirements. The primary gears used in the Gulf of Mexico reef fish fishery are classified in the updated 2012 MMPA List of Fisheries as Category III fishery (74 FR 73912). The conclusions of the most recent List of Fisheries for gear used by the reef fish fishery can be found in Section 3.3.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (PRA) (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 PRA requires NMFS to obtain approval from the Office of Management and Budget before requesting most types of fishery information from the public. Action 2 adds reporting and monitoring requirements to the list of post-season accountability measures that can be implemented or changed under the framework procedure and may have PRA consequences.

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 National Oceanic and Atmospheric Administration 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, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that either implement a new fishery management plan or significantly amend an existing plan (See Chapter 5). 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 will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Analysis. 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.

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

This Executive Order mandates that each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions. The Executive Order is described in more detail relative to fisheries actions in Section 3.5.1.

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 (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 NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

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 NMFS, 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).

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, habitat areas of particular concern, and gear-restricted areas in the eastern and northwestern Gulf of Mexico.

Essential Fish Habitat

The amended Magnuson-Stevens Act included a new habitat conservation provision known as essential fish habitat (EFH) that requires each existing and any new FMPs to describe and identify EFH for each federally managed species, minimize to the extent practicable impacts from fishing activities on EFH that are more than minimal and not temporary in nature, and identify other actions to encourage the conservation and enhancement of that EFH. To address these requirements the Council has, under separate action, approved an Environmental Impact Statement (GMFMC 2004) to address the new EFH 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 EFH. An EFH consultation will be conducted for this action.

References

GMFMC. 2004. Final environmental impact statement for the generic essential fish habitat amendment to the following fishery management plans of the Gulf of Mexico: 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. Tampa, Florida. http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Final%20EFH%20EIS.pdf

NMFS. 2011. Biological opinion on the continued authorization of Reef Fish fishing under the Gulf of Mexico Reef Fish Fishery Management Plan. September 30, 2011. Available at: http://sero.nmfs.noaa.gov/pr/esa/Fishery%20Biops/03584%20GOM%20Reef%20Fish%20BiOp%202011%20final.pdf

APPENDIX C. SUMMARIES OF PUBLIC COMMENTS RECEIVED

Scoping workshops were held from January 14 – 22, 2013.
Public hearings were held from August 1 – 15, 2013.

Written comments submitted in response to Reef Fish Amendment 39 can be found here: https://docs.google.com/spreadsheet/ccc?key=0Atgbk2rxQkqhdFViUTB3VERSX2ZwcXJmckl1QTBXZkE#gid=0

Scoping workshops were held in the following locations:

January 14, 2013
Baton Rouge, Louisiana
DoubleTree by Hilton
4964 Constitution Ave.
Baton Rouge, LA 70808
(225) 925-1005

January 14, 2013
Texas City, Texas
Holiday Inn Express
2440 Gulf Freeway
Texas City, TX 77591
(409) 986-6700

January 15, 2013
Corpus Christi, Texas
Hilton Garden Inn
6717 S. Padre Island Dr.
Corpus Christi, TX 78412
(361) 991-8200

January 15, 2013
Biloxi, Mississippi
Four Points by Sheraton
940 Beach Blvd.
Biloxi, MS 39530
(228) 546-3100

January 16, 2013
Orange Beach, Alabama
Hilton Garden Inn
23092 Perdido Beach Blvd.
Orange Beach, AL 36561
(251) 974-1600

January 17, 2013
Destin, Florida
Destin Community Center
101 Stahlman Ave.
Destin, FL 32541
(850) 654-5184

January 22, 2013
St. Petersburg, Florida
Hilton St. Petersburg Carillon Park
950 Lake Carillon Dr.
St. Petersburg, FL 33716
(727) 540-0050

Summaries of Scoping Workshops

Baton Rouge, Louisiana
January 14, 2013

Council and Staff
Campo Matens
Ryan Rindone

32 members of the public attended.

Joe Macaluso - www.theadvocate.com
The big issue is that the federal government is ignoring the fishermen. How do the federal fisheries managers know which survey, either the Texas Parks and Wildlife or MRIP, is correct? Red snapper can be caught in less than 25 meters of water. Also, how is funding for data collection going to be shared with the states who take on regional management? Allocation should be based on biological criteria. There is a disparity between how recreational and commercial catches figure into the overall red snapper quota. Louisiana's issue with respect to regional management is Florida: Florida has all the people, and Louisiana has all the fish.

George Huye - CCA
Regional management should be done by state, with each state constituting its own region. States should not have to share authority with other states with less resources.

Mike Montalbano - CCA
Regulations are intentionally cumbersome. The Gulf Council should pursue regional management. The Gulf Council should remove as many regulations from the fishery as possible.

Austin Johnson - Private recreational angler
Supports regional management.

Trey Williams - CCA
There are lots of red snapper out there. A 27-day season is not sufficient. Anyone with a boat can catch red snapper. The current system is broken. State-level red snapper is the way to go.

Rawlston Phillips - Private recreational angler
Regional management is the way to go. The money spent by Louisiana on the fishery goes much further than the money spent by the federal government.

Rad Trascher - CCA
Supports regional management. LDWF has a better sense of the red snapper fishery than the federal government and can better manage catch data and conduct stock assessments. Regional management is a step in the right direction.

Larry Hooper - Our Freedom Charters
Will regional management lead to catch shares? Catch share programs haven't worked well anywhere. Supports regional management. Let states handle their own fisheries. Would like to

see the charter for-hire industry recognized as its own business. We pay for everything and get punished for it. Regional management should be conducted at the state level. Red snapper should be assessed using numbers of fish instead of pounds. Scientists need to count all the fish.

Andrew Roberts - CCA
Supports regional management, with Louisiana acting as its own region and governed by LDWF.

Ben Graham - CCA
There are tons of red snapper. Supports regional management of red snapper at the state level. States can do a better job than the federal government. Allocation should be based on biological criteria.

Chris Moran - Marina operator
Supports regional management of red snapper at the state level. Louisiana has the best red snapper fishery and the smallest number of fishermen. There should be shorter seasons as you go from the western Gulf of Mexico to the eastern Gulf of Mexico. Allocation should be based on biological criteria. States could do a better job with sampling funding.

Jim McDowell - Private recreational angler
Supports regional management of red snapper at the state level, with Louisiana managed by LDWF. Allocation should not be based on landings.

David Cresson -CCA Executive Director, LA
The Gulf Council proposed regional management plan is different from the Louisiana proposal. One goal was to show that Louisiana can count fish better than the federal government. In favor of management at the lowest possible level. In favor of regional management as proposed by LDWF.

Texas City, Texas
January 14, 2013

Council and Staff
Patrick Riley
Emily Muehlstein

30 members of the public attended.

Bubba Cochrane - Charter, commercial, and recreational angler; Good News Charters and Southern Seafood LLC
What is happening with red snapper management right now isn't working and regional management should be pursued. He likes the idea of managing with 3 regions. Bubba does not want the states to manage red snapper without a regional system.

Shane Cantrell - Charter; Fishin' Addiction Charters and Charter Fishing Association
Shane is a young captain and he believes that regional management has a lot of potential as long as states can agree with one another. He would like to see regional management because it may be a way to increase accountability for the recreational sector.

Tom Hilton - Private recreational angler
The Council is working backwards and should identify fishing effort first. He thinks that an offshore boat permit would solve a lot of issues. The charter for-hire industry already has their own permit and the private recreational anglers should, too. An offshore recreational permit would allow for better determination of what the recreational sector is catching without the time lag associated with MRIP. The permit could also solve the problem of National Standard 4 that disallows discrimination between residents of different states by charging different fees for resident and nonresident fishermen. The real solution is an honest stock assessment that gives full credit to the fish on artificial structure in the Gulf. He could really get behind a regional management system if the regions actually had control, but not if this is just a way to further micromanage the fishery.

John Thomas - Private recreational angler
He echoes Tom Hilton's perspective. He sees that there is more snapper out there than ever, and even though he is allergic to fish he wants the system to be fixed.

Jonathan McKay - Private recreational angler
Jonathan suggests that permitting or buying a license that gives a certain number of fish to each angler would be a good idea. A tag system should be considered; this could be considered using regional management or it could be done Gulf-wide. Ultimately, Jonathan is worried about what the overpopulation of snapper is doing to the other fish.

Roger Dickert - Private recreational angler
Roger would not want to trade more days for a smaller bag limit. He supports a tag system because he would like to be given the opportunity to fish when he wants to so he doesn't have to risk unsafe seas. Regional management would be better because the local folks in control would better be able to make management judgments for their region.

David Conrad - Charter; Circle H Charter
David supports the idea of using a tag system. He likes the idea of regional management and would like to see the idea developed a little more.

Bill Platt - Charter boat captain and tournament angler
Bill likes the idea of a regional management system and he really wants accountability in the recreational sector to be improved. 20 years ago there were way more offshore fishermen and there are a lot less now. A tag system is a reasonable idea for Texas because better accountability should let them fish longer.

Scott Hickman - Charter Captain; Circle H Charters
One size fits all management doesn't work in the Gulf of Mexico. He would rather fish red snapper in the fall, and he supports regional management on a state-by–state level so that they

have the authority to come up with their own system under the federal quota and federal accountability measures. Regional management will allow us to get to the accountable fishery quicker than the federal fishery would allow. The status quo system does not work; 27 days is ridiculous, and Texas may as well not have a federal season with the bad weather. Texas Parks and Wildlife could do better for their fishermen and he applauds the Council for trying to give the recreational fishermen a solution.

Tyler Walker - For-hire deckhand and recreational fisherman.
Tyler has seen how the fish population has grown and he supports the idea of moving forward with a regional management program.

Billy Woolsey - Private recreational angler
Billy thinks regional management is a good idea. He wants accountability to be better and believes that a tag system is a reasonable solution to the problem we're facing. We need to do something different.

Johnny Williams - Owner, Williams Party Boats
Jonny believes there needs to be some safeguards because management has potential to become a derby where the state that opens first gets to catch their fish and the rest of the states are punished when the quota is caught. If a state wants to participate in the program, then it should have to agree that it will close its own state waters, not just the federal waters off the state if the individual region's allocation is reached. He thinks that NMFS should relinquish federal control of snapper completely and allow the states to manage it.

Buddy Guindon - Commercial fisherman; Katie's Seafood
Regional management and accountability would be good but he wants to ensure that the people out there can continue to make a living taking people fishing.

Johnny Walker - Charter owner
Johnny thinks the states can better manage the fishery than the federal government. If the Council can put in place measures that ensure one state's harvest does not cut into another, then regional management is a good idea. He also believes that a tag system is a reasonable solution to the recreational season problems.

Todd Hanslik - Private recreational angler
He supports the idea of regional management and would like the Council to give the states a shot at incremental management of this fishery. It will be very complex to develop the regional management program and Todd would like to be sure that the Council continues to involve fishermen in the development of the program by sharing information and inviting people to comment. He wants to pass on the ability for future generations to fish, and he fears that the fishery is slowly migrating to a liberal system that is similar to that of Canada where you must pay someone to take you bluefin tuna fishing. He would really like the state to have the opportunity to manage snapper on their own.

Gary Graham - Texas Sea Grant
He thinks tags should be considered because it is a potentially viable system that works in the hunting world. He would like to discuss density-dependent allocation because population is limited by habitat.

Corpus Christi, Texas
January 15, 2013

Council and Staff
Doug Boyd
Emily Muehlstein

37 members of the public attended.

Mary Ann Heimann – South Bay Marina
It's a good idea that the states take control of the fishery but she thinks that the states should be given full control.

Russell Sanguinet - Charter; Dolphin Dock Inc.
Council can't allocate based on the number of licenses because we can't use historical licenses to determine it; people have not been buying licenses and won't until there is something to catch. He wonders how we are going to differentiate between federally permitted vessels and state-permitted for-hire vessels if the state of Texas gets regional control? Would federal permits be allowed to fish in state waters? The whole purpose of this idea should be to make each state responsible for their own fishery and not be managed by another mismanaged fishery (NMFS).

Jackie Romeyn - Charter; Fisherman's Wharf
She would like to know what the distinction would be between the federal and state waters. She does not currently have a federal permit and wonders what the distinction will be under regional management. Jackie likes the idea of state-based regions or even smaller regions because she believes it will allow for better scientific information, better allocation, and better local regulations if the states are given more responsibility.

Troy Williamson - CCA
The concept of regional management has been developed because of frustration toward federal management. Red snapper are more abundant than ever and management has worked, but it's time to reap the benefits of success. The CCA supports driving management to the lowest level of government possible. The states should manage with as little federal influence as possible. NMFS is "rewarding" anglers with a 27-day season and a 2-fish bag limit after they have sacrificed to rebuild the stock. This short season will result in a wide-spread revolt to fisheries management. The transfer of responsibility will be no easy task; enforcement, monitoring, etc. will be difficult to control. The states should have the ability to manage both commercial and recreational harvest of red snapper.

Mike Nugent - Port Aransas Boatman Association and Charter operator
They have been asking to split the Gulf for 10 years. This is the first time the Council has responded and he hopes that people keep moving forward to get this plan to work. Each state should get their allocation from historical landings and it's really important that each state is independent from the others. The mistakes other regions make should not affect each region. The problems with MRIP could be solved by dividing it into other states who can take more control of their data collection programs. Regional management is desperately needed and would take away the state vs. federal permit issues.

Mike Miglini - Charter; Out to Sea Adventures
He would like allocation to be based on biological abundance of the fish. He supports regional management because local folks can make better regulations for local needs. He sees problems with Reef Fish Amendment 30b and section 407 of MSA which will kill charter boats and headboats. Credit should be given for artificial reef and restocking programs when determining abundance. He would like people to look at tags for recreational boats, and if that's good for private recreational boats he would like to see something for for-hire boats that would allow anglers to fish the days they want; they could use an AB tag system to stay in business.

Mike O'Dell - Charter; A Fishing Fantasy Guide Service
He supports regional management because the states can make better regulations than NMFS can.

Dennis Lug - Retired charter, now private recreational angler.
Would like to see some sort of regional management system worked out.

Steve Hardy - Private recreational angler
We are here because federal fisheries management is not working and it's time for something different. He supports any plan that has Texas as their own region. Boundaries would extend into the EEZ. We are not managing licenses, we are managing fish, so allocation should be based on abundance of fish. There are multiple stocks of red snapper based on habitat and reefs. He is worried that we are having a discussion about how we divide the pie but we are saying nothing about how to make the pie bigger. We need to do something about structure offshore.

Jim Smarr - RFA Texas
RFA believes in state management and has for 17 years. We should use the longest data set possible (historical landings) so that Texas can be treated fairly. It should be a biological abundance decision, period. The SEDAR-style stock assessments should be conducted regionally so that Texas can fish their own stock; monitored and determined by Texas. Management guidelines should not be established by the Council; the state should be given full control of their allocation. There needs to be an amendment to the MSA that cures the system that allows the other states to be affected by another region's overrun of their own allocation.

Brett Casey - For-hire; Port Aransas Boatman Association
Out of all the discussion, it still boils down to NMFS still monitoring the red snapper, and if one state catches the whole allocation, we're still back to square one. We need to figure out what we

need to do to limit this. Texas should be given their own allocation and each region's behavior should not affect what the other regions do. It's time to make a change for the good.

Tim Oestreich – Headboat Captain; Dolphin Dock Inc.
The federal limit seems to mainly limit the for-hire folks with federal permits. Some kind of separation should be made for someone who owns a business, because as it is, private fishermen can catch 4 fish all year-round, while federally permitted for-hire boats have a real short season. It would be very helpful if the season can stretch.

Biloxi, Mississippi
January 15, 2013

Council and Staff
Dale Diaz
Ryan Rindone

23 members of the public attended.

Johnny Marquez - CCA Executive Director, MS
Local managers can do a better job of managing fisheries for constituents. Concerned about how regions will be defined. Want fair and equitable access to the fishery. How would state management entities be funded to conduct regional management?

Tom Becker - Charter for-hire captain
Red snapper are very abundant. Concerned about what Mississippi will get with respect to allocation. Want to know who makes up the catch numbers.

J.R. Titmus - Private recreational angler, artificial reef builder
Louisiana is claiming 9 nautical miles for state waters. Has no idea how recreational catch data are calculated. Would like to see state control out to 9 nautical miles in Mississippi, and the federal government can control beyond that. It is not possible to fish all 27 days of the proposed 27-day red snapper season; it's just too expensive.

Tim Knighten - Private recreational angler
Does not understand how the stock assessments work. It is hard to catch triggerfish because there are so many red snapper. Red snapper are eating everything. Doesn't trust the federal government or federally generated data. Supports state management of red snapper.

Gary Smith - Gulf Council Red Snapper Advisory Panel
There is a major issue with counting the recreational catch. The entire process is a joke, and the federal government is screwing the recreational sector. Flew from Mississippi to Florida to count the number of boats fishing to prove it. Mississippi needs regional management. What happens when Texas removes all of the oil rigs?

Keith Cuevas - Marine Biologist, Gulf Coast Research Lab
Mississippi needs regulations extended into federal waters. Allocation should account for this. Other states have shallow water oil rigs and Mississippi does not. The Gulf Council needs to get involved in the rigs-to-reef process. Juvenile red snapper recruit to the oil rigs. Supports regional management authorities, based on good communication. If states pursue regional management individually, then their independent harvests could have a domino effect on the other states.

Orange Beach, AL
January 16, 2013

Council and Staff
Bob Shipp
Ryan Rindone

125 members of the public attended.

Pat Willingham - Private recreational angler
Has seen a four- to fivefold increase in red snapper over the last 40 years. All of the fish are in the 9-25 pound range. Divers tell him that the juvenile fish of other reef species are almost gone due to the red snapper. The Gulf Council needs to consider the impact of large red snapper on reefs.

Tom Steber - Charter for-hire captain
Need to look at regional management. The big issue will center around how the lines are drawn. The overarching issue is the Magnuson-Stevens Act. Fishermen need to rally together to get MSA redone or fixed. Alabama has the best reef zone in the world.

Kevin Sinyard - Private recreational angler
Watched the bag limit drop from five fish to two. It costs a fortune to go fishing for red snapper now.

Dale Ruckle - Private recreational angler
Can't even get a charter to go out fishing for red snapper. Bag limits are too low. Local businesses are losing tourism business as a result.

Troy Frady - Charter for-hire captain
Concerned about how to make a living. Bag limits have plummeted. Cautious about regional management of recreational red snapper. Is regional management going to extend the season or increase the creel limits? Is Alabama going to manage the fishery better than the National Marine Fisheries Service? The regulations are affecting our livelihood.

Gary Malin - Private recreational angler
Fished only a few days last season and limited out on red snapper each time. Red snapper are eating everything. Regional management should be done with a break between Florida and Alabama; this would be more fair for Alabama. Current fisheries regulations don't make sense.

John Kemper - Private recreational angler from Minnesota
Alabama anglers should fight for their rights.

Tim Wilson - Private recreational angler
Fishing is an inalienable right. There are plenty of fish in the ocean. The charter for-hire fleet is afraid of the federal government. Fishermen need to protect their rights. Government has taken all of those rights away. Shorter seasons make it less likely that people will fish. Local control of fisheries is better.

Tom Ard - Charter for-hire captain
The best idea so far for red snapper is regional management. Alabama does a great job counting fish. Each region should be held accountable for their allocation. Would fish tags be used? How might regional management apply to grouper in the future? Use historical biological data for setting the allocation and adjust it periodically. Fears noncompliance by states like Texas and Louisiana.

Ben Fairey - Charter for-hire captain
The fisheries management process takes too long. Regions will all fight for allocation. Alabama should not be grouped with Florida. Alabama only has 3 nautical miles worth of state waters, while other Gulf states have more. Wants assurance from the Alabama Gulf Council representatives that Alabama will be cared for in this process.

Bill Coursen - Private recreational angler, Pensacola, FL
Whenever the government takes anything over, they mess it up. Fishing rights are being denied. Caught 76 red snapper last year, and discarded close to 400. Hopes that some regions won't be unjustly shorted on their allocation.

Matt McLeod - Charter for-hire captain
There is a disparity between the number of fish caught and the reported landings. Both are total unknowns. Supports states all going noncompliant. NMFS's red snapper management plan will crumble with noncompliance, and NMFS will have to do what the fishermen want.

Chris Sherrill - Restaurateur
There will be economic problems if the season length drops to zero. He depends on recreational fishermen eating at his restaurant during the summer; no red snapper, no customers.

Gary Bryant - Charter for-hire captain
Red snapper season should last 180 days at a 4-fish per person bag limit. Supports regional management by individual states with accountability measures provided by the Gulf Council. Likes the idea of fish tags. The charter for-hire industry could receive their annual allotment of tags at the beginning of each year, and the private recreational anglers could get tags to catch red snapper at will. Harder to find more desirable fish.

Rashley - Private recreational angler
The federal government is over-managing. Flawed management affects everything.

Alan Taylor - Private recreational angler
Supports regional management of recreational red snapper by state.

Dwain Sanders - Private recreational angler
There are thousands of red snapper off Alabama. The charter for-hire industry is ruined. Commercial fishermen are paying lobbyists to raise the price of red snapper.

Robert Turpin - Escambia County Marine Resources, Private recreational angler
Supports regional management of recreational red snapper with allocation based on biomass. NMFS is currently trying to rebuild red snapper to a threshold that is too high. Will never be able to meet the rebuilding threshold.

Destin, Florida
January 17th, 2013

Council and Staff
Pam Dana
Ryan Rindone

104 members of the public attended.

Candy Hansard - Private recreational angler
The portion of Amendment 30B requiring CFH fishermen to adhere to the strictest regulations needs to be eliminated. States shouldn't be penalized for other states exceeding their allocation. Regional management is needed. Need to solve fisheries problems, not manage them. Need more artificial reefs. The Gulf Council needs to look into private artificial reef construction.

George Eller - Charter for-hire captain
Regional management of recreational red snapper may have merit under some conditions. There are too many unanswered questions right now. Need to table the amendment until the next assessment is completed. Until the CFH portion of Amendment 30B is gone, competition will be unfair. Texas is in violation of current regulations. Louisiana extending their state waters will take an act of Congress.

Matt McLeod - Charter for-hire captain
Been coming to these meetings for ten years. Lots of false hope. System has failed the fishermen. The regions would be fighting over a constantly shrinking pie. Supports states all going noncompliant. Fishermen need leverage against NMFS. States could grossly exceed the TAC set by NMFS, and the NMFS's red snapper management plan would crumble. Fishermen could then demand that NMFS work with them. The problem won't be solved by anything less.

BJ Burkhead - Charter for-hire captain
Opposed to regional management; table the amendment.

Stewart Miller - Charter for-hire captain
Opposed to regional management; table the amendment. Too many unanswered questions.

Chuck Guilford - Charter for-hire captain
Opposed to regional management. Opposes all management without consideration of ecosystem variations. Opposes any separation between the CFH and private recreational fishing groups.

Tom Adams - Charter for-hire captain, www.mexicobeachcharters.com
The Gulf Council should appoint new people to the Advisory Panels.

Dr. Rain - Private recreational angler, Destin resident
Has quit fishing deepwater outside of the red snapper season because red snapper are all you can catch when you go out there. Huge red snapper off of Destin. Fisheries management needs to focus on the data collection.

Brant Kelly - Charter for-hire captain, www.relentlesscharterfishing.com
Opposed to regional management. Table the amendment.

St. Petersburg, Florida
January 22, 2013

Council and Staff
Martha Bademan
John Sanchez
Ava Lasseter

24 members of the public attended.

Capt. Bob Bryant - Charter
In considering regional management, once again we are trying to manage something that we don't know what we're managing; we don't know the numbers. The stock assessment fails to get a huge percentage of the fish from oil rigs and artificial reefs. The majority of the stock assessment is based on natural structure that NMFS knows. The majority of fishermen are going to artificial structures and we are not capturing fish from those places. Stock assessments are useless without this, making catch data useless, too. There are more problems than benefits in regional management and it seems to be a backdoor to sector separation. What we need to do is to unite fishermen and provide good data to NMFS and have them provide good data to the fishermen in return.

Bo Gorham - Private recreational angler
For-hire operators do a great service, but private anglers put money into economy and so have an important voice. He works weekdays so only had 12 days possible to fish red snapper during last year's season, and was only able to go fishing four times. Investing in gas and boat wear and tear for a derby fishery is not sustainable. Upon hearing this year's estimated 27-day season, he started running his own numbers. He compared MRIP's effort data and number of fish caught a day and the numbers don't work out. If effort data stays constant, it shows they didn't overfish last year but came out right at quota. If that's true, he should have 42-day season again this year. But it's a crap shoot because we don't know the stock. He does agree that taking management to the regional level now is crazy; the data are not there now to manage as a whole. Dividing into

five ways creates new bureaucracy that taxpayers will have to pay for. The states don't cooperate now. It's a way to avoid the hard part which is to validate what is going on in the fishery. Data is the key.

Capt. Mark Hubbard - Hubbard's marina, John's Pass.
He is strongly against splitting up amongst the states and echoes Bo Gorham's comments. He doesn't want another layer of bureaucracy on this fishery, especially since the Council can't manage fishery now. Plus, taxpayers can't afford it; it's more and bigger government. The plan takes away from state powers and discriminates between for-hire, federal, and state permit holders. It discriminates between the states, and appears to move toward sector separation. It uses fatally flawed data to micromanage a fishery that is already screwed up. It seems to divide and conquer the Gulf of Mexico. He is against regional management now, but would have supported it with a 6-month season. A full benchmark assessment needs to be done on red snapper. The fishery needs more days for open access fishing. It's the opportunity to fish that drives our economy, and a 27-day season is just silly with all the fish out there. Resources are being spent on assessing smaller reef fish instead of the important species.

Before considering regional management of gag, a full benchmark stock assessment is needed. The Council is restricting the gag fishery based on a flawed stock assessment. The gag fishery is huge and more reliable data are needed. There aren't as many boats fishing now because they must spend so much money to go out. Ten years ago, there would be 15 boats at the Middle Grounds, but that doesn't happen anymore. The pressure isn't on the fishery the way NMFS and the Council say it is.

Concerning state boundaries and allocation of red snapper, if states get allocated pounds, could those allocations start to migrate over from the commercial fishery? If that was the case, he wants the commercial allocation that moves into the recreational sector to stay in the recreational sector. He doesn't want the commercial sector to buy out of the recreational sector. That would give them some protection, in case catch shares take hold in the recreational fishery.

Stephen Furman - Tampa CCA
He hasn't fished offshore much lately; fuel prices keep him in his kayak. He knows others don't do it as much anymore either, so offshore effort has gone down. He thinks people understand regional management would allow states to manage the fishery and they can do a better job. But it sounds to him like the feds would spread the 27-day season among the 5 states and each gets a 5-day season and that's not appealing. He thinks a 4-day weekend season would help spread out the days so people could fish longer. Concerning how to get better data, he supports the idea of an offshore permit for collecting data from fishermen, and says it's easy to do and is already done for migratory game bird hunting.

Dennis O'Hern - FRA
This plan appears to increase uncertainty and it is uncertainty applied to allowable catch that is hurting them. The idea for regional management, regional cooperation, is a great concept, but it's called the Gulf Council and you already have that. The problem seems like the Council is told what they have to do. He is not sure where regional management is coming from; it looks like sector separation. He doesn't want to give NMFS more power to close a fishery arbitrarily.

For greater amberjack, they closed the season in 5 days, in-season, based on MRFSS data which is not supposed to be used for in-season quota monitoring. The MRIP data is still just random telephone surveys; Florida is starting new data collection but it's not making it to the top.

It's been 10 years since having a full stock assessment on red snapper. The current one is a modified benchmark assessment, and it should be a full assessment; the Council needs to make some more noise about that. These plans take away state powers; if state waters are managed by the states, anyone can fish in state waters, permit or no permit. The feds cannot come in and chain you to that federal rule. That is for all the charter guys.

They had clamped down on red grouper even though they were thick as flies, and they won a lawsuit against the regulations. The same thing has been going on with red snapper and gag; the clamp is staying on it. Roy Crabtree is clamped by certain rules, as is the Council, but we threw off slavery and other rules and putting up with this is just plain wrong. The spring shallow-water grouper closure is not needed, and he can't believe it isn't done (the rule making), so Mark Hubbard and his employees cannot access what is known to be a healthy fishery. There is no reason the closure can't be rescinded. If Dr. Crabtree can close amberjack in five days, he can open shallow-water grouper. The analyses have already been done. There will be an online petition up by tomorrow to address the 2-month closure, because it would be a half million dollar bump to the fishing economy.

Libby Fetherston - Ocean Conservancy
She lauds the goal on increasing flexibility for recreational fishermen, but is concerned that regional management isn't the way to go. There are issues with monitoring and enforcement and it is unclear where from the federal budget enforcement funds would come from. Without additional funds for monitoring, they would need a bigger uncertainty buffer and she doesn't see that happening because it would further reduce the season. She is uncertain how much flexibility states would have; it may be limited to when they have their seasons and the bag limit. She doesn't see this as a mechanism for optimizing recreational fishing opportunities.

As with all their comments on scoping documents, she feels that the Council and NMFS should analyze a wide range of options that address this issue. She is concerned about how federally permitted charter operators would be affected by regional management, and that warrants further analysis. NMFS must ensure that this is consistent with federal law and the rebuilding goals for red snapper. She predicts the assessment will show great progress has been made in rebuilding red snapper, but that they aren't there yet.

Vance Tice - FRA, Minnows and Monsters
He is still very upset that no Council member attended the last public hearing and he is concerned that Council members did not receive their testimony. He had a tackle shop that is closed because of draconian measures; 60% of his business was offshore fishing and there is no more offshore fishing. He's against catch shares but they keep trying to slide it in there; the majority in Florida is against catch shares. Congress has addressed it but they move on with it. The way effort is calculated is a big problem. He has called a lot of businesses and they report that business is down, but the data show effort is up so there is a problem there. At the boat ramps, you don't see the big trailers anymore, you see smaller bay boats. He knows guys who

have sold their offshore boats because it isn't worth it anymore. When FWC goes out and does mortality studies that show that the data are way off, their studies are ignored. Bob Shipp's paper says there is way more red snapper than the Gulf Council wants to admit. It's hard to feel a part of management when what they see is 180 degrees from what is being shoved down their throats. For red snapper, they used to have a 192-day season, 4-fish bag limit, and they never overfished the limit. Now with a 40 day season and 2 fish limit, they've somehow miraculously overfished the limit. Factors like weather, price of gas, and the economy are not taken into account. People are struggling. You're not just affecting people who fish, you're affecting every Florida citizen because when you take that money out of the state, the state still needs money to run.

Scott Moore
We don't even know how many people are fishing in federal waters. He doesn't like fishing licenses, but he knows why you have to have them. Magnuson was enacted to get information from the states on who was fishing in federal waters and he can't understand how to do this without knowing how many people are fishing in federal waters. He suggests that Florida implement the same thing as fish and wildlife did with federal regulations on migratory birds. The permits should be free because you're collecting the data and the feds should pay the states to do this. That's the first thing that should have been enacted. Just because a guy catches grouper onshore doesn't mean he fishes in federal waters. The only way to get this right is to permit the data. Another thing is poundage; Florida never went by pounds; they went by individual catch. Poundage is way too confusing, you want to simplify as much as possible. There are a lot of fish out there in trouble. There's no fishery in the world that has ever collapsed fishing on a slot [limit]; he feels slot limits should be used more.

Frank Bacheler - Captain, Hubbard's Marina
Since he came back to the area he's noticed an overwhelming change in the laws that have been imposed. For groupers, there's a big change in what you can't keep in federal waters. He gets gags year round and is not seeing the population decline like everyone is talking about. Out in 130 feet of water, red snapper are everywhere, and doesn't understand how people are getting these numbers. The FWC guys are there and they're awesome, but they are counting the number of runts coming on their boat, rather than figuring out other stuff out with their time. We're so limited with the season and we need to figure out what we're doing here. He's listening to everyone out here saying the way they collect the data is wrong, and everyone here at this meeting is against everything that's going on. No one here supports the 27-day season, they need better data.

Public Hearings were held in the following locations:

Thursday, August 1, 2013
Call-in session

Monday, August 5, 2013
Courtyard Marriott
11471 Cinema Drive
D'Iberville, MS

Wednesday, August 7, 2013
Holiday Inn Select
2001 N. Cove Boulevard
Panama City, FL

Thursday, August 8, 2013
Renaissance Mobile Riverview Plaza Hotel
64 South Water Street
Mobile, AL

Monday, August 12, 2013
Hilton St. Petersburg Carillon Parkway
950 Lake Carillon Drive
St. Petersburg, FL

Monday, August 12, 2013
Hilton Garden Inn
6717 South Padre Island Drive
Corpus Christi, TX

Tuesday, August 13, 2013
Hampton Inn & Suites
2320 Gulf Freeway South
League City, TX

Wednesday, August 14 2013
DoubleTree
4964 Constitution Avenue
Baton Rouge, LA

Summaries of Public Hearings

Call-in Session
August 1, 2013

Council/Staff
Kevin Anson
Ava Lasseter
Emily Muehlstein
Charlene Ponce

17 members of the public attended.

Tom Hilton - Recreational
Mr. Hilton believes that regional management puts the cart before the horse. The council is pushing for a concept that uses knowingly-flawed data that overestimates recreational landings by at least 70%. It would be better for the Council to help the Gulf states implement a state-based data collection system modeled after the existing Louisiana offshore landings permit. Second, the concept of sector separation has been slipped into the regionalization concept. It is irresponsible for the Council to give that type of decision-making power over to the states rather than tackle the issue Gulf-wide.

Dennis O'Hern- Fishing Rights Alliance
Mr. O'Hern wonders if there is no accountability measure for the recreational sector what is the 28-day season. The recreational sector is managed after the fact, due to the horrible mismanagement of data by NMFS. He also mentioned that people often submit false information to the Council and he asked for follow-up regarding the law and any past prosecutions under said law. He also expressed concerned that regional management was based on data that the Council knows to be wrong. The Gulf Council should be the management tool that we want, but NMFS influence and control over the Council must be removed. He stated that the Council should be run by the states with constituent input, and the members of the Council should be appointed by the Governors; not hand-picked by NMFS.

B.J. Burkette - Charter; Florida
Mr. Burkette does not think that regional management is going to help because the NMFS data is still a problem. There is no need to be so restrictive with the amount of fish and regional management won't solve that problem.

George McKinney - Commercial, For-Hire, Private; Pensacola, Florida
Mr. McKinney wondered how enforcement would work in a place like Pensacola, Florida with Perdido Pass so close. He would like to see some sort of regional management. He wants small boats and private recreational anglers who are limited in days to be able to safely and effectively fish in the Gulf.

Bob Gill - Former Council member; Crystal River, Florida
Mr. Gill recommended that the Council require the states to come to full agreement on all points relative to regional management prior to the Council taking further consideration or action. He added that the Council ought to table the amendment until the states agree on all the issues. New issues seem to be cropping up and it's going to be very difficult for the Council to find an endpoint if the states do not agree with every action and alternative.

Action 4 - Council should give serious consideration to a slot limit for red snapper. Spawning success is greater for large fish and preserving the older fish in the truncated population may have some merit. Mr. Gill acknowledges the discard problem and still believes a slot will be useful.

Bill Teehan - Former Council member; Tallahassee, Florida
Mr. Teehan thinks the entire concept is very interesting. He supports Action 4's Alternative 7 which would allow individual regions to establish sub-allocations for for-hire and private anglers.

Corpus Christi, Texas
August 12, 2013

Council/Staff
Robin Riechers
Lance Robinson
Emily Muehlstein
Charlotte Schiaffo

20 members of the public attended (mostly Texas Parks and Wildlife and Harte Research Institute staff; about eight were members of the fishing public).

Cliff Strain - Port Aransas Boatmen Association
Mr. Strain commented that he understood the current data collection but believed that people were unsatisfied with the federal government because the regulations were not in line with what the people are seeing. He added that if a move toward regionally adjusting the data was not made, then regional management would not have the punch or be as effective as anglers wanted it to be. He noted that Texas had the structure and ability to manage red snapper, and while he did not think there needed to be a year round season which could deplete the resource, he did want to see a longer fishing season. He stated that he had not had to spend more than 30 minutes fishing to limit out. He expressed concern that eventually, the destruction of habitat would have an effect on fish populations and encouraged the Council to do what it could to control the removal of rigs. He stated that his association wants to support regional management.

Ron Moser - Port Aransas Boatmen Association
Mr. Moser favored individual states having control over their waters (Action 2, Alternative 3). He added that the data collected should be adjusted to account for the biomass of fish in the state of Texas, as Texas seemed to be penalized more than other states because of this not being taken into account. He supported Action 3, Alternative 1; do not apportion the quota based on historical landings. On Action 4, he recommended the Preferred Alternative 4, to allow individual regions to set recreational red snapper season start and end dates and season structure. On **Action 5, he believes that** for-hire vessels and federal permit restrictions should be left to Texas to manage the resource. On Action 6, he agreed a 2-year grace period (Option b) would be best so that the new program had opportunity for error without penalizing fishermen while the program adjusts.

Pat Harris - Private recreational angler
Mr. Harris would like to see as much effort from the Gulf Council to increase habitat quality as they did in forcing regulations on anglers. He added that trying to improve everything instead of concentrating on improving the fishery was the wrong path for the Council to take.

League City, Texas
August 13th, 2013

Council/Staff
Robin Riechers
Lance Robinson
Emily Muehlstein
Charlotte Schiaffo

21 members of the public attended.

Kristen McConnell - Senior Conservation Manager Environmental Defense Fund
Ms. McConnell expressed concern about the regional management proposal. She is cautiously supportive because Environmental Defense Fund agrees with the idea of increasing access and flexibility for anglers but finds it difficult to support an idea with so many outstanding issues. Regional management will present challenges to law enforcement; it may have unforeseen impacts on other species due to effort shifting. It is hard to move forward without a better understanding of what the states will do. States should provide details on what direction they will take and their proposals should include accountability measures in case of a quota overage. She fails to see the relative benefit of regional management for private and for-hire anglers in the long term because the concept simply promotes the use of the same management tools with the same pitfalls. A real solution that potentially uses regional management is needed, but the current amendment does not seem to provide that solution.

Bill Bahr - Charter Captain
Mr. Bahr is largely concerned with the health of the snapper fishery and properly assessing that population. He is a Texas native and he has confidence that Texas Parks and Wildlife will be able to manage red snapper. He is concerned about the discrepancy between Louisiana and NMFS landings data, and he would support Action 6, Option b which would create a 2-year grace period for the regions to establish their own programs without having the NMFS numbers shoved down their throats.

Scott Hickman - Charter Captain and owner of Commercial Red Snapper IFQ
Status quo is not working. The commercial IFQ program can be credited for success of some of the red snapper recovery and he would like a similar tool to be considered for the for-hire sector. Mr. Hickman can't participate in his own state waters, so he supports Action 5, Alternative 2 to remove the requirement for for-hire vessels to adhere to the strictest regulations. Mr. Hickman also supports Action 4, Alternative 7 which would allow for a separate sub-allocation for the private for-hire industry. Amendment 39 has a lot of holes in it and he is afraid that Texas will have a weekend season or something that will shut out the charter industry. He is tentative about supporting the amendment and wants the charter boat fleet to have assurance before he can move forward.

Paul Bitner - Charter Captain
There are a lot of holes in how the landings are calculated and he would like to see greater accountability in how those numbers are collected. Mr. Bitner does not think we can get a grip

on the numbers without implementing a tag program to keep better track of the fish. Mr. Bitner has limited days to catch fish and make business work and the current management does not allow for success. He supports Action 4, Alternative 7 because he would like the private and for-hire fishermen to be managed separately.

Johnny Williams - Headboat owner/operator
Mr. Williams thinks there are going to be winners and losers under a regional management program, and we are in a situation where we don't know who those winners or losers will be. Texas landings have decreased but it's not because the fishing is getting worse; he predicts that under status quo, the Texas proportion of the harvest will continue to decrease. He supports states' rights and wants the federal entities to stay out of his business. Mr. Williams has a hard time supporting the amendment without a better understanding of what the program would look like if delegation were given to Texas. He would be opposed to a situation where the red snapper fishing would be open only on Saturdays during the summer and he does not know where the State stands.

Tom Hilton
The data is showing that headboats are landing 68% of all the red snapper, so headboat operators have nothing to worry about. Mr. Hilton wants to Council to get a hard handle on exactly what we are doing before jumping off into the unknown using flawed data to determine allocation percentages in Action 3. There are no regional assessments of biomass and the feds have taken control of the commercial fishery without regional control. Off Texas the working allocation is not 51% commercial and 49% recreational. There are far more commercial harvesters off Texas, and here it may be closer to 70% commercial and 30% recreational. He says that there is nothing regional about this concept because the federal agencies will still hold critical control points. The Louisiana offshore landings permit should be a sounding bill for every Gulf state to implement their own data collection system. Louisiana didn't believe the feds and they proved them wrong. In Mr. Hilton's opinion, it is a dereliction of duty for all involved to move forward with this amendment with this flawed data.
He proposes a better solution:

1. Implement a data collection system across the Gulf for each state modeled after the Louisiana offshore permit.
2. Implement an 11 million pound annual catch limit over the next 3 years.
3. Give any increase in quota to the recreational fishermen because their season and bag limit has been slashed while commercial folks have had full access to their quota.
4. Reinstate the 149-day season.

Steve Cunningham - Charter Captain
Mr. Cunningham shares the other speakers' opinions. Caution is important and using only fishery dependent data needs to change. 30B needs to be removed so he can be successful as a charter operator. Mr. Cunningham supports Action 2, Alternative 4 which would create 5 regions, one for each state. He supports Action 3, Alternative 3 which would remove landings from 2006 and 2010 from the allocation decisions. He made it clear that biomass data needs to be included somehow even if it's not given the weight that the historical landings are given. We know there are more fish in the western Gulf and that needs to be accounted for. He supports Action 5, Alternative 2 which would create a 2-year grace period. A 3-year period may be even

better. He is slightly leaning towards having more faith in Texas than he does in NMFS. There are a lot of issues in the document so before any radical changes are made, we need to look at this idea very carefully. The fishermen on charter boats are recreational anglers and they, along with seafood consumers, are important contributors to the fishery.

Shane Cantrell - Charter owner/operator
Mr. Cantrell is disappointed that regional management does not allow for planning or provide for additional methods of data collection. He would prefer a multispecies IFQ program for the charter industry. The commercial program works well for commercial fishermen and he understands that changes would be made to accommodate his industry. He wants the real time accountability. He thinks harvest tags would work out very well for the private recreational anglers. As it is proposed, regional management is just a reshuffling of the deck with the same management tools and he would rather new novel approaches to management be considered.

David Conrad- Charter Captain
He fully supports Action 5, Alternative 2 to allow for-hire boats to participate in the state season. 30B needs to go away because recreational fishermen on their boat should be allowed to fish just like recreational boat owners. He sees issues with allocation for the states. He needs to see what's in the details before fully supporting this document.

Baton Rouge, Louisiana
August 14, 2013

Council/Staff
Camp Matens
Emily Muehlstein
Charlotte Schiaffo

24 members of the public attended.

Chris Macaluso - Theodore Roosevelt Conservation Partnership
As an organization, they are trying to work within the system to better manage the recreational fisheries. Trying to manage red snapper to a total allowable catch is destined for failure because the Marine Recreational Information Program does not reflect an accurate count of the fish that are being caught or how many people are fishing. For Action 3 he is concerned with basing the quotas on historical landings. Historical landings from Alabama and Florida will reflect more landings but that is a measure of fishing pressure not abundance of fish. He does not want to restrict pressure but if the target in MSA is to end overfishing and the Council allows states with less biological availability to out fish the areas with greater availability, we are going to fail. Managing the red snapper as one stock may be a problem. The fish don't migrate from west to east; there are fish in each region. Allowing an area with less fish to harvest more of the fish will not end overfishing. The only way we will successfully end this problem is to allow more fishing where there is more biological availability and less where there are less fish.

Ed Fike - Environmental Consultant and private recreational angler
He is supportive of what he has heard this evening. He is happy that Louisiana is taking the charge and that NMFS is working with fish. Biological availability of the fish is very important and he thinks that needs to be considered during allocation (Action 3). During the fall supplemental season, he fished every weekend and never saw anyone at one of the key landings sites. Based on his observations, he does not think that fishing is that important here in the fall.

Kenny Acostu - Private recreational angler
Mr. Acostu likes the opportunity to go fishing and he enjoys it, but opening June 1st with 2-3 foot waves is hard on him. Let the states manage using the weekend season and if it's recreational that's great because it will benefit him. There is no reason to go fishing for anything outside of red snapper season because you can't catch anything but red snapper; it makes his other fishing less enjoyable. He wants to fish without feeling like he is being wasteful and killing something by accident.

George Huye – CCA; Private Recreational Angler
He is in favor of regional management. For Action 3 he is concerned about the use of historical landings data because it does not fix the problem of inaccurate fisheries dependent data and it doesn't make much sense to perpetuate the current system forward. He sees enough alternatives for the Council to be able to make good decisions here. Regional management will give the people of Louisiana a better opportunity to have a chance to catch what they may have had in the past. We know the stocks are strong and this will give the Louisiana fishermen an opportunity to put their trust and faith in their own resource management department.

Rebecca Triche - Louisiana Wildlife Federation
Ms. Triche noted that red snapper is a hot topic for her members. The Federation submitted comment in January already. She would like to see a regional approach because the Louisiana Department of Wildlife and Fisheries has the capability to assess the stocks. She wants limits to be set based on biological availability because the western region can sustain more harvest than the east. There was lots of activity in legislation regarding the passion Louisiana anglers have. She urges the Council to continue moving forward with this idea to acknowledge the frustrations of recreational anglers.

Rad Trashe - CCA Louisiana
Mr. Trashe expressed his full support for regional management. We all know that we've had faulty science and poor management. This is an opportunity to do what everyone wants; what's best for the resource and what's better for the fishermen. The Department of Louisiana Wildlife has proven that they do better science than NMFS. This year there was someone at the ramp every single day. We should put the power in Louisiana's hands and let them run with it.

D'Iberville, MS
August 5, 2013

Council/Staff
Dale Diaz
Corky Perret
Ava Lasseter

7 members of the public attended.

Tom Becker - Mississippi Charter Captains Association
The Association discussed this the other night and decided that they need to go along with this and see what happens. There are problems with the data because they were never checked to see what they're catching on his headboat. He wants to see someone checking landings more often instead of telling him when they can get there. The Department of Natural Resources is hurting for people. There are so many places to unload your fish and that's what's happening.

Gary Smith - Recreational
Mr. Smith's first concern is the legality of regional management. There needs to be a non-biased person looking into it, in case in a couple of years it's determined they did something they shouldn't have done. He doesn't have a problem with regional management, but it needs more thought about how to divide the quota. Texas, the largest state, only got 12%, but Florida landed so much [2012 landings]; what's going to happen as the population changes? There are a lot of areas that need to be addressed: will there be annual adjustments, what process will be required, what happens when Texas demands more? The biggest issue is how you're going to count/estimate the data. Everyone agrees the data is flawed, but we're not addressing that. To fix it, got to count the number of boats. Don't worry about the number of fishermen, just the number of boats. Then each state could require a boat permit and you couldn't have red snapper aboard until you have the boat permit. Looking at Mississippi's data, it comes up to 22,000 fish they could catch. He has counted the number of boats and has never counted more than 50 boats. The most he's ever counted was 88; the boats just aren't there. You'll be back to 21 days even with regional management. Counting the boats is how you have got to correct the problem.

John Marquez Jr. - CCA Mississippi
He supports regional management and wants management taken to the state level, which allows them to control the fishery, best for their anglers. CCA wants to see the states have the ability to manage the commercial red snapper quota and be allowed to allocate among sectors. They would like red snapper removed from the reef fish FMP, as has been done for misty grouper and other species. He echoes Mr. Smith's comment that any plan needs to contain flexibility to allow for change within the states over time. Mississippi has concerns about how this would be funded, as they have a different sort of funding mechanism for data collection.

Panama City, FL
August 7, 2013

Council/Staff
Martha Bademan
Ava Lasseter
Ryan Rindone

7 members of the public attended.

Chris Niquet - Commercial
He noted the differences between the percentage of red snapper landed by state since the oil spill and the allocation under Alternative 4, which would be based on the ABCs [separate east Gulf and west Gulf stock assessments]. So recreational allocations would be 48.5% for the eastern Gulf and 51.5% for the western Gulf, which lands the least recreationally. He thinks this seems backward. It seems like Florida and Alabama would get the bulk of the ABC.

Bart Niquet - Commercial
He feels the charter and headboats are stepchildren in all of this; they get no consideration from the commercial side or the recreational, side and they are being put out of business. They need their own sector and own bag limits. For red snapper, the recreational sector should go to 60 days with a 2-fish limit and set that in stone. He thinks they should be given something they can depend on so they can make a living.

Bob Zales, II - Charter Captain
He is speaking for himself, as the PCBA has not taken a position yet. He is conditionally supportive of regional management if it is only being discussed for the recreational sector, and will have no impact on the commercial sector. He supports the preferred alternatives in Actions 1 and 2. For Action 3, he supports Alternative 2 Option d, which doesn't benefit Florida the most out of all the options, but seems like a fair allocation. For Action 4 he supports only the Preferred Alternatives 2, 3, and 4. He is a little confused by Action 5; he wants the provision removed so supports that. But even if regional management does not go forward, he wants this action to go forward and be finalized before the 2014 season. For Action 6, he prefers Preferred Alternative 3, Option b, to allow the longest grace period to adapt to the change in management. He's confused by Action 7 because he doesn't see how it's going to work. Under the Magnuson-Stevens Act, the fishery must be closed when the quota is met. What happens if Mississippi fishes a lot? They could effectively cause the closure of the rest of the Gulf. He recommends rescinding 406b of Magnuson-Stevens Act that includes that requirement. It may have been necessary in 1996; it's clearly no longer necessary. Finally, as a for-hire operator, he emphasized that his passengers are private recreational anglers, just like those fishing on their own boats.

Jim Clements - Commercial
Although CCA and RFA have criticized the IFQ program, Mr. Clements supports regional management if it will help the recreational fishers catch more fish and have more days to fish. But, this must not affect the commercial red snapper fishery.

Mike Eller – Charter and Commercial
Mr. Eller is speaking for himself and his own for-hire vessel. For Action 1 he prefers Alternative 3 [Council-implemented regional management]; for Action 2: he supports the preferred alternative for 5 regions. Action 3, he supports Alternative 2 Option d, combining the long and short time series.

Regional management is a slippery slope that could result in benefits or could turn into a total fiasco. He is asking himself, can his state can do a better job than what is going on now? If the states get together and make a big advance on data collection, it could be better. But if they don't do that first, then this is putting the cart in front of the horse. This is hard for him to support when he doesn't know the long-term ramifications. His state will make decisions dependent on the current political persuasion at the time. What if his state chooses to adopt a weekends only season? That would really hurt the for-hire fleet. At least with the Council, you have diverse opinions represented. He would like the individual states to have leeway in setting opening season dates, but maybe not to set different size limits. He supports increased flexibility but it is a slippery slope. He wants to see the regional plan for each state before he supports it and they don't have that yet because it is still new. He wants to hear from a state how it would actually manage red snapper better than the NMFS. He does not want the commercial sector to be impacted by this.

He supports the preferred alternative in Action 5 and thinks the 30B provision is unfair and unconstitutional. In Action 4, he supports Preferred Alternatives 2, 3, 4, 5, and 7. Anglers that fish on for-hire vessels should be protected and shouldn't be lumped in with private anglers who fish differently. He feels there should be the possibility for sub-allocations. In Action 6, he supports Alternative 4, Option b; establish a 2-year grace period before implementation of overage adjustments.

Don Whitecotton - Charter
We have all looked at how we are going to protect the life of the fish, but we are putting our industry at risk by setting the season in the middle of hurricane season. Even if the weather is bad, charter boats have to go out to make a living. We need a way for the for-hire boats to go out, and this is a big socio-economic issue. They have been lucky nothing has happened on the headboats yet [accidents]. He suggests a year round season with a number of days you can go out to fish. We can surely regulate ourselves [when we go out] if we can regulate these fish.

Warner Foster - Recreational
He is very interested in the quota issue and wants to know how they get the quota. He hears they just pull it out of somewhere. He has never had his fish counted and weighed checked on his boat. Commercial guys have to weigh in all their fish, but no one is ever at the ramp asking him what he caught. With the size of his boat, he's not going to go out in the rough weather and get beat up. The June 1 season start was during rough weather and they couldn't get out most of the season.

***The following comments were received in Panama City on August 6, 2013 at a hearing on Coastal Migratory Pelagics.**

BJ Burkett - Charter and commercial
Capt. Burkett thinks the whole program is going to be a logistical nightmare. Red snapper isn't being managed appropriately now, but they're going to throw 5 more leaders into it? It's going to be very complicated because the regulations change so often. On all the actions, except Action 5, he wants no action. He does not want regional management. The issue we should be fixing is the flawed data. Regional management will make regulations based on incorrect data instead of tackling the issue of getting more days. He has heard we're never going to get back to where we were just a few years ago [longer season], but that's what people want. Regional management might leave them with 25-30 day seasons, which doesn't take us anywhere close to what people want. Therefore, he doesn't see the benefit of doing it. Maybe one state can fish a few days longer, or keep one fish more than another region's bag limit, but he does not see benefits to the whole Gulf and for all anglers.

Randall Akins - Recreational, retired charter captain
Capt. Akins has a historical captain permit that he can't transfer to his children and that's not the way of doing things in America. His children should be able to receive his permit. When he was in the Coast Guard, he was told you couldn't sell permits, but now you can so he is confused. At least 50% of the time he has broken the law because he has to throw back red snapper that are not at least 16". He has to throw them back and the dolphins get them. Feeding dolphins is against the law and he knows someone who was fined for feeding dolphins. This can be solved by keeping the season open year round and you can keep your first five fish. He was told that would be culling the fish, but that's what he's doing now. He doesn't support setting seasons or size limits.

Mobile, AL
August 8, 2013

Council/Staff
Kevin Anson
Chris Blankenship
Ava Lasseter
Ryan Rindone

11 members of the public attended

Palmer Whiting - Recreational, Alabama CCA Chairman
Mr. Whiting thinks the state has done a good job of managing its inshore fisheries and can do a good job with offshore fisheries. They built this habitat and they can manage it. Alabama has a lot of habitat and a lot of snapper. CCA members are in favor of that and having it on a more local level, with local scientists, who are more than capable. Bring management down to the state level is preferred.

Captain Mike Thierry - Charter
Capt. Thierry thinks states can manage it better. The inconsistency of allocations needs to be addressed so everyone is on the same playing field, and the number of days each state is allowed to fish is not impacted because of another state's regulations. Basing allocations on landings when some states who were open while Alabama was closed is like rewarding them for not playing by the rules. Sub-allocations are needed because one size does not fit all. The weekends-only season that private vessel anglers prefer would not work for the charter fleet. There should be no more restrictions than the for-hire fleet already has compared to the private recreational anglers. He supports the states taking over management and feels they are up to the job. He would like to have states do their own stock assessment. They are here locally every day and could do a better job. Each region needs to be accountable to its own quota. For example, Destin's rodeo is in October and they'd like to have the season open then. We'd like our own rodeo season in July; so one size doesn't fit all. Texas wants to be open in the winter as it's a good time for them. Alabama has got some of the best people in the world working on this stuff right here.

Skipper Thierry - Charter
He supports state management of red snapper and the ability of a state to establish sub-allocations. He would like for the state to conduct its own stock assessment, eventually. He wants the accountability measure, but they need to be flexible because landings often fluctuate annually for all kinds of reasons beyond our control.

St. Petersburg, FL
August 12, 2013

Council/Staff
Martha Bademan
Ava Lasseter
Ryan Rindone
Doug Gregory

8 members of the public attended.

Buddy Bradham - Recreational Fishing Alliance, retired charter and commercial fisherman
The RFA has a lot of problems with this so for right now, they prefer No Action be taken on all actions. They're behind on getting data sets in place. Florida is working on it but it is unknown when this will be available. There is the potential for going over the quota. The season dates would have to come from each state. There was a meeting on Friday morning where it was said it may cost 2.5 million dollars per year, and that's funding Florida doesn't have. These are problems that need to be solved before we go into regional management. If the improved data collection is in place, they would support regional management with the following preferred alternatives:

Action 1: prefer no action until data is fixed. Action 2: support the preferred alternative of 5 regions. For the quota (Action 3), they have a big problem with the data sets that may be used.

Louisiana has just proved how bad the NMFS estimates are: 70% off from their catches. They would like any new data program to run for 3 years then base the quota allocations on that. Action 4: they support the Preferred Alternatives 2, 3, and 4. But, they strongly speak out against Preferred Alternative 7, as this is a form of sector separation. They are still against it and feel the Council is trying to push it into this amendment. For Action 5, they support the preferred alternative. They don't support 30B at all and it should be completely removed, not just for red snapper but also for all reef fish. For Action 6, they prefer Alternative 3, Option b, allowing a 2-year grace period. For Action 7, they support Preferred Alternative 3 for a state that opts out.

Libby Fetherston - Ocean Conservancy
The Ocean Conservancy supports the Council's attempt to consider alternative management for the recreational sector. They do not take positions on allocation decisions. They think data collection and validation is critical to the success of any regional management plan and will need minimum data standards. They encourage the Council to think about ways that the restoration funds could support these goals in terms of quality and quantity of sampling. They also encourage the use of ACTs because they provide a reasonable buffer based on past performance and warrant consideration.

Sharon McBreen - Pew Charitable Trusts
Pew recommends revising the amendment's purpose and need to reflect that rebuilding red snapper is the top priority. They recommend that the amendment include the following three key components needed for the program's success:
1. AMs are safeguards and should include payback provisions, to maintain rebuilding. So they support the preferred alternative in Action 6. They also encourage the states to set up a system to constrain catches to within their quota. They do not oppose the Option a for a 1-year grace period, to allow state programs time to adjust their management process. This will be a learning process between NOAA and the states.
2. The states will need to retool their data collection systems to avoid triggering AMs. States should consider the use of ACTs to build in a margin of error to avoid triggering AMs, especially while adjusting to the new management system. This includes the option to use an ACT.
3: They support Action 4's Preferred Alternative 7: establish sub-allocations. If a state chooses that this is right for them, they should be allowed to pursue it.

Stephen Furman - CCA Florida, Tampa chapter
CCA supports regional management. He found the example of regional management for king mackerel an interesting example, because it is a migratory fish, and red snapper is not migratory. We had no red snapper off this coast for a long time but they came back because of Hurricane Katrina. This is a good start but the states would do a good job figuring it out if the feds would step away from the table. The states should have that authority, and the data and law enforcement is available. NOAA is paying FWC for nice boats to patrol offshore and there is no reason to stop that.

APPENDIX D. DELEGATION PROVISION

Magnuson-Stevens Fishery Conservation and Management Act 16 U.S.C. §1856(a)(3), (b)

(3) A State may regulate a fishing vessel outside the boundaries of the State in the following circumstances:

(A) The fishing vessel is registered under the law of that State, and (i) there is no fishery management plan or other applicable Federal fishing regulations for the fishery in which the vessel is operating; or (ii) the State's laws and regulations are consistent with the fishery management plan and applicable Federal fishing regulations for the fishery in which the vessel is operating.

(B) The fishery management plan for the fishery in which the fishing vessel is operating delegates management of the fishery to a State and the State's laws and regulations are consistent with such fishery management plan. If at any time the Secretary determines that a State law or regulation applicable to a fishing vessel under this circumstance is not consistent with the fishery management plan, the Secretary shall promptly notify the State and the appropriate Council of such determination and provide an opportunity for the State to correct any inconsistencies identified in the notification. If, after notice and opportunity for corrective action, the State does not correct the inconsistencies identified by the Secretary, the authority granted to the State under this subparagraph shall not apply until the Secretary and the appropriate Council find that the State has corrected the inconsistencies. For a fishery for which there was a fishery management plan in place on August 1, 1996 that did not delegate management of the fishery to a State as of that date, the authority provided by this subparagraph applies only if the Council approves the delegation of management of the fishery to the State by a three-quarters majority vote of the voting members of the Council.

(C) [Pertains to Alaska, only.]

(b) EXCEPTION.—
(1) If the Secretary finds, after notice and an opportunity for a hearing in accordance with section 554 of title 5, United States Code, that—

(A) the fishing in a fishery, which is covered by a fishery management plan implemented under this Act, is engaged in predominately within the exclusive economic zone and beyond such zone; and

(B) any State has taken any action, or omitted to take any action, the results of which will substantially and adversely affect the carrying out of such fishery management plan; the Secretary shall promptly notify such State and the appropriate Council of such finding and of his intention to regulate the applicable fishery within the boundaries of such State (other than its internal waters), pursuant to such fishery management plan and the regulations promulgated to implement such plan.

(2) If the Secretary, pursuant to this subsection, assumes responsibility for the regulation of any fishery, the State involved may at any time thereafter apply to the Secretary for reinstatement of its authority over such fishery. If the Secretary finds that the reasons for which he assumed such regulation no longer prevail, he shall promptly terminate such regulation.

(3) If the State involved requests that a hearing be held pursuant to paragraph (1), the Secretary shall conduct such hearing prior to taking any action under paragraph (1).

APPENDIX E. FISHERY ALLOCATION POLICY

Gulf of Mexico Fishery Management Council Fishery Allocation Policy

This allocation policy was developed by the Gulf of Mexico Fishery Management Council to provide principles, guidelines, and suggested methods for allocation that would facilitate future allocation and reallocation of fisheries resources between or within fishery sectors.

Issues considered in this allocation policy include principles based on existing regulatory provisions, procedures to request and initiate (re)allocation, (re)allocation review frequency, tools and methods suggested for evaluating alternative (re)allocations.

1. Principles for Allocation

   a. Conservation and management measures shall not discriminate between residents of different states.

   b. Allocation shall:

      (1) be fair and equitable to fishermen and fishing sectors;
      (i) fairness should be considered for indirect changes in allocation
      (ii) any harvest restrictions or recovery benefits be allocated fairly and equitably among sectors

      (2) promote conservation
      (i) connected to the achievement of OY
      (ii) furtherance of a legitimate FMP objective,
      (iii) promotes a rational, more easily managed use

      (3) ensure that no particular individual, corporation, or other entity may acquire an excessive share.

   c. Shall consider efficient utilization of fishery resources but:
      (1) should not just redistribute gains and burdens without an increase in efficiency

      (2) prohibit measures that have economic allocation as its sole purpose.

   d. Shall take into account: the importance of fishery resources to fishing communities by utilizing economic and social data in order to:
      (1) provide for the sustained participation of fishing communities

      (2) minimize adverse economic impacts on fishing communities.

e. Any fishery management plan, plan amendment, or regulation submitted by the Gulf Council for the red snapper fishery shall contain conservation and management measures that:
   (1) establish separate quotas for recreational fishing (including charter fishing) and commercial fishing.

   (2) prohibit a sector (i.e., recreational or commercial) from retaining red snapper for the remainder of the season, when it reaches its quota.

   (3) ensure that the recreational and commercial quotas reflect allocation among sectors and do not reflect harvests in excess of allocations.

2. Guidelines for Allocation

   a. All allocations and reallocations must be consistent with the Gulf of Mexico Fishery Management Council's principles for allocation.

   b. An approved Council motion constitutes the only appropriate means for requesting the initiation of allocation or reallocation of a fishery resource. The motion should clearly specify the basis for, purpose and objectives of the request for (re)allocation.

   c. The Council should conduct a comprehensive review of allocations within the individual FMPs at intervals of no less than five years.

   d. Following an approved Council motion to initiate an allocation or reallocation, the Council will suggest methods to be used for determining the new allocation. Methods suggested must be consistent with the purpose and objectives included in the motion requesting the initiation of allocation or reallocation.

   e. Changes in allocation of a fishery resource may, to the extent practicable, account for projected future socio-economic and demographic trends that are expected to impact the fishery.

   f. Indirect changes in allocation, i.e., shifts in allocation resulting from management measures, should be avoided or minimized to the extent possible.

3. Suggested Methods for Determining (Re)Allocation

   a. Market-based Allocation

      (1) Auction of quota

      (2) Quota purchases between commercial and recreational sectors
         (i) determine prerequisites and conditions:
            (a) quota or tags or some other mechanism required in one or both sectors
            (b) mechanism to broker or bank the purchases and exchanges

(c) annual, multi-year, or permanent
(d) accountability for purchased or exchanged quota in the receiving sector

b. Catch-Based (and mortality) Allocation

(1) historical landings data
(i) averages based on longest period of credible records
(ii) averages based on a period of recent years
(iii) averages based on total fisheries mortality (landings plus discard mortality) by sector
(iv) allocations set in a previous FMP
(v) accountability (a sector's ability to keep within allocation)

c. Socioeconomic-based Allocation

(1) socio-economic analyses
(i) net benefits to the nation
(ii) economic analysis limited to direct participants
(iii) economic impact analysis (direct expenditures and multiplier impacts)
(iv) social impact analysis
(v) fishing communities
(vi) participation trends
(vii) "efficiency" analysis
(a) lowest possible cost for a particular level of catch;
(b) harvest OY with the minimum use of economic inputs

d. Negotiation-Based Allocation

(1) Mechanism for sectors to agree to negotiation and select representatives

(2) Mechanism to choose a facilitator

(3) Negotiated agreement brought to Council for normal FMP process of adoption and implementation.

APPENDIX F. RECREATIONAL RED SNAPPER LANDINGS BY STATE

Table F-1. Annual recreational red snapper landings by state (1986-2012), based on whole weight of fish.

Year	Alabama	Florida	Louisiana	Mississippi	Texas	Total
1986	323,492	1,593,566	524,552	2,869	525,242	2,969,721
1987	318,901	761,209	233,706	44,526	454,200	1,812,542
1988	424,538	792,595	863,520	17,900	622,381	2,720,934
1989	444,786	406,266	586,819	284,300	980,566	2,702,738
1990	643,616	337,062	230,085	45,609	360,242	1,616,614
1991	723,034	395,507	805,909	147,953	451,819	2,524,222
1992	1,246,134	315,810	947,733	630,219	840,845	3,980,742
1993	1,718,626	1,057,854	1,362,129	747,229	1,281,487	6,167,324
1994	1,605,971	727,962	1,089,102	404,108	1,502,841	5,329,984
1995	1,444,968	463,310	1,294,673	128,605	1,455,779	4,787,335
1996	1,444,014	827,485	754,168	175,169	1,490,081	4,690,917
1997	2,203,725	827,976	968,193	547,479	1,325,782	5,873,155
1998	1,182,803	1,177,238	612,436	155,699	1,104,927	4,233,104
1999	1,617,501	1,209,612	664,834	166,199	588,084	4,246,230
2000	1,155,519	1,427,335	734,885	44,043	707,746	4,069,528
2001	1,834,889	1,742,575	270,461	89,262	509,885	4,447,073
2002	2,174,740	2,098,746	341,127	195,786	743,411	5,553,810
2003	1,910,897	1,849,232	454,021	301,260	666,135	5,181,545
2004	1,426,192	3,116,124	316,965	44,168	636,651	5,540,101
2005	1,027,670	1,868,668	471,898	3,421	582,182	3,953,838
2006	725,489	2,018,215	598,502	22,656	659,988	4,024,849
2007	897,641	2,794,730	602,891	5,865	466,981	4,768,107
2008	519,715	2,157,390	568,063	37,279	345,989	3,628,435
2009	887,926	2,493,005	667,761	65,869	660,335	4,774,895
2010	277,001	1,475,034	57,341	8,381	459,653	2,277,410
2011	1,767,756	1,683,222	326,803	46,161	482,047	4,305,989
2012	1,444,412	2,136,520	759,205	189,658	616,525	5,146,321

Source: Southeast Fisheries Science Center annual catch limit dataset, including the Marine Recreational Information Program, Texas Parks and Wildlife Department, and Southeast Headboat Survey landings. Headboat landings from Alabama and the Florida Panhandle are initially reported to the same headboat fishing area. Landings have been assigned to each state based on the survey's vessel landing records (May 2013).

APPENDIX G. CURRENT FEDERAL REGULATIONS FOR GULF OF MEXICO RECREATIONAL RED SNAPPER MANAGEMENT

1. § 622.9 Prohibited gear and methods--general.

(e) Use of Gulf reef fish as bait prohibited. Gulf reef fish may not be used as bait in any fishery, except that, when purchased from a fish processor, the filleted carcasses and offal of Gulf reef fish may be used as bait in trap fisheries for blue crab, stone crab, deep-water crab, and spiny lobster.

2. § 622.20 Permits and endorsements.

(b) Charter vessel/headboat permits. For a person aboard a vessel that is operating as a charter vessel or headboat to fish for or possess Gulf reef fish, in or from the EEZ, a valid charter vessel/headboat permit for Gulf reef fish must have been issued to the vessel and must be on board.

(1) Limited access system for charter vessel/headboat permits for Gulf reef fish. No applications for additional charter vessel/headboat permits for Gulf reef fish will be accepted. Existing permits may be renewed, are subject to the restrictions on transfer in paragraph (b)(1)(i) of this section, and are subject to the renewal requirements in paragraph (b)(1)(ii) of this section.

(i) Transfer of permits--(A) Permits without a historical captain endorsement. A charter vessel/headboat permit for Gulf coastal migratory pelagic fish or Gulf reef fish that does not have a historical captain endorsement is fully transferable, with or without sale of the permitted vessel, except that no transfer is allowed to a vessel with a greater authorized passenger capacity than that of the vessel to which the moratorium permit was originally issued, as specified on the face of the permit being transferred. An application to transfer a permit to an inspected vessel must include a copy of that vessel's current USCG Certificate of Inspection (COI). A vessel without a valid COI will be considered an uninspected vessel with an authorized passenger capacity restricted to six or fewer passengers.

(B) Permits with a historical captain endorsement. A charter vessel/headboat permit for Gulf coastal migratory pelagic fish or Gulf reef fish that has a historical captain endorsement may only be transferred to a vessel operated by the historical captain, cannot be transferred to a vessel with a greater authorized passenger capacity than that of the vessel to which the moratorium permit was originally issued, as specified on the face of the permit being transferred, and is not otherwise transferable.

(C) Procedure for permit transfer. To request that the RA transfer a charter vessel/headboat permit for Gulf reef fish, the owner of the vessel who is transferring the permit and the owner of the vessel that is to receive the transferred permit must complete the transfer information on the reverse side of the permit and return the permit and a completed application for transfer to the RA. See § 622.4(f) for additional transfer-related requirements applicable to all permits issued under this part.

(ii) Renewal. (A) Renewal of a charter vessel/headboat permit for Gulf reef fish is contingent upon the permitted vessel and/or captain, as appropriate, being included in an active

survey frame for, and, if selected to report, providing the information required in one of the approved fishing data surveys. Surveys include, but are not limited to–-

(1) NMFS' Marine Recreational Fishing Vessel Directory Telephone Survey (conducted by the Gulf States Marine Fisheries Commission);

(2) NMFS' Southeast Headboat Survey (as required by § 622.26(b)(1));

(3) Texas Parks and Wildlife Marine Recreational Fishing Survey; or

(4) A data collection system that replaces one or more of the surveys in paragraph (b)(1)(ii)(A),(1),(2), or (3) of this section.

(B) A charter vessel/headboat permit for Gulf reef fish that is not renewed or that is revoked will not be reissued. A permit is considered to be not renewed when an application for renewal, as required, is not received by the RA within 1 year of the expiration date of the permit.

(iii) Requirement to display a vessel decal. Upon renewal or transfer of a charter vessel/headboat permit for Gulf reef fish, the RA will issue the owner of the permitted vessel a vessel decal for Gulf reef fish. The vessel decal must be displayed on the port side of the deckhouse or hull and must be maintained so that it is clearly visible.

(2) A charter vessel or headboat may have both a charter vessel/headboat permit and a commercial vessel permit. However, when a vessel is operating as a charter vessel or headboat, a person aboard must adhere to the bag limits. See the definitions of "Charter vessel" and "Headboat" in § 622.2 for an explanation of when vessels are considered to be operating as a charter vessel or headboat, respectively.

(3) If Federal regulations for Gulf reef fish in subparts A or B of this part are more restrictive than state regulations, a person aboard a charter vessel or headboat for which a charter vessel/headboat permit for Gulf reef fish has been issued must comply with such Federal regulations regardless of where the fish are harvested.

3. § 622.26 Recordkeeping and reporting.

(b) Charter vessel/headboat owners and operators–-(1) Reporting requirement. The owner or operator of a vessel for which a charter vessel/headboat permit for Gulf reef fish has been issued, as required under § 622.20(b), or whose vessel fishes for or lands such reef fish in or from state waters adjoining the Gulf EEZ, who is selected to report by the SRD must maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, on forms provided by the SRD and must submit such record as specified in paragraph (b)(2) of this section.

(2) Reporting deadlines--(i) Charter vessels. Completed fishing records required by paragraph (b)(1) of this section for charter vessels must be submitted to the SRD weekly, postmarked not later than 7 days after the end of each week (Sunday). Information to be reported is indicated on the form and its accompanying instructions.

(ii) Headboats. Completed fishing records required by paragraph (b)(1) of this section for headboats must be submitted to the SRD monthly and must either be made available to an authorized statistical reporting agent or be postmarked not later than 7 days after the end of each month. Information to be reported is indicated on the form and its accompanying instructions.

4. § 622.27 At-sea observer coverage.

(a) Required coverage. A vessel for which a Federal commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued must carry a NMFS-approved observer, if the vessel's trip is selected by the SRD for observer coverage. Vessel permit renewal is contingent upon compliance with this paragraph (a).

(b) Notification to the SRD. When observer coverage is required, an owner or operator must advise the SRD in writing not less than 5 days in advance of each trip of the following:

(1) Departure information (port, dock, date, and time).

(2) Expected landing information (port, dock, and date).

(c) Observer accommodations and access. An owner or operator of a vessel on which a NMFS-approved observer is embarked must:

(1) Provide accommodations and food that are equivalent to those provided to the crew.

(2) Allow the observer access to and use of the vessel's communications equipment and personnel upon request for the transmission and receipt of messages related to the observer's duties.

(3) Allow the observer access to and use of the vessel's navigation equipment and personnel upon request to determine the vessel's position.

(4) Allow the observer free and unobstructed access to the vessel's bridge, working decks, holding bins, weight scales, holds, and any other space used to hold, process, weigh, or store fish.

(5) Allow the observer to inspect and copy the vessel's log, communications logs, and any records associated with the catch and distribution of fish for that trip.

5. § 622.29 Conservation measures for protected resources.

(a) Gulf reef fish commercial vessels and charter vessels/headboats--(1) Sea turtle conservation measures. (i) The owner or operator of a vessel for which a commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued, as required under
§§ 622.20(a)(1) and 622.20(b), respectively, must post inside the wheelhouse, or within a waterproof case if no wheelhouse, a copy of the document provided by NMFS titled, "Careful Release Protocols for Sea Turtle Release With Minimal Injury," and must post inside the wheelhouse, or in an easily viewable area if no wheelhouse, the sea turtle handling and release guidelines provided by NMFS.

(ii) Such owner or operator must also comply with the sea turtle bycatch mitigation measures, including gear requirements and sea turtle handling requirements, specified in §§ 635.21(c)(5)(i) and (ii) of this chapter, respectively.

(iii) Those permitted vessels with a freeboard height of 4 ft (1.2 m) or less must have on board a dipnet, tire, short-handled dehooker, long-nose or needle-nose pliers, bolt cutters, monofilament line cutters, and at least two types of mouth openers/mouth gags. This equipment must meet the specifications described in §§ 635.21(c)(5)(i)(E) through (L) of this chapter with the following modifications: the dipnet handle can be of variable length, only one NMFS-approved short-handled dehooker is required (i.e., § 635.21(c)(5)(i)(G) or (H) of this chapter); and life rings, seat cushions, life jackets, and life vests or any other comparable, cushioned, elevated surface that allows boated sea turtles to be immobilized, may be used as alternatives to

tires for cushioned surfaces as specified in § 635.21(c)(5)(i)(F) of this chapter. Those permitted vessels with a freeboard height of greater than 4 ft (1.2 m) must have on board a dipnet, tire, long-handled line clipper, a short-handled and a long-handled dehooker, a long-handled device to pull an inverted "V", long-nose or needle-nose pliers, bolt cutters, monofilament line cutters, and at least two types of mouth openers/mouth gags. This equipment must meet the specifications described in § 635.21(c)(5)(i)(A) through (L) of this chapter with the following modifications: only one NMFS-approved long-handled dehooker (§ 635.21(c)(5)(i)(B) or (C)) of this chapter and one NMFS-approved short-handled dehooker (§ 635.21(c)(5)(i)(G) or (H) of this chapter) are required; and life rings, seat cushions, life jackets, and life vests, or any other comparable, cushioned, elevated surface that allows boated sea turtles to be immobilized, may be used as alternatives for cushioned surfaces as specified in § 635.21(c)(5)(i)(F) of this chapter.

(2) Smalltooth sawfish conservation measures. The owner or operator of a vessel for which a commercial vessel permit for Gulf reef fish or a charter vessel/headboat permit for Gulf reef fish has been issued, as required under §§ 622.20(a)(1) and 622.20(b), respectively, that incidentally catches a smalltooth sawfish must--

(i) Keep the sawfish in the water at all times;

(ii) If it can be done safely, untangle the line if it is wrapped around the saw;

(iii) Cut the line as close to the hook as possible; and

(iv) Not handle the animal or attempt to remove any hooks on the saw, except for with a long-handled dehooker.

(b) [Reserved]

6. § 622.30 Required fishing gear.

For a person on board a vessel to fish for Gulf reef fish in the Gulf EEZ, the vessel must possess on board and such person must use the gear as specified in paragraphs (a) through (c) of this section.

(a) Non-stainless steel circle hooks. Non-stainless steel circle hooks are required when fishing with natural baits.

(b) Dehooking device. At least one dehooking device is required and must be used to remove hooks embedded in Gulf reef fish with minimum damage. The hook removal device must be constructed to allow the hook to be secured and the barb shielded without re-engaging during the removal process. The dehooking end must be blunt, and all edges rounded. The device must be of a size appropriate to secure the range of hook sizes and styles used in the Gulf reef fish fishery.

(c) Venting tool. At least one venting tool is required and must be used to deflate the abdominal cavities of Gulf reef fish to release the fish with minimum damage. This tool must be a sharpened, hollow instrument, such as a hypodermic syringe with the plunger removed, or a 16-gauge needle fixed to a hollow wooden dowel. A tool such as a knife or an ice-pick may not be used. The venting tool must be inserted into the fish at a 45-degree angle approximately 1 to 2 inches (2.54 to 5.08 cm) from the base of the pectoral fin. The tool must be inserted just deep enough to release the gases, so that the fish may be released with minimum damage.

7. § 622.32 Prohibited gear and methods.

Also see § 622.9 for additional prohibited gear and methods that apply more broadly to multiple fisheries or in some cases all fisheries.

(a) Poisons. A poison may not be used to take Gulf reef fish in the Gulf EEZ.

(b) [Reserved]

8. § 622.33 Prohibited species.

(d) Gulf reef fish exhibiting trap rash. Possession of Gulf reef fish in or from the Gulf EEZ that exhibit trap rash is prima facie evidence of illegal trap use and is prohibited. For the purpose of this paragraph, trap rash is defined as physical damage to fish that characteristically results from contact with wire fish traps. Such damage includes, but is not limited to, broken fin spines, fin rays, or teeth; visually obvious loss of scales; and cuts or abrasions on the body of the fish, particularly on the head, snout, or mouth.

9. § 622.34 Seasonal and area closures designed to protect Gulf reef fish.

(a) Closure provisions applicable to the Madison and Swanson sites and Steamboat Lumps, and the Edges-- (1) Descriptions of Areas. (i) The Madison and Swanson sites are bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	29°17'	85°50'
B	29°17'	85°38'
C	29°06'	85°38'
D	29°06'	85°50'
A	29°17'	85°50'

(ii) Steamboat Lumps is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°14'	84°48'
B	28°14'	84°37'
C	28°03'	84°37'
D	28°03'	84°48'
A	28°14'	84°48'

(iii) The Edges is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°51'	85°16'
B	28°51'	85°04'
C	28°14'	84°42'
D	28°14'	84°54'
A	28°51'	85°16'

(2) Within the Madison and Swanson sites and Steamboat Lumps, possession of Gulf reef fish is prohibited, except for such possession aboard a vessel in transit with fishing gear stowed as specified in paragraph (a)(4) of this section.

(3) Within the Madison and Swanson sites and Steamboat Lumps during November through April, and within the Edges during January through April, all fishing is prohibited, and possession of any fish species is prohibited, except for such possession aboard a vessel in transit with fishing gear stowed as specified in paragraph (a)(4) of this section. The provisions of this paragraph, (a)(3), do not apply to highly migratory species.

(4) For the purpose of paragraph (a) of this section, transit means non-stop progression through the area; fishing gear appropriately stowed means--

(i) A longline may be left on the drum if all gangions and hooks are disconnected and stowed below deck. Hooks cannot be baited. All buoys must be disconnected from the gear; however, buoys may remain on deck.

(ii) A trawl net may remain on deck, but trawl doors must be disconnected from the trawl gear and must be secured.

(iii) A gillnet must be left on the drum. Any additional gillnets not attached to the drum must be stowed below deck.

(iv) A rod and reel must be removed from the rod holder and stowed securely on or below deck. Terminal gear (i.e., hook, leader, sinker, flasher, or bait) must be disconnected and stowed separately from the rod and reel. Sinkers must be disconnected from the down rigger and stowed separately.

(5) Within the Madison and Swanson sites and Steamboat Lumps, during May through October, surface trolling is the only allowable fishing activity. For the purpose of this paragraph (a)(5), surface trolling is defined as fishing with lines trailing behind a vessel which is in constant motion at speeds in excess of four knots with a visible wake. Such trolling may not involve the use of down riggers, wire lines, planers, or similar devices.

(6) For the purpose of this paragraph (a), fish means finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds. Highly migratory species means tuna species, marlin (*Tetrapturus spp.* and *Makaira spp.*), oceanic sharks, sailfishes (*Istiophorus spp.*), and swordfish (*Xiphias gladius*).

10. § 622.35 Gear restricted areas.

(a) Reef fish stressed area. The stressed area is that part of the Gulf EEZ shoreward of rhumb lines connecting, in order, the points listed in Table 2 in Appendix B of this part.

(1) A powerhead may not be used in the stressed area to take Gulf reef fish. Possession of a powerhead and a mutilated Gulf reef fish in the stressed area or after having fished in the stressed area constitutes prima facie evidence that such reef fish was taken with a powerhead in the stressed area. The provisions of this paragraph do not apply to hogfish.

(2) A roller trawl may not be used in the stressed area. Roller trawl means a trawl net equipped with a series of large, solid rollers separated by several smaller spacer rollers on a separate cable or line (sweep) connected to the footrope, which makes it possible to fish the gear over rough bottom, that is, in areas unsuitable for fishing conventional shrimp trawls. Rigid framed trawls adapted for shrimping over uneven bottom, in wide use along the west coast of Florida, and shrimp trawls with hollow plastic rollers for fishing on soft bottoms, are not considered roller trawls.

(b) Seasonal prohibitions applicable to bottom longline fishing for Gulf reef fish. (1) From June through August each year, bottom longlining for Gulf reef fish is prohibited in the portion of the Gulf EEZ east of 85°30' W. long. that is shoreward of rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	28°58.70'	85°30.00'
B	28°59.25'	85°26.70'
C	28°57.00'	85°13.80'
D	28°47.40'	85°3.90'
E	28°19.50'	84°43.00'
F	28°0.80'	84°20.00'
G	26°48.80'	83°40.00'
H	25°17.00'	83°19.00'
I	24°54.00'	83°21.00'
J	24°29.50'	83°12.30'
K	24°26.50'	83°00.00'

(2) Within the prohibited area and time period specified in paragraph (b)(1) of this section, a vessel with bottom longline gear on board may not possess Gulf reef fish unless the bottom longline gear is appropriately stowed, and a vessel that is using bottom longline gear to fish for species other than Gulf reef fish may not possess Gulf reef fish. For the purposes of paragraph (b) of this section, appropriately stowed means that a longline may be left on the drum

if all gangions and hooks are disconnected and stowed below deck; hooks cannot be baited; and all buoys must be disconnected from the gear but may remain on deck.

(3) Within the Gulf EEZ east of 85°30' W. long., a vessel for which a valid eastern Gulf reef fish bottom longline endorsement has been issued that is fishing bottom longline gear or has bottom longline gear on board cannot possess more than a total of 1000 hooks including hooks on board the vessel and hooks being fished and cannot possess more than 750 hooks rigged for fishing at any given time. For the purpose of this paragraph, “hooks rigged for fishing” means hooks attached to a line or other device capable of attaching to the mainline of the longline.

(c) Reef fish longline and buoy gear restricted area. A person aboard a vessel that uses, on any trip, longline or buoy gear in the longline and buoy gear restricted area is limited on that trip to the bag limits for Gulf reef fish specified in § 622.38(b) and, for Gulf reef fish for which no bag limit is specified in § 622.38(b), the vessel is limited to 5 percent, by weight, of all fish on board or landed. The longline and buoy gear restricted area is that part of the Gulf EEZ shoreward of rhumb lines connecting, in order, the points listed in Table 1 in Appendix B of this part.

(d) Alabama SMZ. The Alabama SMZ consists of artificial reefs and surrounding areas. In the Alabama SMZ, fishing by a vessel that is operating as a charter vessel or headboat, a vessel that does not have a commercial permit for Gulf reef fish, as required under § 622.20(a)(1), or a vessel with such a permit fishing for Gulf reef fish is limited to hook-and-line gear with three or fewer hooks per line and spearfishing gear. A person aboard a vessel that uses on any trip gear other than hook-and-line gear with three or fewer hooks per line and spearfishing gear in the Alabama SMZ is limited on that trip to the bag limits for Gulf reef fish specified in § 622.38(b) and, for Gulf reef fish for which no bag limit is specified in § 622.38(b), the vessel is limited to 5 percent, by weight, of all fish on board or landed. The Alabama SMZ is bounded by rhumb lines connecting, in order, the following points:

Point	North lat.	West long.
A	30°02.5'	88°07.7'
B	30°02.6'	87°59.3'
C	29°55.0'	87°55.5'
D	29°54.5'	88°07.5'
A	30°02.5'	88°07.7'

11. § 622.37 Size limits.

All size limits in this section are minimum size limits unless specified otherwise. A fish not in compliance with its size limit, as specified in this section, in or from the Gulf EEZ, may not be possessed, sold, or purchased. A fish not in compliance with its size limit must be released immediately with a minimum of harm. The operator of a vessel that fishes in the EEZ is responsible for ensuring that fish on board are in compliance with the size limits specified in this section. See § 622.10 regarding requirements for landing fish intact.

(a) Snapper—-(1) Red snapper–-16 inches (40.6 cm), TL, for a fish taken by a person subject to the bag limit specified in § 622.38 (b)(3) and 13 inches (33.0 cm), TL, for a fish taken by a person not subject to the bag limit.

12. § 622.38 Bag and possession limits.

(a) Additional applicability provisions for Gulf reef fish. (1) Section 622.11(a) provides the general applicability for bag and possession limits. However, § 622.11(a) notwithstanding, bag and possession limits also apply for Gulf reef fish in or from the EEZ to a person aboard a vessel that has on board a commercial permit for Gulf reef fish--

(i) When trawl gear or entangling net gear is on board. A vessel is considered to have trawl gear on board when trawl doors and a net are on board. Removal from the vessel of all trawl doors or all nets constitutes removal of trawl gear.

(ii) When a longline or buoy gear is on board and the vessel is fishing or has fished on a trip in the reef fish longline and buoy gear restricted area specified in § 622.35(c). A vessel is considered to have a longline on board when a power-operated longline hauler, a cable of diameter and length suitable for use in the longline fishery, and gangions are on board. Removal of any one of these three elements, in its entirety, constitutes removal of a longline.

(iii) For a species/species group when its quota has been reached and closure has been effected, provided that no commercial quantities of Gulf reef fish, i.e., Gulf reef fish in excess of applicable bag/possession limits, are on board as specified in paragraph (a)(2) of this section.

(iv) When the vessel has on board or is tending any trap other than a stone crab trap or a spiny lobster trap.

(2) A person aboard a vessel that has a Federal commercial vessel permit for Gulf reef fish and commercial quantities of Gulf reef fish, i.e., Gulf reef fish in excess of applicable bag/possession limits, may not possess Gulf reef fish caught under a bag limit.

(b) Bag limits--

(3) Red snapper--2. However, no red snapper may be retained by the captain or crew of a vessel operating as a charter vessel or headboat. The bag limit for such captain and crew is zero.

13. § 622.39 Quotas.

See § 622.8 for general provisions regarding quota applicability and closure and reopening procedures. This section, provides quotas and specific quota closure restrictions for Gulf reef fish.

(a) Gulf reef fish--

(2) Recreational quotas. The following quotas apply to persons who fish for Gulf reef fish other than under commercial vessel permits for Gulf reef fish and the applicable commercial quotas specified in paragraph (a)(1) of this section.

(i) Recreational quota for red snapper--4.145 million lb (1.880 million kg), round weight.

(c) Restrictions applicable after a recreational quota closure--

(1) After closure of the recreational quota for red snapper. The bag and possession limit for red snapper in or from the Gulf EEZ is zero.