10/06/14

Recreational Accountability Measures for Red Snapper

Final Draft Framework Action
to the Fishery Management Plan for the Reef Fish Resources of the Gulf of Mexico

Including Draft Environmental Assessment, Regulatory Impact Review, and Regulatory Flexibility Act Analysis

October 2014

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

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ENVIRONMENTAL ASSESSMENT COVER SHEET

Name of Action

Recreational Accountability Measures for Red Snapper

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Type of Action

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

Abstract
The first accountability measure (Action 1) is to establish an annual catch target (ACT) that is lower than the quota/annual catch limit (ACL) and set the recreational season length based on the ACT. Currently, the season length is set based on the quota/ACL. The second accountability measure (Action 2) is to establish an overage adjustment to mitigate the effects of the overage by reducing the ACL in the following year. This action follows National Standard 1 guidelines for stocks in rebuilding plans like red snapper.

ABBREVIATIONS USED IN THIS DOCUMENT

ABC	acceptable biological catch
ACL	annual catch limit
AM	accountability measure
ACT	annual catch target
Council	Gulf of Mexico Fishery Management Council
EEZ	exclusive economic zone
EFH	Essential Fish Habitat
EA	Environmental Assessment
EIS	Environmental Impact Statement
EJ	Environmental Justice
ESA	Endangered Species Act
FMP	Fishery Management Plan
FTE	full-time equivalent
Gulf	Gulf of Mexico
HBS	Southeast Headboat Survey
IFQ	individual fishing quota
LOF	List of Fisheries
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Survey and Statistics
MRIP	Marine Recreational Information Program
mp	million pounds
NMFS	National Marine Fisheries Service
OFL	overfishing limit
P*	probability of overfishing
PDF	probability density function
RFFA	reasonably foreseeable future action
RIR	regulatory impact review
SEAMAP	Southeast Area Monitoring and Assessment Program
Secretary	Secretary of Commerce
SEDAR	Southeast Data Assessment and Review
SEFSC	Southeast Fisheries Science Center
SSC	Scientific and Statistical Committee
SPR	spawning potential ratio
TAC	total allowable catch
TL	total length
TPWD	Texas Parks and Wildlife Department
VOC	volatile organic compounds
ww	whole weight

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CHAPTER 1. INTRODUCTION

1.1 Background

The 2007 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) established new requirements to end and prevent overfishing through the use of annual catch limits (ACLs) and accountability measures (AMs). Further, the National Standard 1 guidelines state that for stocks and stock complexes in rebuilding plans, the AMs should include overage adjustments that reduce the ACLs in the next fishing year by the full amount of the overages, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages (50 CFR 600.310(g)(3)).

Annual Catch Limit (ACL)
The amount of fish that can be harvested from the stock each year. If met or exceeded, accountability measures will be triggered.

Annual Catch Target (ACT)
The amount of the annual catch set below the annual catch limt to account for management uncertainty.

Accountability Measures (AMs)
Measures taken to prevent harvest from exceeding the annual catch limit, and if exceeded can mitigate or correct the overage.

For red snapper, the National Marine Fisheries Service (NMFS) determined the existing commercial and recreational quotas are functionally equivalent to sector ACLs, and the sum of the sector quotas is functionally equivalent to the stock ACL. Each sector's quota is based on a 51% commercial:49% recreational allocation of the acceptable biological catch (ABC) that was established in Amendment 1 (GMFMC 1989). Additionally, the individual fishing quota (IFQ) program for the commercial sector and an in-season closure based on annual projections of the season length for the recreational sector are the current red snapper AMs.

Stock status and harvest

The red snapper stock in the Gulf of Mexico (Gulf) has been declared overfished based on the Status of U.S. Fisheries Report to Congress[1] and is in the 14th year of a 31-year rebuilding plan. This type of rebuilding plan allows the ABC to increase with increasing stock size. Therefore, it has been possible to increase both the commercial and recreational quotas since 2010 as part of the current rebuilding plan (Table 1.1.1). Overfishing was projected to have ended in 2009, but was not officially declared to end in the Status of U.S. Fisheries Report until 2012, after the new

[1] http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/

overfishing definition developed in the Generic ACL/AM Amendment[2] was implemented (GMFMC 2011a). The Gulf of Mexico Fishery Management Council (Council) has worked toward rebuilding the red snapper stock since 1990. The current rebuilding plan (implemented in 2001) was modified in 2007 to use a constant fishing mortality rate to determine each year's ABC. This type of rebuilding plan allows the ABC to increase with increasing stock size. Therefore, it has been possible to increase both the commercial and recreational quotas since 2010 as part of the current rebuilding plan (Table 1.1.1). The 2012 Red Snapper Fall Season and Quota Regulatory Amendment (GMFMC 2012a) established a schedule of increasing quotas for 2012 and 2013, but included a provision that stated if the ABC was exceeded in 2012, the ABC and sector quotas would remain at the 2012 levels unless the best scientific information available determined maintaining the quotas from the previous year is unnecessary. The 2012 ABC was 8.08 million pounds (mp) whole weight (ww), with a commercial quota of 4.121 mp ww and a recreational quota of 3.959 mp ww. Because the recreational sector overharvested the 2012 quota by 1.187 mp ww, the Council's Scientific and Statistic Committee (SSC) met in November 2012 to review those overage and updated projections (GMFMC 2013c). The SSC determined the ABC could increase for 2013, but recommended a revised 2013 ABC of 8.46 mp ww, resulting in a commercial quota of 4.315 mp ww and a recreational quota of 4.145 mp ww. The 2013 quotas were put in place through a spring 2013 framework action (GMFMC 2013c).

A benchmark assessment for red snapper was conducted in 2012 and 2013 by the Southeast Data Assessment and Review (SEDAR) process (SEDAR 31 2013d). The SSC reviewed the assessment in May 2013, and determined the ABC could be increased to 13.5 mp ww for 2013, the highest level in recent history (GMFMC 2013a). However, this ABC was set only 200,000 lbs less than the maximum rebuilding yield ($Y_{Rebuild}$) accepted by the SSC. The buffer between $Y_{Rebuild}$ and ABC was based only on scientific uncertainty. The SSC indicated during their discussions that the Council should include an additional buffer between the ABC and the combined quotas to account for management uncertainty. The SSC's recommendation was a 20% buffer. The SSC also recommended reduced ABCs for 2014 and 2015 of 11.9 and 10.6 mp ww, respectively. The reason for the decreasing 2014 and 2015 ABCs was because the assessment indicated some upcoming years of poor recruitment entering the fishery, resulting in lower abundances of fish.

In response to this new scientific information, the Council requested a framework action in the fall of 2013 to increase the red snapper quotas for the commercial and recreational sectors (GMFMC 2013d). They determined red snapper fishermen would be better served by constant quotas over the next three years to maintain stability in the fishery, rather than decreasing quotas as recommended by the SSC. Using projections from the Southeast Fisheries Science Center (SEFSC) and revised recommendations from the SSC, they selected an 11.0 mp ww ABC for 2013 that could continue through 2015.

[2] The maximum fishing mortality threshold method will be used to determine overfishing for stocks or stock complexes which have stock assessments and estimates of current fishing mortality rates and maximum fishing mortality threshold only in years in which a stock assessment is conducted. For other years, and for stocks or stock complexes without stock assessments or without estimates of fishing mortality and maximum fishing mortality threshold, the overfishing level method will be used to determine overfishing.

Table 1.1.1. Red snapper landings and quota overage/underage by sector, 1986-2013. Landings are in mp ww. Commercial quotas began in 1990. Recreational allocations began in 1991 and recreational quotas began in 1997. Summing the recreational allocation/quota and the commercial quota yields the total allowable catch for the years 1991-2009 and the ABC for 2010-2013. Values highlighted in red are those where landings exceed quotas.

	Recreational			Commercial			Total		
Year	**Alloc-ation Quota**	**Actual landings**	**Difference**	**Quota**	**Actual landings**	**Difference**	**TAC/ ABC**	**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
2013	5.390	8.827	+3.437	5.610	5.449	-0.161	11.00	14.326	+3.326

Sources: For recreational landings, the SEFSC ACL database includes landings from the Marine Recreational Information Program, Texas Parks and Wildlife Department, and the Southeast Headboat Survey. Commercial landings are from the SEDAR 31 Data Workshop Report (1990-2011) and the NMFS/Southeast Regional Office IFQ landings website (2012-2013).

Recreational fishing seasons

Until 1997, the recreational fishing season for red snapper in the Gulf was open year-round, with fishing effort controlled through bag limits and size limits (Table 1.1.2). However, the Sustainable Fisheries Act of 1996 required that the recreational red snapper allocation be treated as a quota. Beginning in 1997, the recreational season was monitored for in-season closures, and from 1997 to 1999, the recreational fishing season for red snapper became progressively shorter

(Table 1.1.2). In 2000, due to the economic disruptions that resulted from short-term in-season announcements of quota closures, NMFS projected in advance when the quota would be met and set a fixed season of April 21 through October 31. That season was maintained through 2007. In 2008, following a substantial reduction in the quota, NMFS began projecting the starting and ending dates of the recreational season on an annual basis. The 2008 federal season length was shortened due to the quota reduction as well as due to Florida and Texas maintaining longer open seasons in state waters. The season was then increased in 2009 and 2010. From 2010 to present, the season has become progressively shorter despite annual increases in the quota. In addition, overharvests have occurred in every year but one since 2007 (Table 1.1.2). The recreational sector exceeded its quota by 1.26 mp ww in 2008 and by 2.17 mp ww in 2009. In 2010, even with an emergency reopening in the fall, the recreational sector underharvested its quota by 1.16 mp ww. The underharvest in 2010 is believed to be due to fisheries closures that were implemented as a result of the Deepwater Horizon MC252 oil spill. Information on the oil spill and the subsequent closures can be found in Chapter 3 and on the Southeast Regional Office's website. In 2011, the recreational sector exceeded its quota by 0.736 mp ww.

Because of the increase in the 2013 stock ACL from 8.46 mp ww to 11.0 mp ww, the Council requested an increase in the commercial and recreational quotas and that the recreational season re-open in October 2013 to allow recreational fishermen to harvest the additional quota. The regular recreational season of June 1 – June 28 was based on the original 2013 recreational quota (NMFS 2013d). Preliminary catch estimates produced by the Marine Recreational Information Program (MRIP) for the June season were unexpectedly high relative to previous years, indicating the private and for-hire components of the recreational sector landed 5.8 mp. Landings available through June, including both MRIP and headboat landings, totaled 6.13 mp versus the original 4.145 mp-quota.

The new MRIP catch estimates were thought more accurate and less biased than those produced in past years because MRIP redesigned the Access Point Angler Intercept Survey (APAIS) in March 2013 to provide much better coverage of the variety of fishing trips ending at different times of day. However, as discussed in the final rule setting the October season (78 FR 57313), if the new survey methodology did eliminate past biases, then the new estimates may not be directly comparable to the 2013 quota or other red snapper management reference points, which were based on historical catch estimates using the prior methodology. Therefore, NMFS did not have a sufficient understanding of how to use the new MRIP landing estimates without better understanding how they fit into the broader scientific basis for red snapper management. To determine a fall season length, the SEFSC recommended using the 4.145-mp ww quota that was projected to be caught during the 2013 28-day season as an estimate of what was caught in June. NMFS followed this recommendation, but added some precaution in estimating the season by assuming higher fall catch rates based on uncertainty in the projection and public testimony to the Council. As a result, a more limited 14-day fishing season (October 1-14, 2013) was implemented in the fall.

In September 2013, individual commercial fishermen and two commercial fishing interest groups filed a lawsuit challenging the rules implementing red snapper quotas for the 2013 fishing year and setting the 2013 recreational red snapper fishing season. In March 2014, the Court ruled in favor of the plaintiffs (*Guindon v. Pritzker*, 2014 WL 1274076; D.D.C. Mar. 26, 2014), finding

in pertinent part that NMFS failed to require adequate AMs to prohibit the retention of fish after the recreational quota had been harvested and failed to use the best scientific information available by not using the 2013 MRIP numbers to determine whether there should be a fall season.

Table 1.1.2. Red snapper recreational landings vs. allocation/quota and days open, bag limit, and minimum size limits from 1986-2013. Landings are in mp ww. Minimum size limits are in inches total length. Recreational allocations began in 1991, and became quotas in 1997. Values highlighted in red are those where landings exceed quotas.

Year	Allocation/ Quota	Actual landings	Difference	% over or under	Days open	Bag limit	Minimum size limit
1986	na	2.770	na		365	none	13
1987	na	1.814	na		365	none	13
1988	na	2.568	na		365	none	13
1989	na	2.656	na		365	none	13
1990	na	1.614	na		365	7	13
1991	1.96	2.358	+0.398	+20%	365	7	13
1992	1.96	3.899	+1.939	+99%	365	7	13
1993	2.94	5.687	+2.747	+93%	365	7	13
1994	2.94	5.299	+2.359	+80%	365	7	14
1995	2.94	4.814	+1.874	+64%	365	5	15
1996	4.47	4.346	-0.124	-3%	365	5	15
1997	4.47	6.008	+1.538	+34%	330	5	15
1998	4.47	4.258	-0.212	-5%	272	4	15
1999	4.47	3.999	-0.471	-11%	240	4	15
2000	4.47	3.932	-0.538	-12%	194	4	16
2001	4.47	4.468	-0.002	0%	194	4	16
2002	4.47	5.383	+0.913	+20%	194	4	16
2003	4.47	4.847	+0.377	+8%	194	4	16
2004	4.47	4.996	+0.526	+12%	194	4	16
2005	4.47	4.084	-0.386	-9%	194	4	16
2006	4.47	4.021	-0.449	-10%	194	2	16
2007	3.185	4.440	+1.255	+39%	194	2	16
2008	2.45	3.712	+1.262	+52%	65	2	16
2009	2.45	4.625	+2.175	+89%	75	2	16
2010	3.403	2.239	-1.164	-34%	53 + 24 = 77	2	16
2011	3.866	4.602	+0.736	+19%	48	2	16
2012	3.959	5.146	+1.187	+30%	46	2	16
2013	5.390	8.827	+3.437	+64%	28 + 14 = 42	2	16

Sources: SEFSC ACL database including landings from MRIP, Texas Parks and Wildlife Department, and the Southeast Headboat Survey.

2014 recreational fishing year

To estimate a 2014 season, NMFS had built upon the 2013 projections by providing both a retrospective analysis of season-length projections and projected 2014 federal season-length estimates for Gulf recreational red snapper (NMFS 2013). The analyses accounted for a variety of projection scenarios by incorporating uncertainty in the historical time series and 2013 data were used to inform projections when possible. The MRIP 2013 catch data were excluded from these projections due to the changes in the APAIS, which resulted in landings potentially not being comparable across years. The 2014 season length was projected to be 40 days beginning June 1. This season was announced on December 17, 2013 (78 FR 76758).

However, to address the Court's decision and reduce the probability that the recreational sector exceeds its quota, the projected season length for 2014 needed to be revised to incorporate MRIP landings, and additional AMs needed to be implemented. NMFS determined that including the 2013 MRIP landings data resulted in a 15-day federal season. During the April 2014 meeting, the Council requested NMFS implement an emergency rule establishing an annual catch target (ACT) determined by applying a 20% buffer to the recreational quota (which is equivalent to the recreational ACL), to take into account uncertainty in recreational landings estimates. Shortly after the April 2014 meeting, Louisiana declared the state's red snapper season would be open through December 31, 2014. Using the ACT selected by the Council and taking into account the extended Louisiana fishing season, NMFS set a 2014 federal red snapper season of nine days. Although the emergency rule put in place a recreational AM for 2014, AMs are still needed for 2015 and beyond.

1.2 Purpose and Need

The purpose of this action is to establish ACTs (buffers) and payback provisions as additional accountability measures for the recreational red snapper sector to support management efforts to maintain landings within the recreational quota and mitigate quota overages should they occur.

The need for the proposed actions is to reduce the likelihood of overharvests in the recreational sector and to prevent overfishing while achieving optimum yield, particularly with respect to food production and recreational opportunities, while rebuilding the red snapper stock.

1.3 History of Management

This history of management covers events pertinent to red snapper AMs and setting quotas. A complete history of management for the Reef Fish Fishery Management Plan (FMP) is available on the Council's website[3] and a history of red snapper management through 2006 is presented in Hood et al. (2007). The final rule for the Reef Fish FMP (with its associated environmental impact statement [EIS]) (GMFMC 1981) was effective November 8, 1984, and defined the reef fish fishery management unit to include red snapper and other important reef fish.

[3] http://www.gulfcouncil.org/fishery_management_plans/reef_fish_management.php

Currently, the commercial sector fishing for red snapper is regulated by a 13-inch total length (TL) minimum size limit and managed under an IFQ program. Recreational fishing for red snapper is managed with a 16-inch TL minimum size limit, 2-fish bag limit, and a season beginning on June 1 and ending when the recreational quota is projected to be caught. Other reef fish fishery management measures that affect red snapper fishing include permit requirements for the commercial and for-hire sectors as well as season-area closures.

Red snapper allocation and quotas: The final rule for **Amendment 1** (GMFMC 1989) (with its associated environmental assessment [EA] and regulatory impact review [RIR]) was effective in February 1990. The amendment specified a framework procedure for setting the total allowable catch (TAC) to allow for annual management changes. A part of that specification was to establish a species' allocation. These were based on the percentage of total landings during the base period of 1979-1987. For red snapper, the commercial sector landed 51% and the recreational sector landed 49% of red snapper over the base period, hence the current 51% commercial:49% recreational allocation. **Amendment 1** also established a commercial quota allowing the Regional Administrator to close commercial red snapper fishing when the quota was caught. The recreational quota was established through a 1997 regulatory amendment (with its associated EA and RIR) (GMFMC 1995) with a final rule effective in October 1997. Prior to 1997, the recreational sector had exceeded its allocation of the red snapper TAC, though the overages were declining through more restrictive recreational management measures (Table 1.1.2). With the establishment of a recreational quota, the Regional Administrator was authorized to close the recreational season when the quota is reached as required by the Magnuson-Stevens Act.

Red snapper accountability measures: For the commercial sector, an IFQ program was put in place for the 2007 fishing year through **Amendment 26** (GMFMC 2006) with its associated EIS and RIR. The program allocates pounds to IFQ shareholders based on the number of shares they have. This program allows shareholders to use their individual allocation as they see fit. Since the program has been in effect, the commercial sector has not exceeded its quota (Section 1.1).

For the recreational sector, the AM is an in-season closure based on annual projections of the season length. The season begins on June 1, as implemented through **Amendment 27** (GMFMC 2007) with its associated EIS and RIR in 2008. This amendment also put in place the current 16-inch TL minimum size limit, 2-fish bag limit, and zero bag limit for captain and crew of for-hire vessels. Subsequent to **Amendment 27**, a series of framework actions and temporary rules have set the season length.

In April 2014, to address the decision in *Guindon v. Pritzker*, the Council requested NMFS put in place an emergency rule for the 2014 season that set a recreational ACT at 20% less than the recreational quota (Section 1.1). The resulting season length was nine days.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Setting an Annual Catch Target

Establish an annual catch target (ACT) for Gulf of Mexico red snapper reduced from the recreational sector quota (the functional equivalent of an annual catch limit [ACL]). The recreational season length would be calculated based on the ACT.

Alternative 1: No action. Do not establish an ACT for the recreational quota.

Preferred Alternative 2: Apply a 20% buffer to the recreational quota based on the ACL/ACT control rule established in the Generic ACL/Accountability Measures (AMs) Amendment. The 2015 ACT would be 4.312 million pounds (mp) whole weight (ww).

Alternative 3: Apply a 30% buffer to the recreational quota based on the 2012 overage. The 2015 ACT would be 3.773 mp ww.

Alternative 4: Apply a 40% buffer to the recreational quota based on the average percent overage for 2011-2013. The 2015 ACT would be 3.234 mp ww.

Alternative 5: Apply a 60% buffer to the recreational quota based on the 2013 overage. The 2015 ACT would be 1.889 mp ww.

	Quota	Buffer	Recreational ACT (mp)	Federal Season (# days)	Probability of exceeding the quota
Alternative 1	5.390	0%	n/a	15	50%
Preferred Alternative 2	5.390	20%	4.312	9	15%
Alternative 3	5.390	30%	3.773	6	5%
Alternative 4	5.390	40%	3.234	3	<1%
Alternative 5	5.390	60%	2.156	0	<1%

Discussion

Alternative 1 would retain the recreational quota set by the Gulf of Mexico Fishery Management Council (Council) and not set an annual catch target (ACT). Although the Council had considered including a buffer for the recreational sector in 2013 when setting the 2013-2015 quotas, they chose not to do so because the effective stock annual catch limit (ACL) was already set much lower than the overfishing limit. The Council also expected recreational quota overages to be lower in the future because of improvements in the system for collecting recreational landings data. However, as described in Section 1.1, landings data collected through

the Marine Recreational Information Program (MRIP) showed a substantial quota overage in 2013 and was likely influenced by a MRIP survey design improvement.

To constrain recreational red snapper landings to the quota, harvest in federal waters is limited by a 16-inch total length minimum size limit, a 2-fish bag limit, and a fishing season length projected from the quota. Under **Alternative 1**, the probability of exceeding the recreational quota is 50%. Thus, there is an equal chance of landings going over the quota as there is of landings remaining below the quota.

Preferred Alternative 2 and **Alternatives 3-5** retain the same quota as **Alternative 1** but also set an ACT based on a buffer. The ACT would act as an in-season accountability measure (AM) to decrease the probability of landings exceeding the quota. As the buffer increases, the ACT decreases, as does the probability of exceeding the quota. The recreational fishing season for red snapper begins each year on June 1 and continues until the date the National Marine Fisheries Service (NMFS) projects the recreational quota will be met. Under these alternatives, the closure date would be determined based on the ACT; thus, the length of the fishing season would decrease as the ACT decreases. Projecting the season length has its challenges from trying to account for angler behavior and landing rates, inconsistent state regulations, and rapidly increasing fish sizes (NMFS 2014).

In the Generic ACL/AM Amendment (GMFMC 2011a), the Council developed an ACL/ACT control rule to determine buffers between the acceptable biological catch (ABC) and ACL for multiple species. For red snapper, existing quotas are functionally equivalent to sector ACLs, and the sum of the quotas is functionally equivalent to the stock ACL. The ACL/ACT control rule applies buffers to create target catch levels that account for management uncertainty in maintaining catches at or below the ABC. The control rule is intended to be applied separately to the recreational and commercial sectors because each sector has different levels of management uncertainty. The control rule recommends a 0% buffer for the commercial sector because the commercial red snapper harvest is managed by an individual fishing quota program, has accurate landings data, and has not exceeded its quota in the last seven years. Using the ACL/ACT control rule, the recommended red snapper recreational buffer is 20% (**Preferred Alternative 2**), primarily because of the quota overages in three of the past four years. The resulting ACT would be 4.312 million pounds (mp). Based on projections for 2014, the probability of exceeding the quota by setting the season based on this ACT is reduced to 15%. Guidance for National Standard 1 of the Magnuson-Stevens Fishery Conservation and Management Act states that if landings exceed an ACL more than once in four years, the system of AMs should be reviewed. Thus, this alternative meets this guidance.

The ACT set in **Alternative 3** is based on the recreational red snapper quota overage of 30% in 2012, the last year before the change in methodology used to estimate recreational landings. The ACT set in **Alternative 5** is based on the recreational red snapper overage of 57% (rounded to 60%) in 2013, after the change in methodology. Estimated catch rates were higher in 2013 than 2012; therefore, the overage was higher and the resulting buffer is higher for **Alternative 5** than **Alternative 3**. **Alternative 4** is based on the average overages from those two years and 2011 (19%), which is 36% (rounded to 40%). Based on projections for 2014, the probability of exceeding the quota with the ACT in **Alternative 3** is 5%, and with the ACTs in **Alternatives 4**

and **5,** the probability is less than 1%. As would be expected, the greater the buffer, the smaller the ACT, and the shorter any resultant fishing seasons would be. Thus, the projected recreational fishing season lengths would be shortest under **Alternative 5**, followed by **Alternative 4**, **Alternative 3**, **Preferred Alternative 2**, then **Alternative 1**. Using the current red snapper quota of 11.0 mp, Figure 2.1.1 provides the corresponding ACTs based on these alternatives.

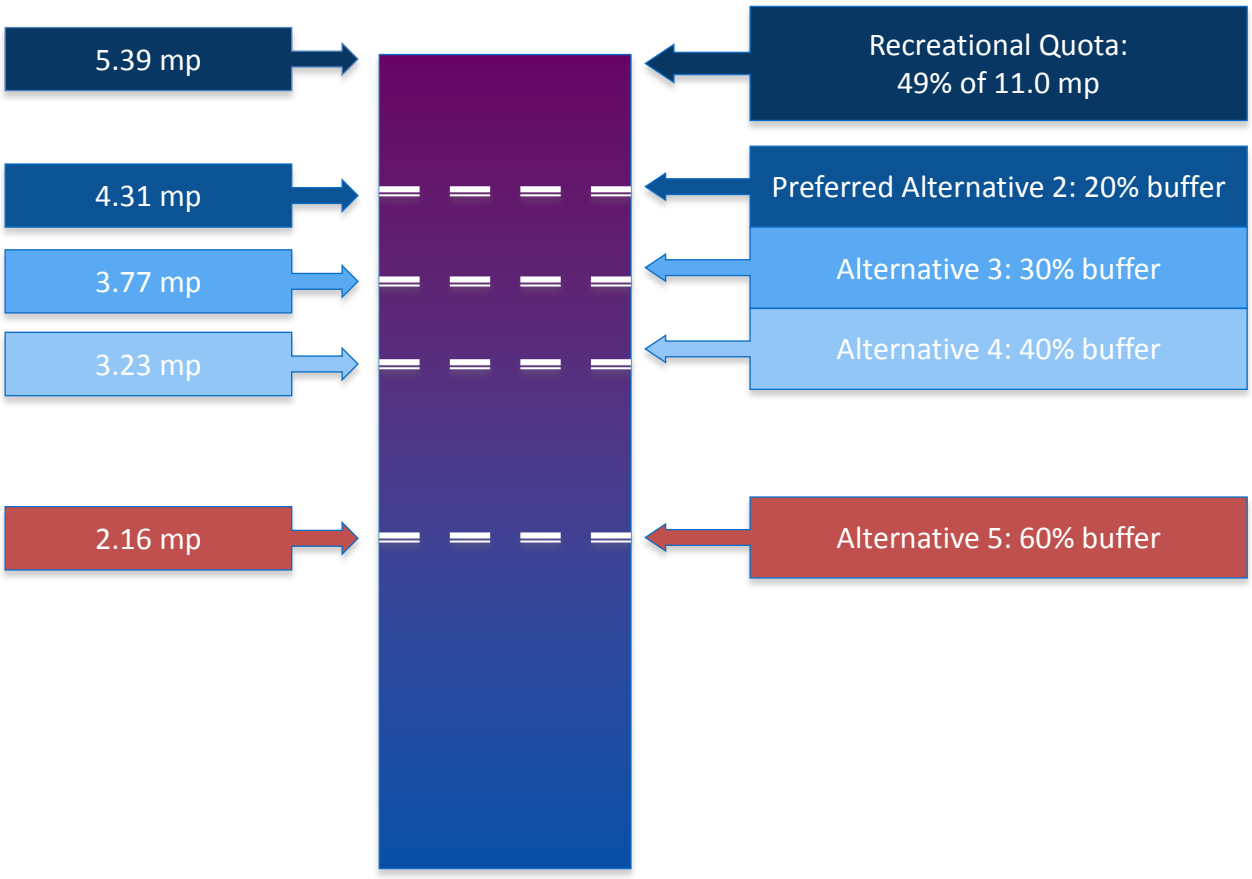

Figure 2.1.1. Example of how the resulting ACTs from the buffers considered in Action 1 would be applied to the recreational quota.

2.2 Action 2 – Quota Overage Adjustments

Note: The recreational sector quota is the functional equivalent of the annual catch limit [ACL].

Alternative 1: No action. Do not establish a provision to adjust for quota overages.

Preferred Alternative 2: While red snapper is under a rebuilding plan, if the recreational red snapper quota is exceeded, deduct the full amount of the overage from the recreational quota in the following season unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. The recreational ACT will be adjusted to reflect the previously established percent buffer.

Alternative 3: While red snapper is under a rebuilding plan, if the recreational red snapper quota is exceeded, deduct the full amount of the overage from the recreational quota in the following season unless the best scientific information available determines that a greater, lesser, or no overage adjustment is necessary. The recreational ACT will initially be adjusted to reflect the previously established percent buffer. To reduce the likelihood of recurring overages, the ACT will then be further decreased in the following season by:

Option a: 100% of the quota overage in pounds
Option b: 50% of the quota overage in pounds
Option c: 30% of the quota overage in pounds

Discussion

Under **Alternative 1**, management of recreational red snapper fishing would continue without a payback provision should recreational landings exceed the recreational quota. In recent years, the Council has responded to overages by requesting that the yield stream projections to rebuild the red snapper stock be recalculated after incorporating the current overage. Until 2013, the ABC yield stream was set at the yield corresponding to fishing at 75% of the fishing mortality rate (F) that would produce an equilibrium spawning potential ratio of 26% (proxy for $F_{\text{Maximum Sustainable Yield}}$ and overfishing limit yield). This provided a very conservative yield relative to the projected rebuilding yield stream. Even with large overages, the rebuilding yield was not exceeded, and the revised projections still allowed an increase in ABC. However, the increase was less than it would have been without the overage, and the reduction was applied to both the commercial and recreational quotas. This method will continue to be used under **Alternative 1**, but any adjustments will affect both the commercial and recreational sectors.

Preferred Alternative 2 would establish an overage payback for the recreational sector as long as red snapper is in a rebuilding plan. The National Standard 1 guidelines state that for stocks and stock complexes in rebuilding plans, the AMs should include overage adjustments that reduce the ACLs in the next fishing year by the full amount of the overages, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages (50 CFR 600.310(g)(3)). For the purpose of this action, the sector quota is equivalent to the sector ACL. This alternative would implement the guideline recommendation to the quota for just the sector responsible for the overage as long as

the stock was under a rebuilding plan. After the stock is rebuilt, then this AM would not apply unless the stock once again became overfished and a new rebuilding plan is necessary. Under **Preferred Alternative 2**, the ACT would also be reduced by the amount needed to maintain the percent buffer previously established between the quota and the ACT. Without this adjustment to the ACT, the buffer between the quota and ACT would be reduced, which would increase the likelihood of exceeding the reduced quota.

The quota and ACT reduction established under **Preferred Alternative 2** would only remain in effect for one year, provided the quota is not exceeded a second time in the following year. If the quota is not exceeded for a second time, then in subsequent years the recreational quota and ACT would return to the levels prescribed under the rebuilding plan. However, if the quota is exceeded in the following year, then the quota and ACT will be further adjusted in accordance with the alternative. Under the National Standard 1 guidelines, if catch exceeds the ACL for a given stock or stock complex more than once in the last four years, the system of ACLs and AMs should be re-evaluated, and modified if necessary, to improve its performance and effectiveness.

Alternative 3 implements the payback provision described in **Preferred Alternative 2**, but rather than maintain the percent buffer between the quota and ACT as in **Preferred Alternative 2**, **Alternative 3** increases the percent buffer to reduce the likelihood of a subsequent quota overage. This additional reduction would be based on the number of pounds by which the overage occurs. Under **Option a**, this additional buffer would be the full number of pounds of the overage. **Option b** would be less restrictive, applying 50% of the overage as an additional buffer. **Option c** would apply 30% of the overage as an additional buffer. This would be the least restrictive option under **Alternative 3**, but would still be more restrictive than **Preferred Alternative 2** which does not apply any additional amount to the established percent buffer.

As with **Preferred Alternative 2**, the quota and ACT reduction established under **Alternative 3** would only remain in effect for one year, provided the quota is not exceeded a second time in the following year. If this provision is met, then in subsequent years the recreational quota and ACT would return to the levels prescribed under the rebuilding plan. However, if the quota is exceeded in the following year (two years in a row), then the quota and ACT will be further adjusted in accordance with the alternative. Additionally, like **Preferred Alternative 2**, this AM would only apply when red snapper is under a rebuilding plan and not after the stock has recovered and a rebuilding plan is no longer necessary.

Table 2.2.1 and Figure 2.2.1 illustrate how the alternatives would apply to the recreational quota. In the example, the quota is 5.39 mp, the overage is 500,000 lbs, and the buffer to be applied to the quota to establish the ACT is 20% (Action 1, Preferred Alternative 2). Under this example, if no overage adjustment is applied (**Alternative 1**), the ACT would be 20% less than the quota, or 4.312 mp. Under **Preferred Alternative 2**, the quota would be reduced by 500,000 lbs (4.890 mp) and the ACT would be estimated from a 20% buffer of this value, which is 3.912 mp. **Alternative 3** would reduce this 3.912 mp adjusted ACT further by 500,000 lbs (**Option a** – 100% of the overage), 250,000 lbs (**Option b** – 50% of the overage), or 150,000 lbs (**Option c** – 30% of the overage). Thus, under this scenario and dependent on the alternative used, the ACT would range from 3.412 mp to 3.762 mp.

Table 2.2.1. Example of applying an ACT (Action 1) alongside the alternatives and options for establishing an overage adjustment (Action 2). The example uses the current 5.39 mp quota, a 20% buffer to set the ACT (Action 1, Preferred Alternative 2), and a hypothetical quota overage of 500,000 lbs.

Alternative	Quota	Overage	Overage adjusted quota	Overage adjusted ACT	Further reduction	Final ACT
Alt 1	5,390,000	500,000	n/a	n/a	n/a	4,312,000
Pref. Alt 2	5,390,000	500,000	4,890,000	3,912,000	n/a	3,912,000
Alt 3 Opt a	5,390,000	500,000	4,890,000	3,912,000	500,000	3,412,000
Alt 3 Opt b	5,390,000	500,000	4,890,000	3,912,000	250,000	3,662,000
Alt 3 Opt c	5,390,000	500,000	4,890,000	3,912,000	150,000	3,762,000

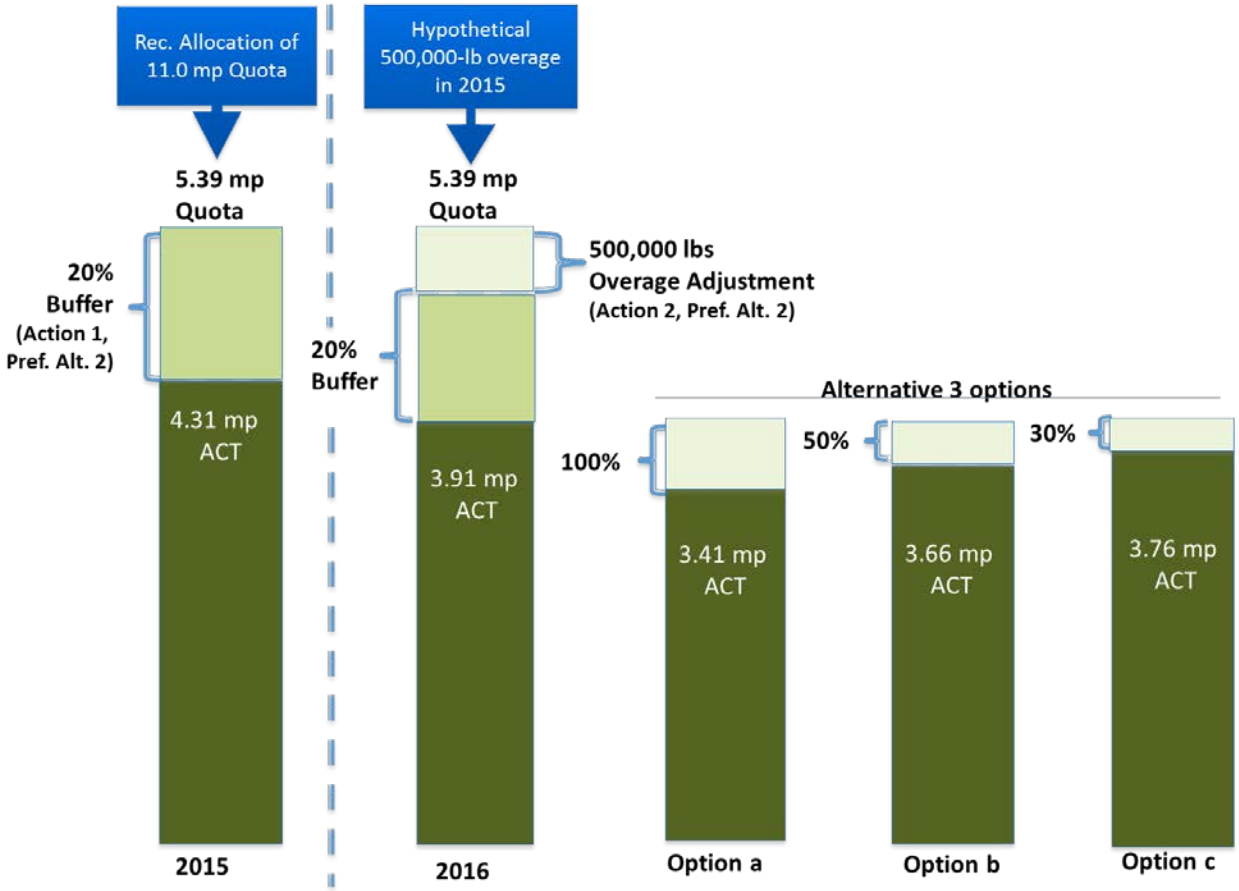

Figure 2.2.1. Hypothetical example of applying the overage adjustment (Preferred Alternative 2 or Alternative 3 with no options) and additional buffer (Alternative 3, Options a-c) to the recreational quota in the event of a quota overage. The example uses a 500,000-lb quota overage.

CHAPTER 3. AFFECTED ENVIRONMENT

The actions considered in this framework action 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 environmental impact statements (EISs) for Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2007); Reef Fish Amendments 30A (GMFMC 2008a), 30B (GMFMC 2008b), and 32 (GMFMC 2011b); the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2004a); and the Generic Annual Catch Limits/Accountability Measures (ACL/AM) Amendment (GMFMC 2011a) and are incorporated by reference. Below, information on each of these environments is summarized or updated, as appropriate.

3.1 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 3.1.1). 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.[4] In general, mean sea surface temperature increases from north to south with large seasonal variations in shallow waters.

The physical environment for 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 2011a). In general, reef fish are widely distributed in the Gulf, occupying both pelagic and benthic habitats during their life cycle. A planktonic larval stage lives in the water column and feeds on zooplankton and phytoplankton (GMFMC 2004a). Juvenile and adult reef fish are typically demersal and usually associated with bottom topographies on the continental shelf (<100m) 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. For example, juvenile red snapper are common on mud bottoms in the northern Gulf, particularly off Texas through Alabama. Also, some juvenile snapper (e.g. mutton, gray, red, dog, lane, and yellowtail snappers) and grouper (e.g. Goliath grouper, red, gag, and yellowfin groupers) have been documented in inshore seagrass beds, mangrove estuaries, lagoons, and larger bay systems (Appendix B).

In the Gulf, fish habitat for adult red snapper consists of submarine gullies and depressions, coral reefs, rock outcroppings, gravel bottoms, oilrigs, and other artificial structures (GMFMC 2004a); eggs and larvae are pelagic; and juveniles are found associated with bottom inter-shelf habitat

[4] NODC 2012: http://accession.nodc.noaa.gov/0072888

(Szedlmayer and Conti 1998) and prefer shell habitat over sand (Szedlmayer and Howe 1997). Adult red snapper are closely associated with artificial structures in the northern Gulf (Szedlmayer and Shipp 1994; Shipp and Bortone 2009) and larger individuals have been found to use artificial habitats, but move further from the structure as they increase in size and based on the time of day (Topping and Szedlmayer 2011). Detailed information pertaining to the closures and preserves is provided in the February 2010 Regulatory Amendment (GMFMC 2010) and is incorporated here by reference.

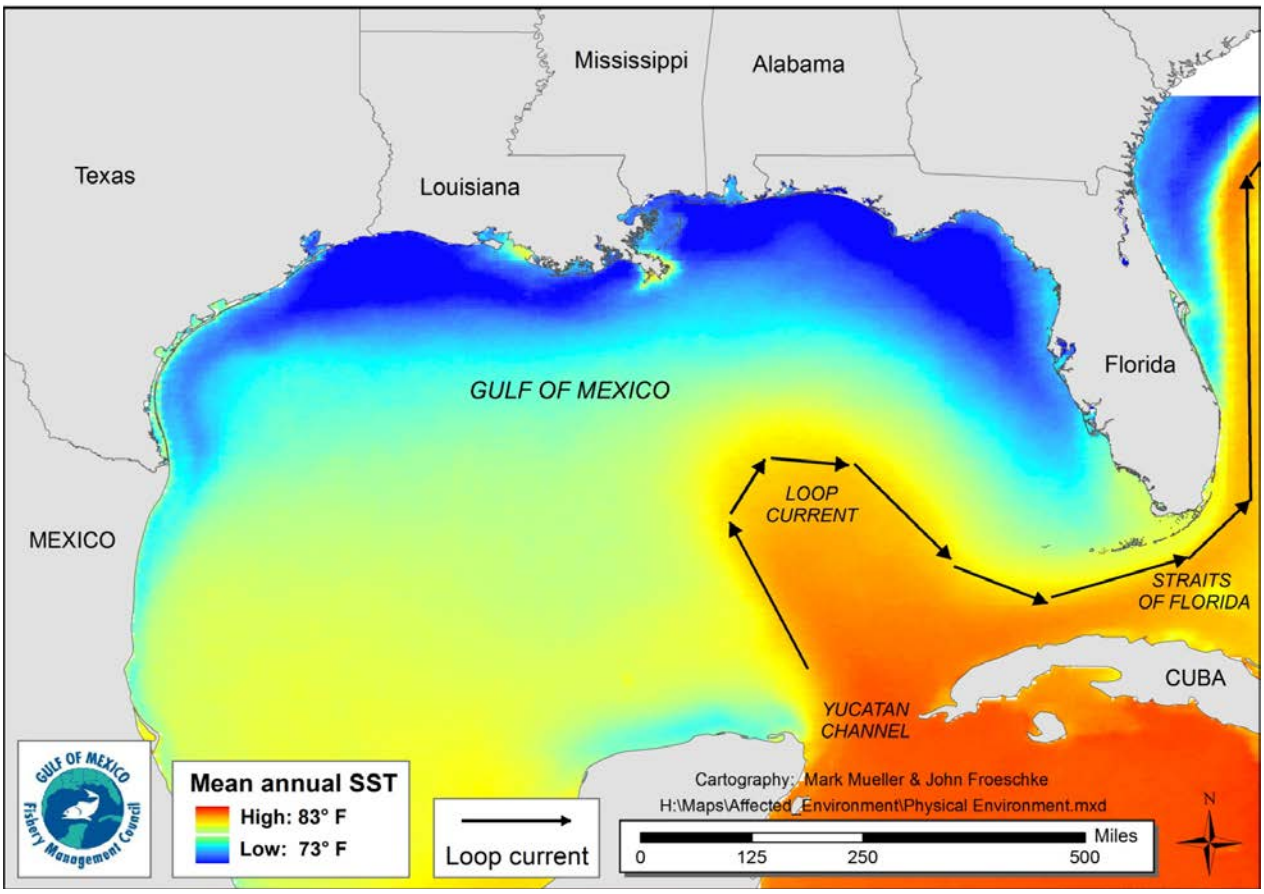

Figure 3.1.1. Physical environment of the Gulf including major feature names and mean annual sea surface temperature as derived from the Advanced Very High Resolution Radiometer Pathfinder Version 5 sea surface temperature data set (http://accession.nodc.noaa.gov/0072888)

The Gulf includes environmental sites of special interest that are detailed in GMFMC (2004a). Examples relevant to red snapper include the longline/buoy area closure which is a permanent closure to use of these gears for reef fish harvest inshore of 20 fathoms (36.6 meters) off the Florida shelf and inshore of 50 fathoms (91.4 meters) for the remainder of the Gulf, Madison-Swanson and Steamboat Lumps marine reserves which are closed to bottom fishing, the Edges Marine Reserve where all fishing is prohibited from January through April, Tortugas North and South Marine Reserves which are no-take marine reserves, and individual reef areas and bank habitat areas of particular concern such as the East and West Flower Garden Banks, the Florida Middle Grounds, and Pulley Ridge where some fishing gear is restricted.

In addition to the above, there is one site in the Gulf listed in the National Register of Historic Places. This is the wreck of the *U.S.S. Hatteras*, located in federal waters off Texas.

3.2 Description of the Biological 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 (Appendix B). Eggs and larvae are pelagic while juveniles are found associated with bottom features or over barren bottom (See Section 3.1). Spawning occurs over firm sand bottom with little relief away from reefs during the summer and fall. Most females are mature by age two and almost all are mature by age five (Woods et al. 2003). Red snapper have been aged up to 57 years (Wilson and Nieland 2001). In the late 1990s, 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) and SEDAR 31 (2013).

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 the National Marine Fisheries Service (NMFS) in 1986 suggested that the stock was in decline (Parrack and McClellan 1986) and beginning with a 1998 assessment (Goodyear 1988), the stock biomass has been considered in an overfished condition.

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 individual fishing quota (IFQ) program for years 2007-2011 were used to reapportion 2007-2011 accumulated landings system data across strata. Recreational landings data included the Marine Recreational Information Program (MRIP)/Marine Recreational Fishery Statistics Survey (MRFSS) from 1981-2011, Southeast Headboat Survey (HBS) for 1981-2011, and Texas Parks and Wildlife Department (TPWD) survey for 1983-2011. 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 Scientific and Statistical Committee (SSC) in May 2013. Under the base model, it was estimated that the red snapper stock has been overfished since the 1960s.

The stock status as of 2011, as estimated relative to SSC's preferred proxy of $F_{SPR26\%}$ (i.e., the fishing mortality rate that would produce an equilibrium spawning potential ratio (SPR) of 26%) was found to be still overfished, but not undergoing overfishing (GMFMC 2013a). Based on an evaluation to the Tier 1 P* spreadsheet used for the acceptable biological catch (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 natural mortality 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 million pounds (mp) whole weight (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 2011a) 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 Gulf of Mexico Fishery Management Council (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 Appendix C 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. 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 Fishery Management Plan (FMP) for Corals and Coral Reefs (GMFMC and SAFMC 1982).

Status of Reef Fish Stocks

The Reef Fish FMP currently encompasses 31 species (Table 3.2.1). Eleven other species were removed from the FMP in 2012 through the Generic ACL/AM Amendment (GMFMC 2011a). 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 2006c; 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 2006a; SEDAR 9 Update 2011b)
- Greater Amberjack (Turner et al. 2000; SEDAR 9 2006b; SEDAR 9 Update 2010)
- Hogfish (Ault et al. 2003; SEDAR 6 2004b)
- 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 2011b)
- Tilefish (Golden) (SEDAR 22 2011a)
- Atlantic Goliath Grouper (Porch et al. 2003; SEDAR 6 2004a; 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 3.2.1.

Table 3.2.1. 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 38 species protected by federal law that may occur in the Gulf. Thirty-seven of these are under the jurisdiction of NMFS, while the West Indian manatee (*Trichechus manatus*) is managed by the U.S. Fish and Wildlife Service. Of the species under NMFS's jurisdiction, 28 are marine mammals that are protected under the Marine Mammal Protection Act (MMPA). The MMPA requires that each commercial fishery be classified by the number of marine mammals they seriously injure or kill. NMFS's List of Fisheries (LOF) classifies U.S. commercial fisheries into three categories based on the number of incidental mortality or serious injury they cause to marine mammals. More information about the LOF and the classification process can be found at: http://www.nmfs.noaa.gov/pr/interactions/lof/. Six of these marine mammal species are also listed as endangered under the Endangered Species Act (ESA) (i.e., sperm, sei, fin, blue, humpback, and North Atlantic right whales). In addition to those six marine mammals, 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) are also protected under the ESA. Designated critical habitat for *Acropora* corals, smalltooth sawfish, Gulf sturgeon, and the Northwest Atlantic Ocean distinct population segment of loggerhead sea turtles also occur within nearshore waters of the Gulf. NMFS has conducted specific analyses ("Section 7 consultations") to evaluate the potential adverse effects from the Gulf reef fish fishery on species protected under the ESA (http://sero.nmfs.noaa.gov/protected_resources/section_7/index.html). Those consultations indicate that of the species listed above, sea turtles and smalltooth sawfish are the most likely to interact with the reef fish fishery. Species potentially affected by the fishery are discussed below.

Marine Mammals

The gear used by the Gulf reef fish fishery is classified in the Marine Mammal Protection Act 2014 List of Fisheries as a Category III fishery (79 FR 14418). 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. Marine Mammal Stock Assessment Reports and additional information are available on the NMFS Office of Protected Species website: http://www.nmfs.noaa.gov/pr/sspecies/.

Turtles

With regard to sea turtles, the Protected Resources Division released a biological opinion on September 30, 2011, 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. However, on July 10, 2014, NMFS published a final rule designating 38 occupied marine areas within the Atlantic Ocean and Gulf as critical habitat for the Northwest Atlantic Ocean loggerhead sea turtle distinct population segment (79 FR 39856). These areas contain one or a combination of nearshore reproductive habitat, winter area, breeding areas, and migratory corridors, or contain Sargassum habitat. In the Gulf, designated critical habitat contains either nearshore reproductive habitat or sargassum habitat. Relative to this final rule, NMFS concluded in a September 16, 2014, memo that activities associated with the Gulf Reef Fish FMP will not adversely affect any of the aforementioned critical habitat units. The fishery managed by the FMP will either have no effect on the critical habitat due to location or methods, or will have discountable or insignificant effects that will not adversely affect the habitat's ability to perform its function.

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and travel widely throughout the Gulf. The following sections are a brief overview of the general life history characteristics of the sea turtles found in the Gulf region. Several volumes exist that cover the biology and ecology of these species more thoroughly (i.e., Lutz and Musick (eds.) 1997; Lutz et al. (eds.) 2003).

Green sea turtle hatchlings are thought to occupy pelagic areas of the open ocean and are often associated with *Sargassum* rafts (Carr 1987; Walker 1994). Pelagic stage green sea turtles are thought to be carnivorous. Stomach samples of these animals found ctenophores and pelagic snails (Frick 1976; Hughes 1974). At approximately 20 to 25 cm carapace length, juveniles migrate from pelagic habitats to benthic foraging areas (Bjorndal 1997). As juveniles move into benthic foraging areas a diet shift towards herbivory occurs. They consume primarily seagrasses and algae, but are also know to consume jellyfish, salps, and sponges (Bjorndal 1980, 1997; Paredes 1969; Mortimer 1981, 1982). The diving abilities of all sea turtles species vary by their life stages. The maximum diving range of green sea turtles is estimated at 110 m (360 ft) (Frick 1976), but they are most frequently making dives of less than 20 m (65 ft) (Walker 1994). The time of these dives also varies by life stage. The maximum dive length is estimated at 66 minutes with most dives lasting from 9 to 23 minutes (Walker 1994).

The **hawksbill's** pelagic stage lasts from the time they leave the nesting beach as hatchlings until they are approximately 22-25 cm in straight carapace length (Meylan 1988; Meylan and Donnelly 1999). The pelagic stage is followed by residency in developmental habitats (foraging areas where juveniles reside and grow) in coastal waters. Little is known about the diet of pelagic stage hawksbills. Adult foraging typically occurs over coral reefs, although other hard-bottom communities and mangrove-fringed areas are occupied occasionally. Hawksbills show fidelity to their foraging areas over several years (van Dam and Diéz 1998). The hawksbill's diet is highly specialized and consists primarily of sponges (Meylan 1988). Gravid females have been noted ingesting coralline substrate (Meylan 1984) and calcareous algae (Anderes Alvarez and Uchida 1994), which are believed to be possible sources of calcium to aid in eggshell production. The maximum diving depths of these animals are not known, but the maximum length of dives is estimated at 73.5 minutes. More routinely, dives last about 56 minutes (Hughes 1974).

Kemp's ridley hatchlings are also pelagic during the early stages of life and feed in surface waters (Carr 1987; Ogren 1989). Once the juveniles reach approximately 20 cm carapace length they move to relatively shallow (less than 50m) benthic foraging habitat over unconsolidated substrates (Márquez-M. 1994). They have also been observed transiting long distances between foraging habitats (Ogren 1989). Kemp's ridleys feeding in these nearshore areas primarily prey on crabs, though they are also known to ingest mollusks, fish, marine vegetation, and shrimp (Shaver 1991). The fish and shrimp Kemp's ridleys ingest are not thought to be a primary prey item but instead may be scavenged opportunistically from bycatch discards or from discarded bait (Shaver 1991). Given their predilection for shallower water, Kemp's ridleys most routinely make dives of 50 m or less (Soma 1985; Byles 1988). Their maximum diving range is unknown. Depending on the life stage a Kemp's ridleys may be able to stay submerged anywhere from 167 minutes to 300 minutes, though dives of 12.7 minutes to 16.7 minutes are much more common (Soma 1985; Mendonca and Pritchard 1986; Byles 1988). Kemp's ridleys may also spend as much as 96% of their time underwater (Soma 1985; Byles 1988).

Leatherbacks are the most pelagic of all ESA-listed sea turtles and spend most of their time in the open ocean. Although, they will enter coastal waters and are seen over the continental shelf on a seasonal basis to feed in areas where jellyfish are concentrated. Leatherbacks feed primarily on cnidarians (medusae, siphonophores) and tunicates. Unlike other sea turtles, leatherbacks' diets do not shift during their life cycles. Because leatherbacks' ability to capture and eat jellyfish is not constrained by size or age, they continue to feed on these species regardless of life stage (Bjorndal 1997). Leatherbacks are the deepest diving of all sea turtles. It is estimated that these species can dive in excess of 1000 m (Eckert et al. 1989), but more frequently dive to depths of 50 m to 84 m (Eckert et al. 1986). Dive times range from a maximum of 37 minutes to more routine dives of 4 to 14.5 minutes (Standora et al. 1984; Eckert et al. 1986, 1989; Keinath and Musick 1993). Leatherbacks may spend 74% to 91% of their time submerged (Standora et al. 1984).

Loggerhead hatchlings forage in the open ocean and are often associated with *Sargassum* rafts (Hughes 1974; Carr 1987; Walker 1994; Bolten and Balazs 1995). The pelagic stage of these sea turtles are known to eat a wide range of things including salps, jellyfish, amphipods, crabs, syngnathid fish, squid, and pelagic snails (Brongersma 1972). Stranding records indicate that when pelagic immature loggerheads reach 40-60 cm straight-line carapace length they begin to live in coastal inshore and nearshore waters of the continental shelf throughout the U.S. Atlantic (Witzell 2002). Here they forage over hard- and soft-bottom habitats (Carr 1986). Benthic foraging loggerheads eat a variety of invertebrates with crabs and mollusks being an important prey source (Burke et al. 1993). Estimates of the maximum diving depths of loggerheads range from 211 m to 233 m (692-764ft) (Thayer et al. 1984; Limpus and Nichols 1988). The lengths of loggerhead dives are frequently between 17 and 30 minutes (Thayer et al. 1984; Limpus and Nichols 1988; Limpus and Nichols 1994; Lanyon et al. 1989) and they may spend anywhere from 80 to 94% of their time submerged (Limpus and Nichols 1994; Lanyon et al. 1989).

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.

Fish

Historically the **smalltooth sawfish** in the U.S. ranged from New York to the Mexico border. Their current range is poorly understood but believed to have contracted from these historical areas. In the South Atlantic region, they are most commonly found in Florida, primarily off the Florida Keys (Simpfendorfer and Wiley 2004). Only two smalltooth sawfish have been recorded north of Florida since 1963 (the first was captured off North Carolina in 1963 and the other off Georgia in 2002 (National Smalltooth Sawfish Database, Florida Museum of Natural History)). Historical accounts and recent encounter data suggest that immature individuals are most common in shallow coastal waters less than 25 meters (Bigelow and Schroeder 1953; Adams and Wilson 1995), while mature animals occur in waters in excess of 100 m (Simpfendorfer, pers. comm.). Smalltooth sawfish feed primarily on fish. Mullet, jacks, and ladyfish are believed to be their primary food resources (Simpfendorfer 2001). Smalltooth sawfish also prey on crustaceans (mostly shrimp and crabs) by disturbing bottom sediment with their saw (Norman and Fraser 1938; Bigelow and Schroeder 1953).

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.

Corals

On September 10, 2014, the NMFS published a final rule (79 FR 53852) listing 20 new coral species under the Endangered Species Act. Five of those new species occur in the Caribbean (*Mycetophyllia ferox, Dendrogyra cylindrus, Orbicella annularis, O. faveolata, and O. franksi*); all were listed as threatened. Relative to this final rule, SERO's Sustainable Fisheries Division determined in a September 16, 2014, memo that the reef fish fishery could potentially affect the newly listed species via gear interactions; however, believed those impacts are discountable and not likely to adversely affect the corals. This is because the harvest of all corals (including all federally-protected species) is prohibited in the federal waters under the Council's jurisdiction; therefore, no effects are expected to these species as a result of the continued authorization of the fishery as established in the FMP. The Sustainable Fisheries Division has requested concurrence on that determination from the Protected Species Division. The two previously listed *Acropora* coral species (*Acropora palmata* and *A. cervicornis*) remain protected as threatened. 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 3.2.1).

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.[5]

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 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 in the amount and distribution of fishing effort in the Gulf in response to the oil spill and area closures has required a reanalysis of the number of days needed for the recreational sector to fill its quota in 2010. The continuing but unknown effects of the oil spill on both fishing effort and red snapper abundance are being monitored. 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. An increase in lesions were found in red snapper in the area affected by the oil, but Murowski et al. (2014) found that the incidence of lesions had declined between 2011 and

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

2012. The 2013 stock assessment for red snapper (SEDAR 31 2013) showed a steep decline in the 2010 recruitment; however, the recruitment increased in 2011 and 2012.

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.

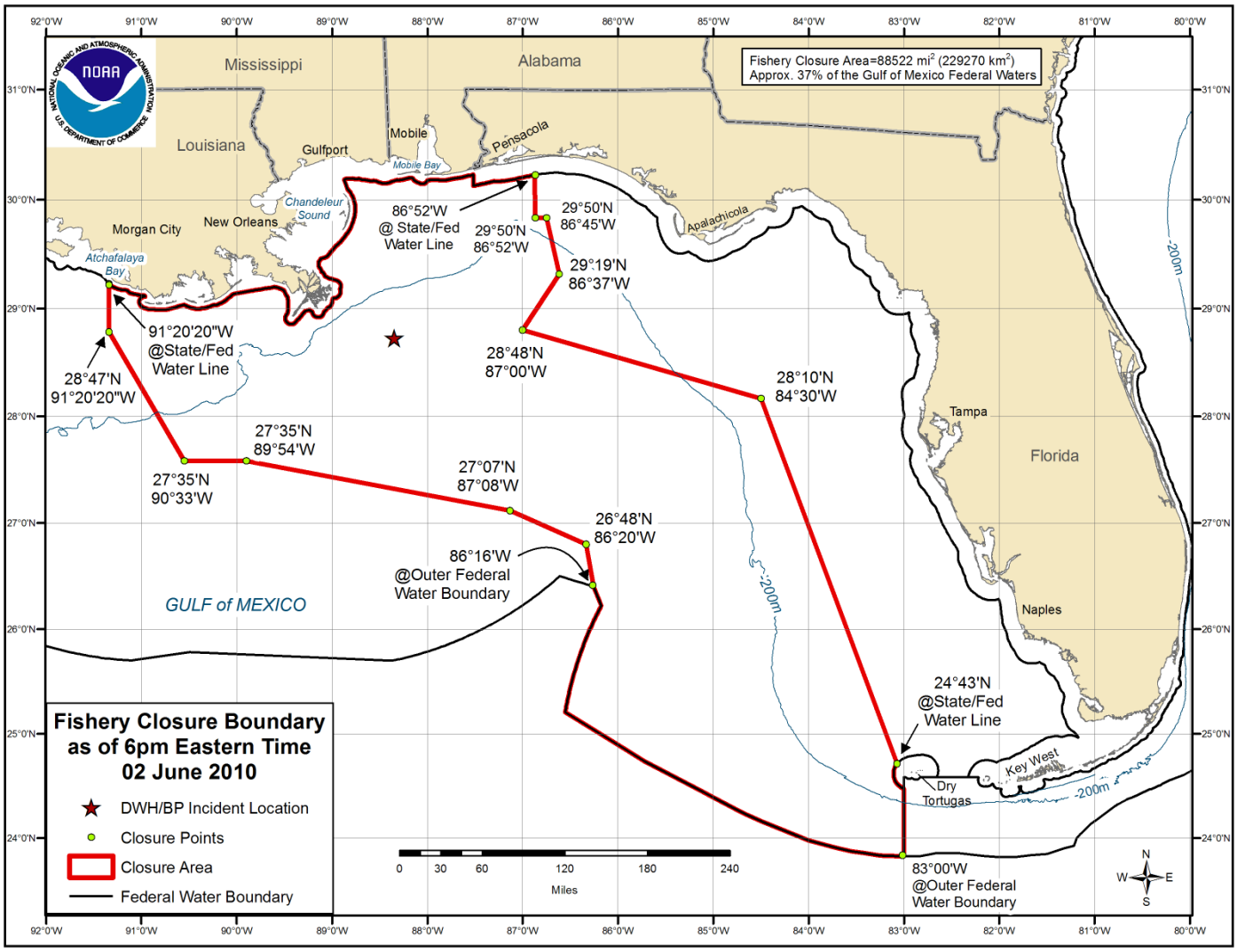

Figure 3.2.1. Fishery closure at the height of the Deepwater Horizon MC252 oil spill.

3.3 Description of the Social Environment

Red snapper is an important target species for both the recreational and commercial sectors. Yet, because the proposed actions in this amendment will apply only to recreational management of red snapper, this description focuses primarily on the recreational sector. Little to no data are available on recreational red snapper fishermen, individually. Thus, it is difficult to describe fishing activities or to place fishermen within a particular fishing community. Recreational landings are not availaby by species at the community level. Thus, this description will address recreational fishing for the broader category of reef fish.

Recreational fishing in the Gulf is an important past time for some coastal residents and often is an important recreational activity for tourists that visit the Gulf States. For some residents and tourists, catching red snapper is an important part of that fishing experience. Although red snapper does not account for a majority of recreational fishing trips and landings overall, it has developed an iconic status in certain parts of the Gulf. Red snapper are also not typically targeted by shore anglers, so its status is primarily held among fishermen who either fish from private boats or from for-hire vessels.

Context of recreational red snapper management in the Gulf

Although the recreational sector is often described as "open access," open entry is more accurate as a true open access resource lacks rules of usage (Feeny et al. 1990). While access is restriced for federally permitted for-hire vessels, there is no such restriction on accessing red snapper by privately owned vessels. For the recreational sector, harvest constraints are implemented primarily by reductions to the bag limit and shortening of the fishing season. The bag limit has been reduced from seven red snapper per angler per day in 1990 (when the sector allocation was established), to five fish in 1995, four fish in 1998, and two fish in 2007 (Table. 1.1.2). In 1997, the recreational season was shortened for the first time from year round and has been getting shorter ever since. From 2008 through 2012, the recreational season averaged 62 days in length.

The practice in recent years of projecting season length for a given quota based on past effort has not prevented the quota from being exceeded (Table 1.1.2). Without attending measures to actually stop harvest when the quota is met, a quota does not on its own constitute an output control. There is a disjunction between management measures used to constrain the rate of recreational harvest, and attempts to estimate the rate of harvest under such measures, as anglers modify their fishing activity in response to new access restrictions.

The harvest coming from the recreational sector will continue to face the problems of "subtractability" and "excludability," where the resource is open to anyone able to access it during a particular time. Without rules governing who has access to the resource (excludability), the effects of smaller returns are shared among all participants (subtractability; Feeny et al. 1990; McCay and Acheson 1987).

A second problem concerns the quota overages. Alongside the short seasons and lag time to calculate landings from MRIP, quota overages are likely to continue under the system of predicting season length based on past fishing effort. Faced with a shorter season for a desired

target species, individual anglers rationally adjust their effort and fishing activity. With no restrictions on entry to the fishery (excludability), new participants join as well. This has resulted in an inverse relationship between season length and effort, where the shorter the length of the federal recreational fishing season, the more red snapper have been landed per day (Figure 3.3.1). It cannot be assumed that the pattern of increasing effort during a shortening season would reverse, where an increase in the length of the season would correspond with a proportional reduction in effort. Furthermore, not all recreational red snapper landings occur during the federal season. In recent years, an increasing amount of red snapper is harvested from state waters when federal waters are closed, thus the number landed per day does not reflect actual in-season effort, especially during the most recent years (Figure 3.3.1).

Compounding this problem, the average weight of a red snapper has increased under the rebuilding plan meaning that each angler's bag limit weighs more. Thus, the rate at which the quota is caught accelerates. That recreational anglers as a sector are said to "exceed the quota" is not a reflection of individual angler compliance, but rather, reflects rational changes to fishing activity under situations of decreased access, and the inability of the existing management system to close harvest before the quota is met. Thus, the adoption of additional AMs to reduce the likelihood of quota overages (Action 1) and to make adjustments to the quota in the event it is exceeded (Action 2) are included in this framework action.

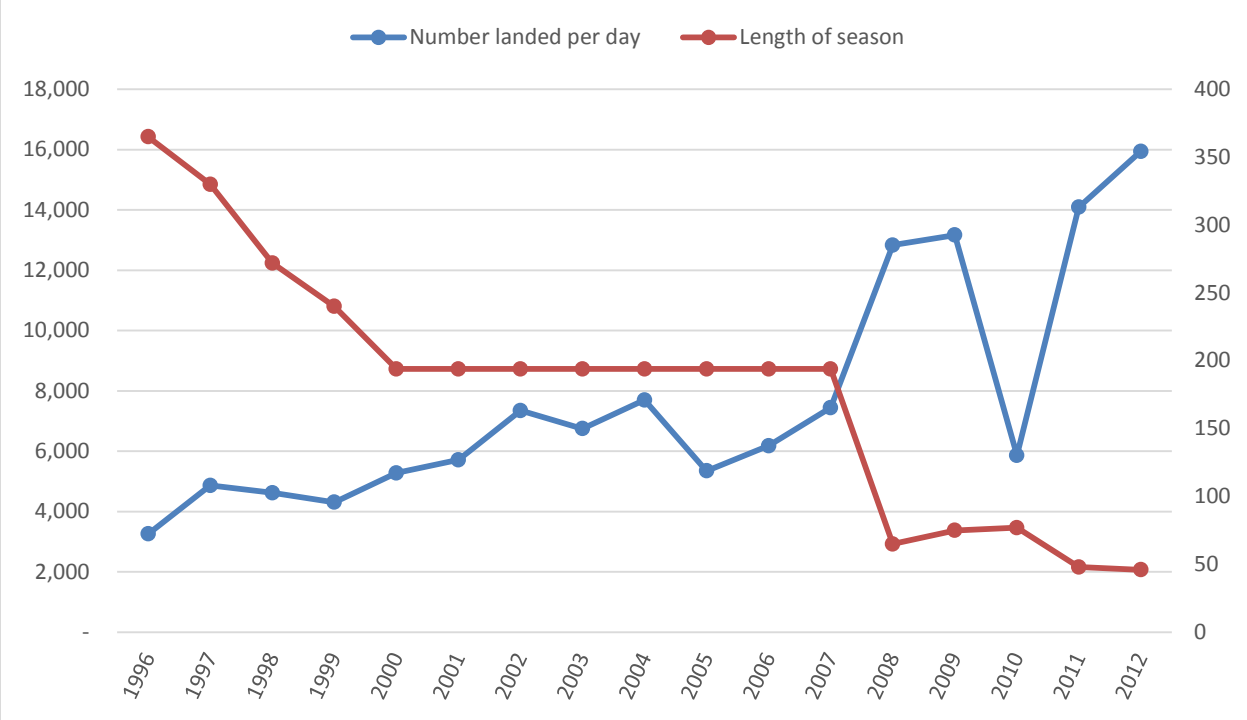

Figure 3.3.1. Length of federal recreational red snapper season in days (red line, right axis) and total recreational landings (state and federal waters) divided by the average weight of red snapper and the number of days in the federal season (blue line, left axis), providing the average number of red snapper landed per day (1996-2012). Source: Southeast Fisheries Science Center, recreational ACL dataset (Sept 2013).

Recreational anglers can access red snapper fishing by private vessels and for-hire vessels. Both modes share the same bag limit and fishing season; however, additional restrictions are placed on the for-hire fleet, to which private vessels are not subject. Since 2007, captain and crew of for-hire vessels have been prohibited from retaining a bag limit, and there are mandatory reporting requirements for headboats to report all landings and discards. In 2004, a moratorium was put in place on the issuance of federal for-hire permits. As with commercial permits, no new federal for-hire permits may be issued, but existing permits may be transferred. There is no mechanism to limit entry by private recreational vessels. Thus, the issue of excludability described above is pertains to private recreational vessels only.

3.3.1 Recreational Fishing Communities

Red snapper is harvested recreationally in all states in the Gulf. However, as the red snapper stock has continued to rebuild, 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). Nearly three-fourths of the recreational catch is now landed in Alabama and Florida (Table 3.3.1.1). Fishermen in other Gulf States are also involved in recreational red snapper fishing, but these states represent a smaller percentage of the total recreational landings. These proportions reflect total landings, including red snapper landed in state waters outside of the federal season.

Table 3.3.1.1. Average percentage of recreational red snapper landings by state for 2007-2012 (excluding 2010).

State	Landings
AL	24.4%
FL (Gulf Coast)	49.8%
LA	12.9%
MS	1.5%
TX	11.4%

Source: SEFSC ACL dataset (May 2013).

Red snapper landings for the recreational sector are not available at the community level, making it difficult to identify communities as dependent or reliant on recreational fishing for red snapper. Table 3.3.1.2 provides a ranking of communities based upon the number of federal reef fish for-hire permits (charter boats and headboats) and these same permits divided by population of homeport location. As seen in Table 3.3.1.2, communities with numerous reef fish charter permits are spread throughout the Gulf with some smaller communities gaining a higher rank due to their smaller population. The combined ranking offers a measure that includes both the absolute measure of number of permits and that number divided by the population to get a more relative measure of the number of permits. The majority of communities are in Florida, and it should be noted that communities in the southeastern Gulf and Florida Keys were not included as red snapper does not contribute as much to the communities' total landings in those areas. So, the communities included in this table are where red snapper are caught, in general, and may be an important component to the local fishing economy. The assumption is also made that the

communities with a high quantity of federal for-hire reef fish permits are also communities where anglers fishing from private vessels reside, and that both these populations are involved in red snapper fishing.

Table 3.3.1.2. Average community rank by total number of federal reef fish for-hire permits and divided by community population.

State	Community	Reef Fish for-hire permits	Permit Rank	Population	Permit/Pop	Permit/Pop rank	Combined rank
AL	Orange Beach	105	2	5,185	0.0203	3	5
LA	Venice	36	7	202	0.1782	1	8
FL	Destin	114	1	12,307	0.0093	10	11
AL	Dauphin Island	19	12	1,375	0.0138	5	17
TX	Port Aransas	33	9	3,444	0.0096	9	18
LA	Grand Isle	14	17	597	0.0235	2	19
TX	Freeport	40	5	12,183	0.0033	15	20
TX	Port O'Connor	15	15	1,253	0.0120	7	22
FL	Panama City	60	3	36,795	0.0016	20	23
FL	Steinhatchee	13	19	1,047	0.0124	6	25
FL	Pensacola	43	4	52,903	0.0008	22	26
FL	Panama City Beach	32	10	11,364	0.0028	16	26
FL	Apalachicola	17	14	2,357	0.0072	12	26
FL	Naples	35	8	20,405	0.0017	19	27
LA	Chauvin	15	15	3,220	0.0047	13	28
TX	Galveston	38	6	49,990	0.0008	23	29
FL	Cedar Key	8	27	463	0.0173	4	31
TX	Matagorda	8	27	710	0.0113	8	35
MS	Biloxi	26	11	43,921	0.0006	25	36
FL	Mexico Beach	9	25	1,181	0.0076	11	36
FL	Carrabelle	10	23	2,612	0.0038	14	37
FL	Sarasota	18	13	52,877	0.0003	26	39
FL	Madeira Beach	11	21	4,335	0.0025	18	39
FL	Port St Joe	10	23	3,560	0.0028	17	40
FL	Tarpon Springs	14	17	23,071	0.0006	24	41
FL	St Petersburg	12	20	245,715	0.0000	27	47
FL	Treasure Island	8	27	6,847	0.0012	21	48
TX	Houston	11	21	2,068,026	0.0000	29	50
TX	Corpus Christi	9	26	299,324	0.0000	28	54

Source: NMFS Southeast Regional Office 2012.

To establish whether red snapper is an important target species among the for-hire vessels in a community, the websites of several for-hire operations within the top communities in Table 3.3.1.1 were visited. In almost all cases, red snapper was listed as a target species on the operators' websites and many websites featured photos of customer catches of red snapper along with other species. Overall, many of the communities within Table 3.3.1.1 have for-hire vessels

that highlight red snapper as an important target species, but do offer other species as alternate target species, depending on the region.

To better capture how Gulf fishing communities are engaged and reliant on recreational fishing overall, indices were created using secondary data from permit information for the recreational sectors (Jepson and Colburn 2013). Fishing engagement is primarily the absolute numbers of permits, landings, and value within a community. Fishing reliance has many of the same variables as engagement, but is divided by population to give an indication of the per capita impact of this activity within a given community.

Using a principal component and single solution factor analysis, each community receives a factor score for each index to compare to other communities. Using the communities in Table 3.3.1.2, factor scores of both engagement and reliance for recreational fishing were plotted onto a bar graph. Factor scores are represented by colored bars and are standardized, therefore the mean is zero and a score above 1 is also above one standard deviation. Two trend lines of 1 and ½ standard deviation are plotted onto the graphs to help determine a threshold for significance. A score above ½ standard deviation is considered moderately engaged or reliant; while over 1 standard deviation is considered very engaged or reliant.

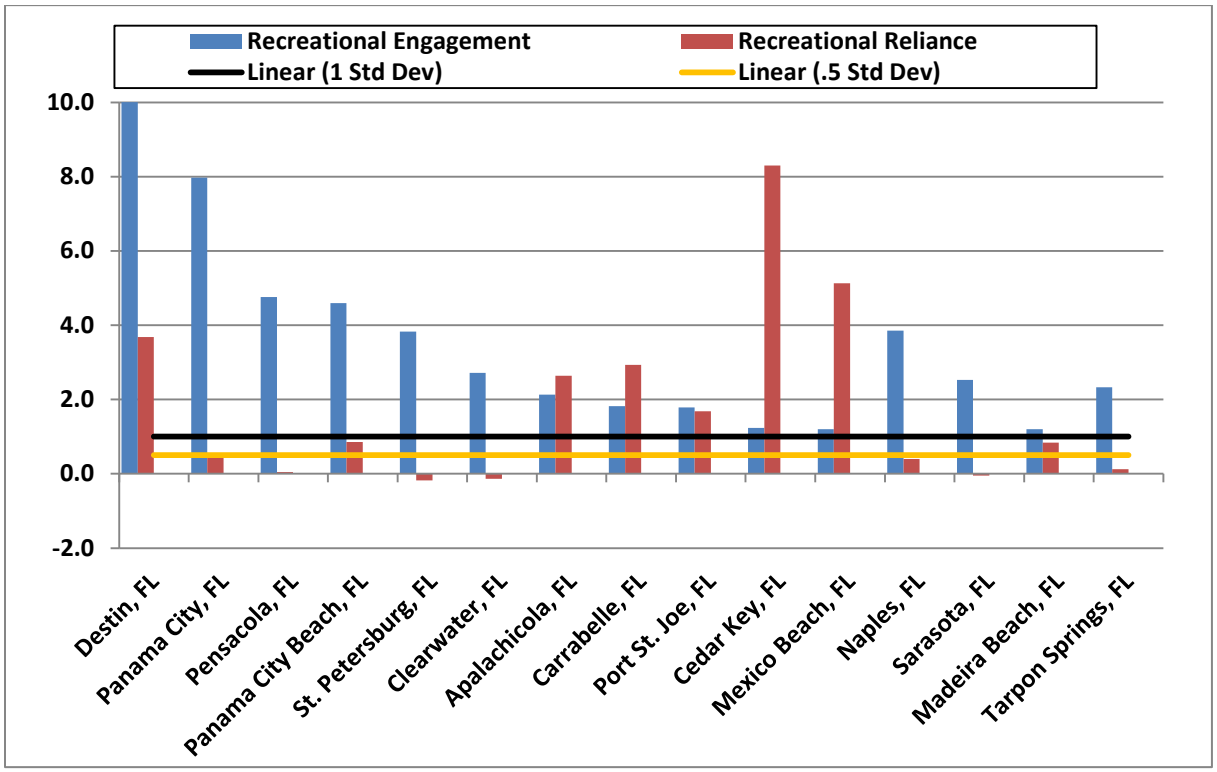

Figure 3.3.1.1. Top 15 Florida red snapper fishing communities' recreational engagement and reliance. Source: Southeast Regional Office, Social indicators database (2014).

The communities from Florida depicted in Figure 3.3.1.1 that are highly engaged and reliant are Destin, Apalachicola, Carabelle, Port St. Joe, Cedar Key, and Mexico Beach. Other communities that are highly engaged and moderately reliant are Panama City, Panama City Beach, Naples, and Madeira Beach. All Florida communities in Table 3.3.1.1 are highly engaged in recreational fishing. The communities outside of Florida are captured in Figure 3.3.1.2 and there are several that are both highly engaged and reliant upon recreational fishing: Orange Beach and Dauphin Island, Alabama; Grand Isle and Chauvin, Louisiana; and Port Aransas, Texas. All of the communities are highly engaged in recreational fishing.

It should be noted again that these measures only give us a general idea of the importance of recreational fishing within these communities in general, and are not specific to red snapper. However, it is likely that of all the coastal communities along the Gulf Coast, these communities would be affected the most by this framework action because of their engagement and reliance upon recreational fishing.

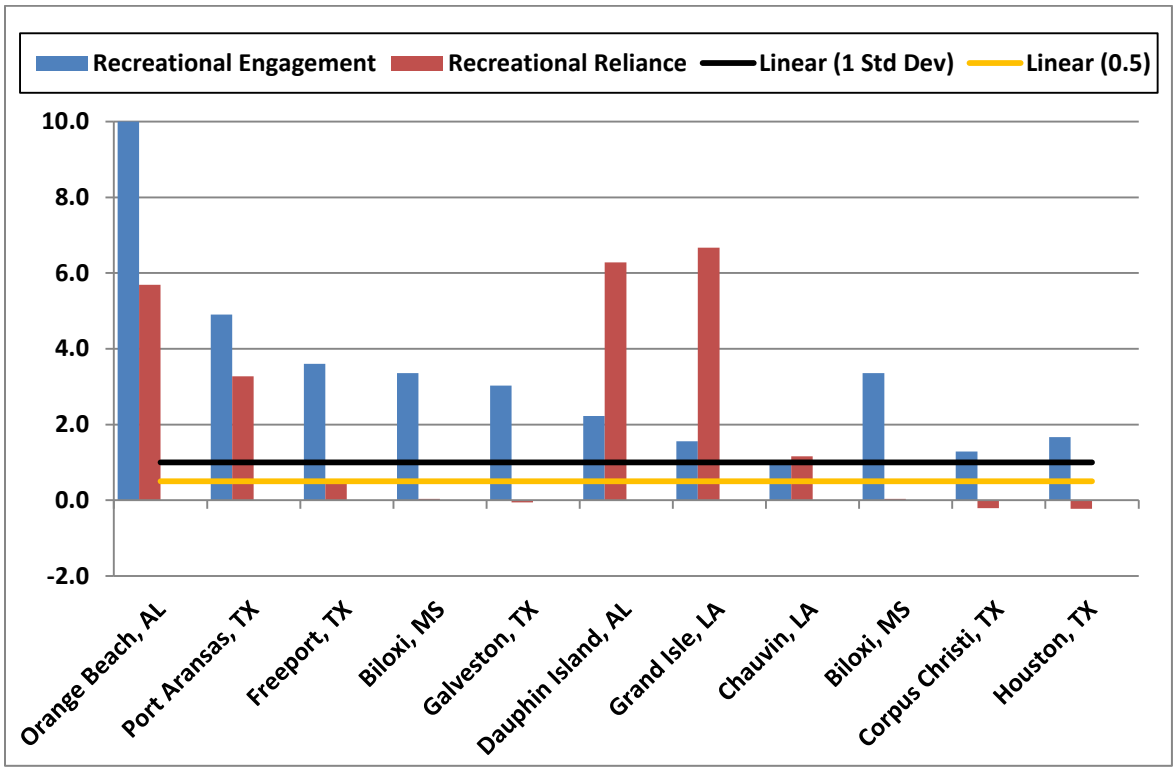

Figure 3.3.1.2. Other Gulf red snapper fishing communities' recreational engagement and reliance. Source: Southeast Regional Office, Social indicators database (2014).

3.3.2 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).

A suite of indices was created to examine the social vulnerability of coastal communities and is closely aligned with measures of EJ (Jepson and Colburn 2013). The three indices depicted in Figures 3.3.2.1 and 3.3.2.2 are poverty, population composition and personal disruptions. The variables included in each of these indices have been identified through the literature as being important components that can contribute to a community's vulnerability. Indicators such as increased poverty rates for different groups, more single female-headed households, and households with children under the age of five, as well as social disruptions including higher separation rates, higher crime rates, and unemployment are all signs of populations experiencing vulnerabilities. These vulnerabilities signify that it may be difficult for someone living in these communities to recover from significant social disruption that might stem from a change in their ability to work or maintain a certain income level. Using the methodology described for the analysis on engagement and reliance above, factor scores are represented by colored bars and are standardized, therefore the mean is zero and a score above 1 is also above one standard deviation. Two trend lines of 1 and ½ standard deviation are plotted onto the graphs to help determine a threshold for significance. A score above ½ standard deviation is considered moderately vulnerable; while over 1 standard deviation is considered very vulnerable.

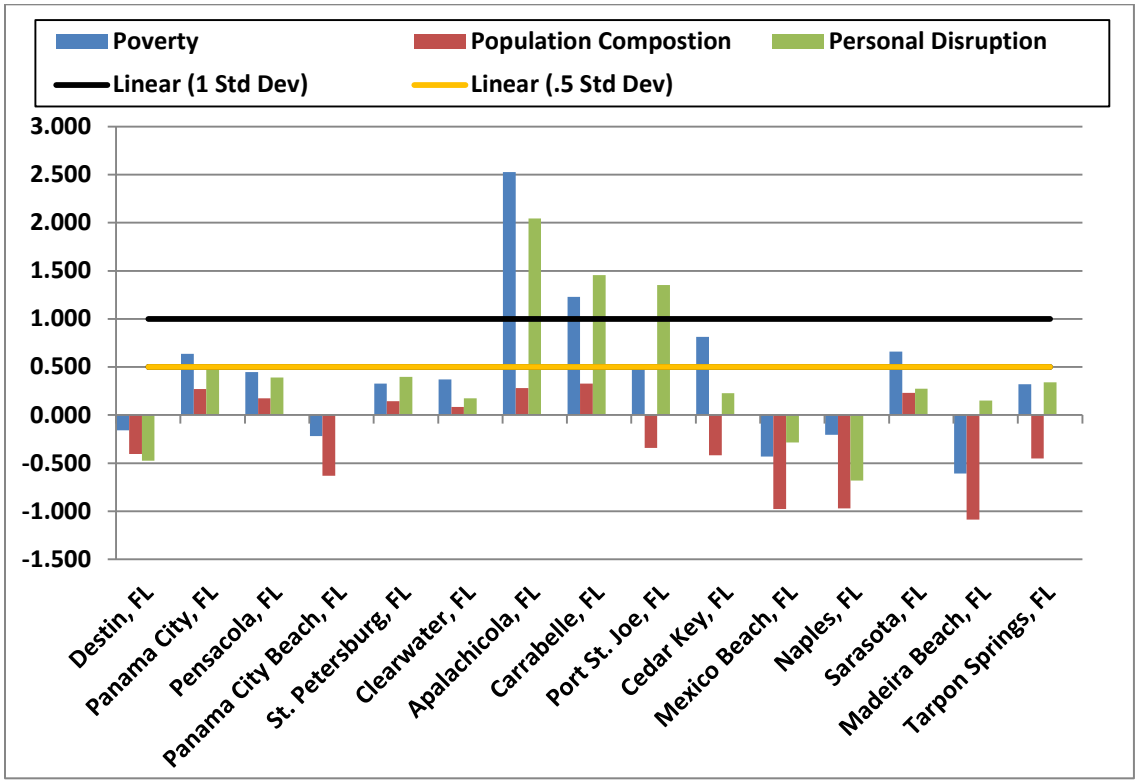

Figure 3.3.2.1. Social vulnerability indices for Florida recreational fishing communities. Source: Southeast Regional Office, Social indicators database (2014).

Of the Florida communities depicted in Figure 3.3.2.1, only Apalachicola, Carrabelle, and Port St. Joe have more than one index that exceeds the thresholds. For these three communities which exceed the threshold for both poverty and personal disruption, it could be expected that any negative effects from regulatory action may have a larger impact on these three communities which also exhibit high engagement and reliance on recreational fishing (Table 3.3.1.2).

As shown in Figure 3.3.2.2, the communities of Freeport and Houston, Texas and Chauvin, Louisiana all have more than one index above both thresholds. The communities of Galveston and Corpus Christi, Texas, have three indices above the lower threshold and one above the upper threshold. All of these communities could be susceptible to negative effects from regulatory change, although Chauvin, Louisiana is the only community among the group that is both engaged and reliant upon recreational fishing.

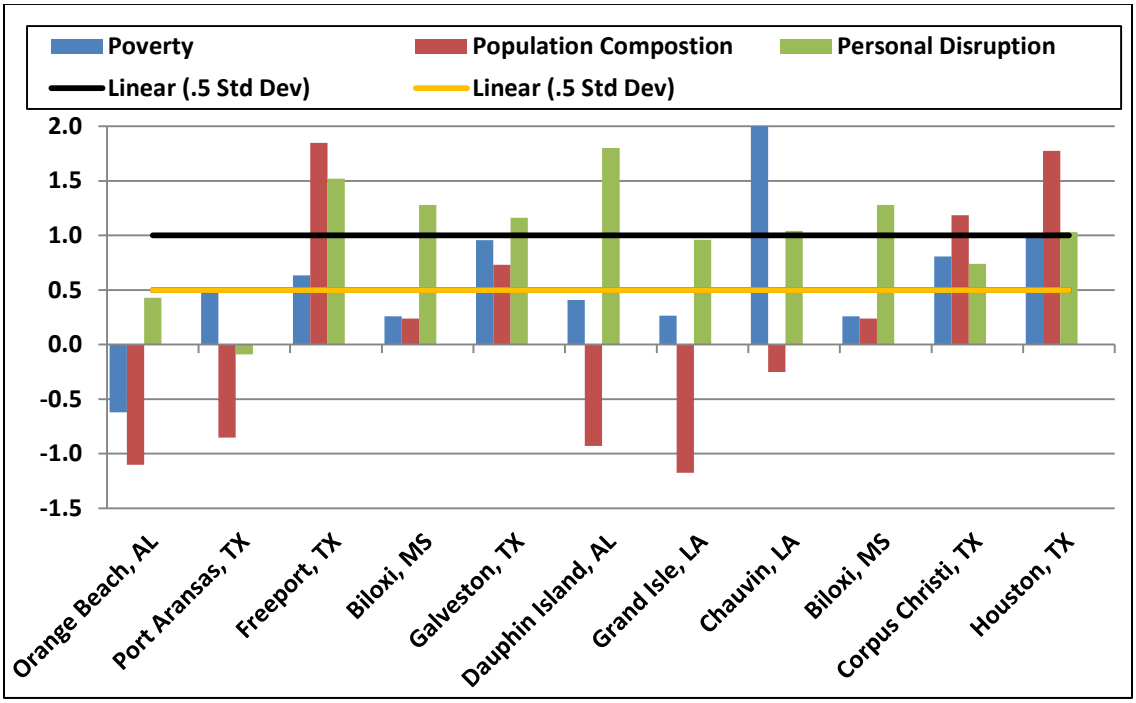

Figure 3.3.2.2. Social vulnerability indices for other recreational fishing communities. Source: Southeast Regional Office, Social indicators database (2014).

3.4 Description of the Economic Environment

3.4.1 Commercial Sector

A description of the commercial sector of the red snapper component of the Gulf reef fish fishery is contained in GMFMC (2013b) and is incorporated herein by reference. Additional information on the commercial sector are not provided because this framework action would only change management of the recreational sector.

3.4.2 Recreational Sector

3.4.2.1 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 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 (in terms of individual angler trips) for the shore, charter, and private/rental boat modes in the Gulf for 2008-2012 with and without 2010 data are provided in Table 3.4.2.1.1. The average annual red snapper target effort for 2008-2012 was approximately 8% less than the average for this period excluding 2010. For red snapper catch effort, the difference was approximately 7%. This difference indicates the importance of the effort data for 2010 when assessing the socio-economic implications of the actions in this amendment.

Table 3.4.2.1.2 contains estimates for the average annual red snapper recreational effort for 2008-2012 by mode (shore, charter, and private/rental boat only). Although the private/rental mode accounted for a greater portion of angler trips (about 83% to 84% of target trips and 75%

to 76% of catch trips), percentage-wise the charter mode was affected by the 2010 oil spill incident more than the private/rental mode. The average annual red snapper target effort for 2008-2012 was less than the average for this period excluding 2010 by approximately 13% for the charter mode and 7% for the private mode. For red snapper catch effort, the difference was approximately 11% for the charter mode and 6% for the private mode.

Tables 3.4.2.1.3 and 3.4.2.1.4 provide some details on the 2008-2012 average annual recreational effort by state and mode. Percentage-wise, recreational effort for Alabama and Louisiana was affected by the 2010 oil spill incident more than that for Florida. This holds true for both the charter (target and catch effort) and private modes (target and catch effort).

Table 3.4.2.1.1. Annual red snapper recreational effort, by state, 2008-2012.

	Alabama	**West Florida**	**Louisiana**	**Mississippi**	**Texas**	**Total**
	Target Trips					
2008	39,325	160,466	31,864	8,877	*	240,532
2009	75,854	222,035	42,112	7,622	*	347,623
2010	23,548	146,738	3,338	5,659	*	179,283
2011	136,704	142,663	21,324	16,790	*	317,481
2012	90,278	161,247	50,751	13,589	*	315,865
Avg (full)	73,142	166,630	29,878	10,507	*	280,157
Avg (w/o 2010)	85,540	171,603	36,513	11,720	*	305,375
	Catch Trips					
2008	80,042	407,477	55,393	10,362	*	553,274
2009	98,005	399,309	60,119	13,035	*	570,468
2010	56,170	266,485	5,635	7,225	*	335,515
2011	134,346	261,454	32,451	6,390	*	434,641
2012	95,389	332,921	49,938	2,410	*	480,658
Avg (full)	92,790	333,529	40,707	7,884	*	474,911
Avg (w/o 2010)	101,946	350,290	49,475	8,049	*	509,760

*Unavailable

Source: NOAA Fisheries Office of Science and Technology website, http://www.st.nmfs.noaa.gov/recreational-fisheries/index#

Table 3.4.2.1.2. Annual red snapper recreational effort, by fishing mode, 2008-2012.

	Charter	Private/ Rental	Shore	Total
	Target Trips			
2008	51,766	188,766	0	240,532
2009	53,797	293,555	271	347,623
2010	19,463	159,296	524	179,283
2011	50,076	266,597	808	317,481
2012	48,540	265,686	1,639	315,865
Avg (full)	44,728	234,780	811	280,157
Avg (w/o 2010)	51,045	253,651	680	305,375
	Catch Trips			
2008	145,193	403,047	5,034	553,274
2009	133,938	435,245	1,285	570,468
2010	59,208	273,875	2,432	335,515
2011	121,628	313,013	0	434,641
2012	109,450	370,637	571	480,658
Avg (full)	113,883	359,163	2,331	474,911
Avg (w/o 2010)	127,552	380,486	1,723	509,760

*Unavailable

Source: NOAA Fisheries Office of Science and Technology website, http://www.st.nmfs.noaa.gov/recreational-fisheries/index#

Table 3.4.2.1.3. Average (2008-2012) annual red snapper recreational effort, by state and mode.

	Charter	Private/ Rental	Shore	Total
	Target Trips			
Alabama	13,526	59,072	544	73,142
West Florida	26,183	140,342	105	166,630
Louisiana	4,963	24,915	0	29,878
Mississippi	56	10,451	0	10,507
Texas	*	*	*	*
	Catch Trips			
Alabama	24,169	68,278	343	92,790
West Florida	84,048	247,960	1,521	333,529
Louisiana	5,496	35,211	0	40,707
Mississippi	170	7,714	0	7,884
Texas	*	*	*	*

*Unavailable

Source: NOAA Fisheries Office of Science and Technology website: http://www.st.nmfs.noaa.gov/recreational-fisheries/index#

Table 3.4.2.1.4. Average (2008-2012) annual red snapper recreational effort, by state and mode, excluding 2010.

	Charter	Private/ Rental	Shore	Total
	Target Trips			
Alabama	16,211	68,650	680	85,540
West Florida	28,612	142,991	0	171,603
Louisiana	6,204	30,309	0	36,513
Mississippi	19	11,701	0	11,720
Texas	*	*	*	*
	Catch Trips			
Alabama	27,388	74,236	321	101,946
West Florida	93,198	255,691	1,401	350,290
Louisiana	6,819	42,657	0	49,475
Mississippi	147	7,902	0	8,049
Texas	*	*	*	*

*Unavailable
Source: NOAA Fisheries Office of Science and Technology website, http://www.st.nmfs.noaa.gov/recreational-fisheries/index#

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 3.4.2.1.5 contains estimates of the number of headboat angler days for all Gulf States for 2008-2012.

Table 3.4.2.1.5. Headboat angler days.

Year	W Florida/Alabama	Louisiana	Mississippi	Texas	Total
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
2012	161,973	1,839	1,840	51,771	217,423
Average all	140,526	2,031	903	47,627	190,906
Average w/o 2010	147,903	2,485	903	47,745	199,035

*Confidential. **Because the average totals are used to represent expectations of future activity, the 2011 and 2012 numbers of trips are provided as best representative of the emergent headboat fishery in Mississippi.
Source: NMFS HBS.

3.4.2.2 Permits

The for-hire sector is comprised of charter boats and headboats (party boats). Although charter boats 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 December 20, 2013, there were 1,190 valid (non-expired) or renewable Gulf of Mexico 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 for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat, operation as either a headboat or charter boat is not restricted by the permitting regulations, and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to NMFS' HBS. Participation in the HBS is based on determination by the Southeast Fisheris Science Center (SEFSC) that the vessel primarily operates as a headboat. Seventy Gulf vessels were registered in the HBS as of March 1, 2013 (K. Brennen, NMFS SEFSC, 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), is incorporated herein by reference, and is summarized below.

There are no specific federal 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. (Note: although it is not a federal permit, Louisiana has developed an offshore angler permit. Tabulation of these permits would be expected to provide an estimate of only a small portion of the total number of individual anglers expected to be affected by this proposed amendment.)

3.4.2.3 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 mean value of consumer surplus per red snapper angler trip for a trip on which the angler is allowed to harvest two red snapper is $58.43 (NMFS 2014). 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).

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 $160.13 per target charter angler trip and $53.01 (2013 dollars) per target headboat angler trip regardless of species targeted or catch success (NMFS 2014). Estimates of net operating revenue by target species are not available.

3.4.2.4 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 (2011a). 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 (2011a) and are incorporated herein by reference.

Business activity for the recreational sector is characterized in the form of fulltime equivalent (FTE) 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 (2008-2009 and 2011-2012) and associated business activity (2012 dollars) are provided in Table 3.4.2.4.1. 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, however, as shown in Tables 3.4.2.1.1 and 3.4.2.1.2. Estimates of the business 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 business activity associated with these catch trips would equal three times the estimated impacts of target trips.

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.

It is noted that these estimates do not, and should not be expected to, represent the total business activity associated with a specific recreational harvest sector in a given state or in total. For example, these results do not state, or should be interpreted to imply, that there are only 154 jobs associated with the charter sector in Alabama. Instead, as previously stated, these results relate only to the business activity associated with target trips for red snapper. Because of the seasonal nature of red snapper fishing, few, if any businesses or jobs, would be expected to be devoted solely to red snapper fishing. The existence of these businesses and jobs, in total, is supported by the fishing for, and expenditures on, the variety of marine species available to anglers throughout the year.

Table 3.4.2.4.1. Summary of red snapper target trips (2008-2009 and 2011-2012 average) and associated business activity (thousand 2012 dollars). Output and value added impacts are not additive.

	Alabama	West Florida	Louisiana	Mississippi	Texas
	Shore Mode				
Target trips	680	0	0	0	*
Output impact	$53,049	$0	$0	$0	*
Value added impact	$28,538	$0	$0	$0	*
Jobs	1	0	0	0	*
	Private/Rental Mode				
Target trips	68,650	142,991	30,309	11,701	*
Output impact	$4,259,249	$6,922,865	$2,635,702	$355,841	*
Value added impact	$2,331,842	$4,116,595	$1,296,330	$170,544	*
Jobs	42	65	23	3	*
	Charter Mode				
Target trips	16,211	28,612	6,204	19	*
Output impact	$9,000,468	$9,580,658	$3,149,447	$6,295	*
Value added impact	$4,954,456	$5,680,344	$1,788,250	$3,547	*
Jobs	113	92	31	0	*
	All Modes				
Target trips	85,541	171,603	36,513	11,720	*
Output impact	$13,312,766	$16,503,524	$5,785,149	$362,136	*
Value added Impact	$7,314,836	$9,796,939	$3,084,581	$174,091	*
Jobs	155	157	54	3	*

*Because target information is unavailable, associated business activity cannot be calculated.
Source: Effort data from NOAA Fisheries Science and Technology website, economic impact results calculated by NMFS Southeast Regional Office using the model developed for NMFS (2011b).

Estimates of the business activity (impacts) associated with headboat red snapper effort are not available. The headboat fleet in the Southeast is not covered in the MRFSS/MRIP, so estimation of the appropriate impact coefficients for the headboat sector has not been conducted. While appropriate impact coefficients are available for the charter sector, potential differences in certain factors, such as the for-hire fee, rates of tourist versus local participation, and expenditure patterns, may result in significant differences in the business impacts of the headboat sector relative to the charter sector.

3.5 Description of the Administrative Environment

3.5.1 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 A. 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 joint enforcement agreements and cooperative enforcement programs (www.gsmfc.org).

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.

3.5.2 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 – Setting an Annual Catch Target

Alternative 1: No action. Do not establish an annual catch target (ACT) for the recreational quota.

Preferred Alternative 2: Apply a 20% buffer to the recreational quota based on the annual catch limit (ACL)/ACT control rule established in the Generic ACL/Accountability Measures (AMs) Amendment. The 2015 ACT would be 4.312 million pounds (mp) whole weight (ww).

Alternative 3: Apply a 30% buffer to the recreational quota based on the 2012 overage. The 2015 ACT would be 3.773 mp ww.

Alternative 4: Apply a 40% buffer to the recreational quota based on the average percent overage for 2011-2013. The 2015 ACT would be 3.234 mp ww.

Alternative 5: Apply a 60% buffer to the recreational quota based on the 2013 overage. The 2015 ACT would be 1.889 mp ww.

4.1.1 Direct and Indirect Effects on the Physical Environment

Sections 3.1, 3.2, and GMFMC (2004a, 2004c, and 2007) describe the physical environment and habitat used by red snapper. In summary, adult red snapper targeted by the reef fish fishery are found around hard bottom habitat. In terms of red snapper fishing, recreational red snapper fishing almost exclusively uses vertical-line gear, most frequently rod-and-reel. Most commercial red snapper fishermen use handlines (mostly bandit rigs and electric reels, occasionally rod-and-reel) with a small percentage (generally <5% annually) caught with bottom longlines. The following describes the effects of handline fishing gear on the physical environment. Because the actions of this amendment apply only to the recreational sector and longlines are used exclusively by the commercial sector, the effects of longline gear will not be discussed here. A summary of effects from longline gear on the physical environment can be found in GMFMC (2011b).

Handline gear (rod-and-reel) used in recreational fishing for reef fish is generally suspended over hard bottom because many managed reef fish species occur higher over this type of substrate than over (GMFMC 2004a). Recreational fishing with rod-and-reel lays gear on the bottom. The terminal part of the gear is either lifted off the bottom or left contacting the bottom. Sometimes the fishing line can become entangled on coral and hard bottom outcroppings. The subsequent algal growth can foul and eventually kill the underlying coral (Barnette 2001). Researchers conducting studies in the restricted fishing area at Madison-Swanson reported seeing lost fishing line on the bottom, much of which appeared to be older and covered with invertebrate growth (A. David, Southeast Fisheries Science Center, pers. comm.), a clear indication that bottom fishing has had an impact on the physical environment prior to fishing being prohibited in the area (GMFMC 2003).

Anchor damage is also associated with handline fishing vessels, particularly by the recreational sector where fishermen may repeatedly visit well marked fishing locations. Bohnsack (2000) points out that "favorite" fishing areas such as reefs are targeted and revisited multiple times, particularly with the advent of global positioning technology. The cumulative effects of repeated anchoring could damage the hard bottom areas where red snapper fishing occurs.

Effects from fishing on the physical environment including essential fishing habitat are generally tied to fishing effort. The greater the fishing effort, the more gear interacts with the bottom.

This action establishes an annual catch target (ACT), and is not expected to have any direct effects on the physical environment. However, establishing an ACT could indirectly affect the physical environment if it results in an increase or decrease in the amount of fishing gear used to harvest red snapper. **Alternative 1**, no action, would not change the current fishing conditions. Thus, no change in fishing effort is expected to occur because no new fishing regulations would be implemented; therefore, habitat-gear interactions would remain unchanged. **Alternatives 2-5** would be expected to decrease any adverse effects on the physical environment. Because the recreational fishing season would be projected from the ACT, the number of recreational fishing days would decrease with increased buffers (smaller ACTs). This would reduce recreational red snapper fishing effort. However, as described above, red snapper is just one species in the multispecies reef fish complex managed by the Gulf of Mexico Fishery Management Council (Council). Some red snapper trips that may have occurred under a longer red snapper season may still occur, only redirected towards other species. In addition, under a shorter federal season, there may be some effort shifting from federal to state waters if states have non-compatible fishing seasons (e.g., Florida, Louisiana, and Texas). Because **Alternative 5** would have the largest buffer (60%) between the quota and the ACT, the alternative would provide greater beneficial effects to the physical environment than **Alternative 4** (40%), followed by **Alternatives 3** (30%) and **Preferred Alternative 2** (20%), respectively.

4.1.2 Direct and Indirect Effects on the Biological Environment

Direct and indirect effects from fishery management actions have been discussed in detail in Reef Fish Amendment 22 and Reef Fish Amendment 27/Shrimp Amendment 14 (GMFMC 2004b and 2007) and in several red snapper framework actions (GMFMC 2010, 2012a, 2013a) and are incorporated here by reference. Potential impacts of the 2010 Deepwater Horizon MC252 oil spill on the biological environment are discussed in Section 3.2 and the January 2011 Framework Action (GMFMC 2011c) and are also incorporated here by reference. Management actions that affect this 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.

Fishing can affect life history characteristics of reef fish such as growth and maturation rates. For example, Fischer et al. (2004) and Nieland et al. (2007) found that the average size-at-age of

red snapper had declined and associated this trend with fishing pressure. Woods (2003) found that the size at maturity for Gulf of Mexico (Gulf) red snapper had also declined and speculated this change may also have been due to increases in fishing effort. The reef fish fishery can also affect species outside the reef fish complex. Specifically, sea turtles have been observed to be directly affected by the longline component of the Gulf reef fish fishery. These effects occur when sea turtles interact with fishing gear and result in an incidental capture injury or mortality and are summarized in GMFMC (2009). However, for sea turtles and other listed species, the most recent biological/ecological opinion for the Reef Fish Fishery Management Plan concluded authorization of the Gulf reef fish fishery managed in the reef fish plan is not likely to jeopardize the continued existence of sea turtles, smalltooth sawfish, or *Acropora* species (NMFS 2011a). In addition, the primary gear used by the recreational sector (hook-and-line) was classified in the 2014 List of Fisheries (79 FR 14418, April 14, 2014) as a Category III fishery with regard to marine mammal species, indicating this gear has little effect on these populations (see Section 3.2 for more information).

This action, establishing an ACT, would have no direct effect on the biological environment. However, this action does influence how long the fishing season is, and therefore, indirectly affects this environment. **Alternative 1**, no action, would not change the current fishing conditions. Thus no change in fishing effort is expected to occur because no new fishing regulations would be implemented; therefore, discard mortality rates, stock recovery, and effects on other species would remain unchanged.

Alternatives 2-5 should provide beneficial effects towards stock recovery as the probability of exceeding the recreational quota and overfishing level are reduced relative to **Alternative 1**. The magnitude of this beneficial effect is difficult to quantify as it would be dependent on the potential overage under **Alternative 1** conditions. The greatest recreational overage of in 2013 and was 3.437 million pounds (mp).

It is difficult to assess whether the effects of **Alternatives 2-5** on the red snapper stock would be beneficial or adverse with respect to discards. On one hand, by selecting a larger buffer for establishing the recreational ACT, the probability of exceeding the quota is reduced. This would be beneficial for the stock by keeping harvests consistent with the rebuilding plan allowing the stock to recover more quickly. On the other hand, the consequences of selecting a larger buffer (lower ACT) is that the recreational fishing season would be shorter. Because the reef fish fishery is a multispecies fishery, fishing effort would likely shift to some other species after the red snapper season closes. During the closure, any red snapper caught would be discarded. Given that some of these discarded fish would die, a shorter season could result in more red snapper being discarded dead, and could adversely affect stock recovery. However, these discards are factored into stock assessments and would be adjusted for in setting the red snapper allowable biological catch.

As mentioned above, a reduced recreational red snapper ACT (larger buffer) would lead to a reduced red snapper season. This could adversely affect other reef fish stocks. Assuming that fishermen will target other species when red snapper is closed, the shorter the red snapper season and the more time fishermen have to target other stocks. However, given that managed reef fish stocks are protected by quotas, annual catch limits (ACLs), ACTs, and/or accountability

measures (AMs), any adverse effects from a shorter recreational red snapper season on these other species are expected to be minimal.

Given the above discussion, **Alternative 5** (60% buffer) would have the greatest benefical effect to the red snapper stock relative to **Alternative 1** (no buffer). **Preferred Alternative 2** (20% buffer) would have the least effect relative to **Alternative 1**. **Alternatives 3 and 4** would have intermediate effects to **Preferred Alternative 2** and **Alternative 5** with **Alternative 3** (30% buffer) having less of an effect than **Alternative 4** (40% buffer).

4.1.3 Direct and Indirect Effects on the Social Environment

The social effects of this action will relate to how recreational red snapper fishing opportunities are affected as a result of the buffer chosen as an effective ACT. There has been considerable frustration within the recreational sector as the length of the recreational red snapper season has continually been reduced over the past few years despite red snapper fishermen's observations of the successful rebuilding program that has resulted in more and larger red snapper. The rebuilding program's success has also confounded management of this species as the recreational red snapper quota is reached faster as a result of the larger average size of fish and in combination with differing state regulations that allow for harvest in state waters when federal waters are closed. This reduction in season length while the average size of red snapper is increasing is particularly frustrating for many recreational fishermen, and has led many recreational fishermen to lobby their state management agencies to offer more days in state waters as they see federal management as being contrary to what they see on the water. The willingness of state management agencies to allow state waters to remain open outside of the federal season results in greater negative social effects for the federal for-hire fleet compared with other recreational participants, as federally permitted vessels are precluded from any red snapper fishing outside of the federal season.

Although the National Marine Fisheries Service (NMFS) has closed federal waters using the best available harvest rate data, quota overages have continued, prompting the need for a buffer between the quota and harvest threshold. By not setting an ACT, **Alternative 1** (no action) would allow for the most fishing opportunities in the short-term, and avoid additional social effects. But, without an additional mechanism to constrain recreational landings to the quota, it would be expected that the recreational sector's quota will again be exceeded.

Setting an ACT for the recreational harvest of red snapper is expected to involve short-term effects that correspond with the size of the buffer, in that a larger buffer corresponds with a smaller ACT and thus, fewer opportunities to retain red snapper under a shorter fishing season. On the other hand, selecting a larger buffer decreases the probability of exceeding the quota, thereby avoiding potential long-term impacts that may result should the recreational quota be exceeded. That is, a larger buffer could increase the potential for positive social effects over the long term. Currently, long-term effects are limited to a reevaluation of the progress of the rebuilding plan by the Council's Scientific and Statistical Committee (SSC) in terms of the quota overage. If the only additional AM adopted through this framework action is to set an ACT, then selecting the smallest buffer (**Preferred Alternative 2**), corresponding with allowing the most in-season fishing opportunities, would result in the least negative effects overall, as there is no

post-season AM to affect future quotas. However, a post-season AM is selected as preferred in Action 2, which would deduct the full amount of a quota overage from the following year's recreational quota. Thus, indirect, long-term effects could result if the buffer and corresponding probability of its effectiveness to constrain landings to below the quota is insufficient to prevent triggering a post-season overage adjustment.

Applying a 20% buffer to the quota, **Preferred Alternative 2** provides a 15% probability that the quota will be exceeded and offers the most fishing opportunties compared with **Alternatives 3**, **4**, and **5**. Thus, the negative social effects of the alternatives would increase respectively from **Preferred Alternative 2** through **Alternative 5** as a larger buffer corresponds with a shorter season length. Placing a buffer on the recreational catch may constrain the harvest to within the quota, but until the Council can develop a long-term solution to the problem of managing the recreational harvest of red snapper, there would likely be continued frustration within the recreational sector and dissatisfaction with management.

4.1.4 Direct and Indirect Effects on the Economic Environment

Methods and assumptions used to evaluate the economic effects that are expected to result from the establishment of an ACT are detailed in a recently completed regulatory emergency action (NMFS 2014). Estimated changes in economic value that are expected to result from the alternative ACTs considered in this action are provided and discussed in this section. For each alternative, the red snapper recreational ACT, exclusive economic zone (EEZ) season length, associated expected changes in angler trips, consumer surplus to anglers for all modes, and net operating revenues to for-hire businesses are provided in Table 4.1.4.1. Consumer surplus is the amount of money that an angler would be willing to pay for a fishing trip in excess of the cost of the trip. The estimated changes in consumer surplus were computed based on an average consumer surplus of $58.43 (2013 dollars) per angler trip (NMFS 2014). Estimates of the consumer surplus by mode are not available at the time of this assessment. As a result, a common surplus value is applied to trips in all modes. Because anglers in different modes may not value a red snapper fishing trip equally, the use of a common estimate may result in under- or overestimation of the actual effects. The comparable measure of economic benefits for for-hire vessels is producer surplus; producer surplus is the amount of money that a vessel owner earns in excess of the cost of providing the trip. Net operating revenue, which is the return used to pay all labor wages, returns to capital, and owner profits, are used as the proxy for producer surplus. For the charter boat and the headboat industries, the estimated changes in producer surplus were calculated based on average net operating revenue of $160.13 per target charter angler trip and $53.01 (2013 dollars) per target headboat angler trip (NMFS 2014).

The calculation of changes in net operating revenues partly hinges on the projected changes in the number of trips under each alternative. In this assessment the change in recreational red snapper target effort, and associated economic effects, expected to occur under the alternatives considered in this action is considered to be proportionate to the change in the number of days the red snapper fishing season is projected to be open. This approach assumes that, if the length of the red snapper season is reduced, all red snapper target trips that would normally be taken on the days during which red snapper may no longer be kept are not taken rather than re-directed to the remaining open season, or taken when they would normally occur, but re-directed to an

alternative species. For purposes of projecting the changes in the number of target trips, the baseline target trips used is the average number of red snapper target trips taken per day during the June 2013 recreational red snapper season in areas that would be expected to be directly affected by the proposed buffers to establish the ACT. As noted in NMFS (2014), several assumptions and limitations characterize this methodology. Data limitations include: (a) estimates of target trips in other years differ from the 2013 target trips; (b) use of the Marine Recreational Information Program (MRIP) data off of Florida considered only trips taken from greater than 10 miles, whereas the state's territorial jurisdiction extends to 9 miles; (c) lack of charter red snapper target effort for Texas; (d) headboat angler days may not reflect actual target trips for red snapper. As alluded to earlier, effort shift from closed to open areas or to other species was excluded from effort modeling. In addition, effort modeling did not account for changing weather conditions.

Table 4.1.4.1. Proposed red snapper recreational ACT (mp, whole weight), EEZ red snapper recreational season length (days), and associated estimated changes in red snapper target trips, consumer surplus, and net operating revenue. Consumer surplus and net operating revenues in thousand 2013 dollars.

Alternative	Recreational ACT	Season Length	Mode	# of Trips	Consumer Surplus	Net Operating Revenue
Pref 2	4.312	9	Private	66,278	$3,873	NA*
			Charter	11,649	$681	$1,865
			Headboat	7,944	$464	$421
			Total	85,871	$5,017	$2,286
3	3.773	6	Private	99,417	$5,809	NA
			Charter	17,474	$1,021	$2,798
			Headboat	11,916	$696	$632
			Total	128,807	$7,526	$3,430
4	3.234	3	Private	132,556	$7,745	NA
			Charter	23,298	$1,361	$3,731
			Headboat	15,887	$928	$842
			Total	171,742	$10,035	$4,573
5	1.889	0	Private	165,695	$9,682	NA
			Charter	29,123	$1,702	$4,663
			Headboat	19,859	$1,160	$1,053
			Total	214,678	$12,544	$5,716

Source: NMFS Southeast Regional Office. ***** NA = not applicable.

Estimates discussed in this amendment do not account for potential behavioral changes by recreational anglers or for-hire businesses in response to the proposed alternatives. As a result, the proposed changes in the ACT were quantitatively evaluated using fixed relationships – the proposed harvest buffers translated into a specific ACT, which translated into a specific allowable number of days for the red snapper recreational season in the EEZ, and each day of change in the length of the open season induced a fixed change in angler effort (and associated

change in economic benefits). A larger buffer will always result in proportionately lower ACT, shorter season, and less recreational effort in federal waters, consumer surplus, and net operating revenues than a smaller buffer. From this perspective, the proposed alternatives would be ranked from the least economic losses (most economic benefits) to the most economic losses (least economic benefits) according to simply the amount of ACT provided and subsequent length of season allowed. Compared to **Alternative 1**, **Preferred Alternative 2** would be expected to result in the least economic losses, followed by **Alternative 3**, **Alternative 4** and **Alternative 5**. These effects are all expected to be short-term effects. However, the more severe the short-term economic losses, the greater the likelihood that the survival of businesses associated with the recreational fishing industry beyond the current season is jeopardized. If businesses are forced to close, additional longer-term economic losses would occur. However, the potential rate of business closure and associated economic loss is unknown.

Two additional factors that may affect the ranking of the alternatives should be considered. The first factor to consider is the potential effects of proposed buffers and associated ACTs and recreational seasons on the biological status of red snapper. Resource health is dependent on total mortality and not just directed mortality (the mortality of harvested (kept) fish). The intent of the proposed action is to reduce the likelihood the recreational quota is exceeded. Thus, although the target for determining the season length is the ACT, which is less than the quota, the expected total harvest during the resultant season (and associated seasons in state waters) is the quota and not the ACT. In addition to harvest mortality, red snapper mortality occurs as fish are released. The amount of red snapper that die as a result of release mortality would be expected to increase as angler effort increases, regardless of whether harvest is allowed or not. Conversely, the more effort is reduced as a result of the proposed alternatives, the lower the number of red snapper that will die due to release mortality. As trips are reduced due to the buffers implemented, short term economic losses are partially mitigated by potential longer term improvements in the status of the stocks.

The second factor to consider is the potential effects of effort shifting. Anglers may partially redirect fishing effort to fish for red snapper in state waters (when available) or to fish for other species. Effort shifting would contribute to partially mitigating the losses to displaced anglers that may result from the implementation of buffers and the associated reductions in season length and fishing opportunities. However, effort shifting may also result in adverse economic effects by negatively impacting anglers who traditionally fish for other species and those who typically fish for red snapper in state waters because the influx of additional anglers may result in reductions in trip quality due to congestion and in more pressure on the stocks.

4.1.5 Direct and Indirect Effects on the Administrative Environment

The establishment of an ACT is an administrative action and would have direct effects on the administrative environment through rulemaking, monitoring quotas, setting fishing seasons and enforcing fishing regulations. Therefore, the effect on this environment between **Alternative 1** (no action) and **Alternatives 2-5** (**Alternative 2** is preferred) would be similar. The difference between **Alternatives 2-5** and **Alternative 1** is the former alternatives would require the additional setting of the ACT. This is a minor administrative change that could be easily accomplished in the rulemaking associated with changes in the red snapper acceptable biological

catch. Season length projections, which would be based on the ACT rather than the quota, would still need to be estimated under **Alternatives 2-5**.

Indirect effects of setting quotas and ACTs require monitoring of the resultant quotas, enforcement of the quotas, and setting management measures to minimize the risk of quotas being exceeded (e.g., recreational seasons). However, regardless of which alternative is selected, these activities need to continue. Therefore, the indirect effects from each alternative should be similar.

4.2 Action 2 – Quota Overage Adjustments

Alternative 1: No action. Do not establish a provision to adjust for quota overages.

Preferred Alternative 2: While red snapper is under a rebuilding plan, if the recreational red snapper quota is exceeded, deduct the full amount of the overage from the recreational quota in the following season unless the best scientific information available (e.g., updated yield projections) determines that a greater, lesser, or no overage adjustment is necessary. The recreational ACT will be adjusted to reflect the previously established percent buffer.

Alternative 3: While red snapper is under a rebuilding plan, if the recreational red snapper quota is exceeded, deduct the full amount of the overage from the recreational quota in the following season unless the best scientific information available (e.g., updated yield projections) determines that a greater, lesser, or no overage adjustment is necessary. The recreational ACT will initially be adjusted to reflect the previously established percent buffer. To reduce the likelihood of recurring overages, the ACT will then be further decreased in the following season by:

Option a: 100% of the quota overage in pounds
Option b: 50% of the quota overage in pounds
Option c: 30% of the quota overage in pounds

4.2.1 Direct and Indirect Effects on the Physical Environment

Section 4.1.1 describes the effects from fishing on the physical environment and is not repeated here. This action is not expected to have direct effects on the physical environment including essential fish habitat because it would adjust the recreational quota and ACT in response to quota overages. In years that the recreational quota is not exceeded, **Preferred Alternative 2** and **Alternative 3** would not be triggered and so would not change recreational fishing practices. Thus, they would indirectly affect the physical environment equivalently to **Alternative 1**, no action. However, if an overage did occur, both **Preferred Alternative 2** and **Alternative 3** would adjust the quota and ACT downward in the subsequent year to mitigate the effects of the overage on stock rebuilding. Given the recreational season would be based on the reduced ACT, the red snapper season would be shortened, reducing the use of gear targeting this species in federal waters. Small indirect benefits to the physical environment would likely result from reduced effort in the year following an overage. As mentioned in Section 4.1.1, these effects are likely minimal given red snapper are part of a multispecies fishery, so not all recreational reef

fish trips would be lost under a shorter red snapper fishing season. Some trips could still occur retargeting other species than red snapper. Additionally, there could be a shift in fishing effort from federal waters to state waters if the federal season is reduced and states have non-compatible regulations. The greater the reduction in the ACT, the greater the possible effort shift and adverse effect on the physical environment in state waters where states have non-compatible regulations. Under **Alternative 3**, any reduction in the ACT would be greater than **Preferred Alternative 2** given **Options a-c** would further reduce the overage adjustment. The ACT reduction would be greatest under **Alternative 3's Option a** and least under **Option c**.

4.2.2 Direct and Indirect Effects on the Biological Environment

Section 4.1.2 describes the effects from fishing on the biological environment and can be reviewed there. This action adjusts the recreational quota and ACT in response to quota overages would have no direct effect on the biological environment, but would have indirect effects related to setting the recreational red snapper fishing season. **Alternative 1**, no action, would not change the current fishing conditions. Thus no change in fishing effort is expected to occur because no new fishing regulations would be implemented; therefore, discard mortality rates, stock recovery, and effects on other species would remain unchanged.

Preferred Alternative 2 and **Alternative 3** would only be triggered if the recreational quota were exceeded, at which point the quota and ACT for the subsequent year would be reduced. These alternatives were designed to mitigate any negative consequences on the rebuilding plan from an overage and should have a beneficial effect on stock recovery. It is difficult to assess whether the effects of **Preferred Alternative 2** and **Alternative 3** on the red snapper stock would be beneficial or adverse with respect to discards. On one hand, by reducing the quota and ACT, the season would be shortened. This would be beneficial for the stock by lowering harvests to put the rebuilding plan back on track and allowing the stock to recover per the rebuilding plan. On the other hand, the consequences of reducing the ACT is that the recreational fishing season would be shorter. Because the reef fish fishery is a multispecies fishery, fishing effort would likely shift to some other species after the red snapper season closes. During the closure, any red snapper caught would be discarded. Given that some of these discarded fish would die, a shorter season would result in more red snapper being discarded dead and it could possibly affect stock recovery.

As mentioned in Section 3.2.2, a reduced recreational red snapper ACT (as well as a lower quota) would lead to a reduced red snapper season. This could adversely affect other reef fish stocks. Assuming that fishermen will target other species when red snapper is closed, the shorter the red snapper season and the more time fishermen have to target other stocks. However, given that managed reef fish stocks are protected by quotas, ACLs, ACTs, and/or AMs, any adverse effects from a shorter recreational red snapper season on these other species are expected to be minimal.

Given the above discussion and assuming there is a quota overage, **Preferred Alternative 2** would have a greater beneficial effect for stock recovery and a greater adverse effect on discards relative to **Alternative 1**. **Alternative 3, Option a** (100% of the overage) would have a greater beneficial effect for stock recovery and a greater adverse effect on discards relative to both

Alternative 1 and **Preferred Alternative 2**. **Options b** (75% of the overage) and **c** (50% of the overage) would have intermediate effects between **Alternative 3**, **Option a** and **Preferred Alternative 2**.

4.2.3 Direct and Indirect Effects on the Social Environment

In recent years, when the recreational red snapper quota is exceeded, the SSC recalculates the yield stream projections incorporating the quota overage and provides revised projections. The revised projections have been less than if the quota overages had not occurred, yet the revised quota is applied to both sectors, even if the commercial sector did not exceed its quota. Although additional impacts would not be expected from continuing the practice of revising the yield streams in the event of a quota overage (**Alternative 1**), this practice favors the recreational sector over the commercial sector, because the commercial sector does not receive its portion of the greater quota that would have been in place, had the recreational quota not been exceeded the previous year. Thus, negative effects to the commercial sector would continue under **Alternative 1**, and no additional effects would be expected for the recreational sector. The quota overage adjustment in **Preferred Alternative 2** would only apply to the recreational sector and only when red snapper remains under a rebuilding plan. Negative effects would be expected from triggering the overage adjustment, as fewer recreational fishing opportunities would be available in the season following the overage. However, the same amount of red snapper caught in excess of the quota the year before would be deducted through the quota adjustment. Thus, while the effects from this action would be negative in the event the overage adjustment is triggered, the effects would be mitigated in terms of fishing opportunities, as the overage adjustment is equivalent to the additional fish harvested the previous season. That is, the amount of fish deducted from the quota as a result of triggering **Preferred Alternative 2** would reflect the excess harvest of fish in the previous year.

Like **Preferred Alternative 2, Alternative 3** would also require the amount of any recreational quota overage to be deducted from the following year's red snapper quota after the buffer is applied (Figure 2.2.1). **Alternative 3** provides an additional measure to reduce the likelihood of another quota overage, through options that would further increase the buffer selected in Action 1 by the full amount of the quota overage, in pounds (**Option a**), or a smaller proportion (50% under **Option b**; 30% under **Option c**). The additional buffer would further reduce fishing opportunities, resulting in negative effects in proportion to the size of the additional buffer. Thus, in addition to the overage adjustment, **Option a** would increase the buffer by the full amount of the quota overage and result in the greatest negative effects upon recreational fishing opportunities among the options. The least effects would be expected from **Option c**, with intermediary effects resulting from **Option b**. Adopting any of these options with **Alternative 3**, however, would be expected to result in greater negative effects through a reduction in fishing opportunities following the year of a quota overage, compared with **Preferred Alternative 2**.

4.2.4 Direct and Indirect Effects on the Economic Environment

Alternative 1 (no action) would not establish payback provisions should overages occur. Therefore, **Alternative 1** would not directly affect recreational red snapper harvests and would not be expected to result in direct effects on the economic environment.

Preferred Alternative 2 would require recreational red snapper harvests in excess of the recreational red snapper quota to be deducted in full from the recreational quota in the following season and adjust the ACT to reflect the buffer selected in Action 1. Economic effects that would be expected to result from a reduction in the recreational red snapper quota in response to overages, i.e., harvests in excess of the recreational quota, would be determined by the probability of observing overages, the magnitude of the overage and associated reduction in quota during the following year, and resulting decreases in fishing opportunities for the recreational sector. Decreases in fishing opportunities are typically measured by reductions in angler trips. Finally, changes in economic value that would be expected to result from reductions in angler trips are evaluated by estimating consumer surplus losses to anglers and losses in net operating revenues to for-hire operators. In general, the expected value of a random payoff (or loss) is the probability of receiving the payoff (or incurring the loss) times the amount to be received (or lost). It follows that the expected value of a recreational overage would be equal to the probability of recording recreational harvests in excess of the recreational quota times the magnitude of the overage. The probability to observe recreational landings in excess of the quota is determined by the buffer between the quota and the ACT selected in Action 1. For example, Action 1 – Preferred Alternative 2 would establish a 20% buffer which would be associated with a 15% probability of observing recreational red snapper landings above the quota. Therefore, with a 20% buffer, the expected value of a 500,000-lb overage (this number is used for illustrative purposes only) would be 75,000 lbs. Economic effects that would be expected to result would be determined by the corresponding loss in angler trips and associated reductions in consumer surplus and net operating revenues to for-hire operators. Greater buffers, which would be associated with a smaller likelihood of observing overages, would be expected to result in lower expected values of losses to the recreational sector due to overage paybacks.

Alternative 3 would also require recreational red snapper landings over the recreational red snapper quota to be deducted in full from the recreational quota in the following season. Therefore, the effects to the economic environment that are expected to result from **Alternative 2** would also be expected from **Alternative 3**. In addition to the quota deduction and corresponding ACT adjustment, **Alternative 3** further reduces the ACT by increasing the buffer between the red snapper quota and the ACT. Options to widen the buffer would be based on the full amount of the quota overage (**Option a**) or on 50% and 30% of the overages for **Options b** and **c**, respectively. If an overage occurs and the buffer between the recreational quota and the ACT is increased in the following year, it is assumed that under **Alternative 3**, the recreational sector will harvest the same amount as in **Preferred Alternative 2**, i.e., the recreational quota minus the amount of landings above the quota. However, compared to **Preferred Alternative 2**, the daily harvest rates under **Alternative 3** would have to be greater because the projected recreational fishing season length would be shorter under **Alternative 3**. **Alternative 3** could also be expected to result in decreases in the quality of recreational fishing trips potentially due to increased congestion and additional restrictions on the recreational anglers' flexibility to plan fishing trips as a result of a shortened season. Wider buffers between the quota and the ACT that would be established by **Alternative 3** would also decrease the probability of observing recreational landings above the quota, resulting in lower expected values of overages should they occur. **Alternative 3** would be expected to result in additional adverse economic effects due to forgone fishing opportunities if the gap between the adjusted quota (recreational quota minus the

overage) and the ACT is wide enough to prevent the recreational sector from harvesting its allotted quota during the prescribed fishing season.

4.2.5 Direct and Indirect Effects on the Administrative Environment

Adjusting for an overage of the quota is administrative action and would have direct effects on the administrative environment through additional rulemaking and recalculating the subsequent year's quota and ACT. Because **Alternative 1** (no action) would not require additional rulemaking, it would have no effect on the administrative environment. The act of adjusting the recreational quota and ACT under **Preferred Alternative 2** and **Alternative 3** would need to occur each time the red snapper recreational quota is exceeded. Therefore, these alternatives would trigger an additional administrative burden to the Council and NMFS to set the revised quota and ACT. Under these conditions, **Preferred Alternative 2** and **Alternative 3** would have equally negative direct effects on the administrative environment. This would also be true for each of **Options a-c** under **Alternative 3**.

4.3. Cumulative Effects (CE)

The cumulative effects from the red snapper rebuilding plan that sets the ACLs and ACTs this action is based on have been analyzed in Amendments 22 (GMFMC 2004b) and 27/14 (GMFMC 2007), and cumulative effects to the reef fish fishery have been analyzed in Amendments 30A (GMFMC 2008a), 30B (GMFMC 2008b), 31 (GMFMC 2009), and 32 (GMFMC 2011b) and are incorporated here by reference. Additional pertinent actions are summarized in the history of management (Section 1.3). Currently, four red snapper reasonably foreseeable future actions (RFFAs) are being considered by the Council. These are: Amendment 28, which would reallocate the red snapper quotas between the recreational and commercial sectors; Amendment 36, which would revise the red snapper commercial individual fishing quota program; Amendment 40, which would establish separate for-hire and private angling components to the recreational red snapper sector; and a generic status determination amendment, which would update red snapper quota language with ACL language in accordance with the Magnuson-Stevens Fishery Conservation and Management Act.

The affected area of this proposed action encompasses the state and federal water of the Gulf as well as Gulf communities dependent on reef fish fishing. The proposed action would establish an ACT for estimating season length to reduce the probability of exceeding the recreational quota. Additionally, the proposed action would establish a payback mechanism to mitigate harm to the rebuilding plan should the recreational sector exceed its quota. This action is not expected to have significant beneficial or adverse cumulative effects on the physical and biological/ecological environments as it would minimally affect fishing practices (see Sections 4.1.1, 4.1.2, 4.2.1, and 4.2.2). If the recreational harvest is constrained to the quota, then the effects to these environments would likely be beneficial compared to the no action alternatives because the recreational sector would be better constrained to its quota. However, for the social and economic environments, short-term adverse effects are likely as harvest is better constrained to the recreational quota (see Sections 4.1.3, 4.1.4, 4.2.3, 4.2.4) and could result in substantial economic losses to fishing communities. Additionally, operators of federally-permitted for-hire

vessels are likely to experience shorter seasons than the private anglers due to states with incompatible regulations and add to any adverse economic and social impacts from this action. These short-term effects are expected to be compensated for by long-term management goals to rebuild the red snapper stock as well as RFFAs (see preceding paragraph) designed to allow the recreational sector more fishing opportunities. This action, combined with past and RFFAs is not expected to have substantial adverse effects on public health or safety. Because the reef fish fishery is a multispecies fishery, there are always fish to target throughout the year for the recreational sector to target such that the proposed actions, along with past and RFFAs, are not expected to substantially alter the manner in which the fishery is prosecuted.

Non-FMP actions affecting the reef fish fishery have been described in previous cumulative effect analyses (e.g., Amendment 32). Two important events include impacts of the Deepwater Horizon MC252 oil spill and climate change. Impacts from the Deepwater Horizon MC252 oil spill are still being examined and peer-reviewed studies are now only just being published. For red snapper, there may have been a reduction in spawning success in 2010. However, the effects may not begin to manifest themselves measurably until recruits from the 2010 year-class begin to enter the adult spawning population and be caught by anglers. The most recent red snapper stock assessment (SEDAR 31 2013) was completed in May 2013 and did detect a slight reduction of recruitment for 2010. Because recruitment occurs at approximately 3 years of age, any 2010 year class failure is likely to be detected in the next stock assessment to occur later this year that will include 2013 landings data. Should the 2010 year class be adversely affected, would result in reduced fishing success and reduced spawning potential, and would need to be taken into consideration in future assessments and actions. The oil itself could also adversely affect adult red snapper and other reef fish species. In a recent study, Weisberg et al. (2014) suggested the hydrocarbons associated with Deepwater Horizon MC252 oil spill did transit onto the Florida shelf and may be associated with the occurrences of reef fish with lesions and other deformities. However, Murawski et al. (2014) reported that the incidence of lesions on bottom dwelling fish had declined between 2011 and 2012 in the northern Gulf.

There is a large and growing body of literature on past, present, and future impacts of global climate change induced by human activities. Some of the likely effects commonly mentioned are sea level rise, increased frequency of severe weather events, and change in air and water temperatures. The Environmental Protection Agency's climate change web page provides basic background information on these and other measured or anticipated effects. In addition, the 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). Global climate changes could affect the 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. Burton (2008) speculated climate change could cause shifts in spawning seasons, changes in migration patterns, and changes to basic life history parameters such as growth rates. 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. Hollowed et al. (2013) provided a review of projected effects of climate change on the marine fisheries and dependent communities. Integrating the potential effects of climate change into the fisheries assessment is currently difficult due to the time scale differences (Hollowed et al. 2013). The fisheries stock assessments rarely accurately project for more than a few years, a time span that would preclude detectable climate change effects. While climate change may impact Gulf reef fish species in the future, the level of impacts cannot be quantified at this time, nor is the time frame known in which these impacts would occur. Conversely, the proposed action is not expected to significantly contribute to climate change through the increase or decrease in the carbon footprint from fishing.

The effects of the proposed action 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 are collected through MRIP, the Southeast Headboat Survey, and the Texas Marine Recreational Fishing Survey. In addition, the Louisiana Department of Wildlife and Fisheries and the Alabama Department of Conservation and Natural Resources have instituted programs to collect red snapper recreational landings information in their respective states. Commercial data are collected through trip ticket programs, port samplers, and logbook programs, as well as dealer reporting through the individual fishing quota program.

CHAPTER 5. REGULATORY IMPACT REVIEW

5.1 Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: 1) it provides a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; 2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problem; and, 3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost-effective way. The RIR also serves as the basis for determining whether the regulations are a "significant regulatory action" under the criteria provided in Executive Order (E.O.) 12866. This RIR analyzes the impacts this action would be expected to have on the red snapper component of the Gulf of Mexico (Gulf) reef fish fishery.

5.2 Problems and Objectives

The problems and objectives addressed by this action are discussed in Section 1.2.

5.3 Description of Fisheries

A description of the red snapper component of the Gulf reef fish fishery is provided in Section 3.4.

5.4 Impacts of Management Measures

5.4.1 Action 1: Setting an Annual Catch Target (ACT)

A detailed analysis of the economic effects expected to result from this action is provided in Section 4.1.4 and is incorporated herein by reference. **Preferred Alternative 2** retains the current recreational red snapper quota but establishes an ACT based on a 20% buffer. A larger buffer will result in a proportionately lower ACT, shorter season, consumer surplus, and net operating revenues than a smaller buffer. From this perspective, the proposed alternatives would be ranked from the least economic losses (most economic benefits) to the most economic losses (least economic benefits) according to the amount of ACT provided and corresponding length of season allowed. Compared to **Alternative 1**, **Preferred Alternative 2** would be expected to result in the least economic losses, followed by **Alternative 3**, **Alternative 4** and **Alternative 5**. **Preferred Alternative 2** is expected to result in reductions in consumer surplus (the amount of money that an angler would be willing to pay for a fishing trip in excess of the cost of the trip) to recreational anglers and net operating revenue (the return used to pay all labor wages, returns to

capital, and owner profits) to for-hire businesses (charter and headboats) of approximately $5.017 million and $2.286 million (2013 dollars), respectively. These effects are expected to be short-term effects. However, the more severe the short-term economic losses, the greater the likelihood that the survival of businesses associated with the recreational fishing industry beyond the current season is jeopardized. If businesses are forced to close, additional longer-term economic losses would occur. However, the potential rate of business closure and associated economic loss is unknown.

5.4.2 Action 2: Quota Overage Adjustments

A detailed analysis of the economic effects expected to result from this action is provided in Section 4.2.4 and is incorporated herein by reference. As long as red snapper is in a rebuilding plan, **Preferred Alternative 2** would require recreational red snapper harvests in excess of the recreational red snapper quota to be deducted in full from the recreational quota in the following season and adjust the ACT to reflect the buffer selected in Action 1. In accordance with the National Standard 1 guidelines, **Preferred Alternative 2** will reduce the recreational red snapper ACL in the next fishing year by the full amount of the overage (should it occur), unless the best scientific information available shows that a reduced overage adjustment, or no adjustment, is needed to mitigate the effects of the overages. The expected value of economic effects that could result from a reduction in the recreational red snapper quota in response to overages, i.e., harvests in excess of the recreational quota, would be determined by the probability of observing overages, the magnitude of the overage and associated reduction in quota during the following year, and resulting decreases in fishing opportunities for the recreational sector.

Alternative 3 would also require recreational red snapper landings over the recreational red snapper quota to be deducted in full from the recreational quota in the following season. Therefore, the effects to the economic environment that are expected to result from **Preferred Alternative 2** would also be expected from **Alternative 3**. In addition to the quota deduction and corresponding ACT adjustment, **Alternative 3** further reduces the ACT by increasing the buffer between the red snapper quota and the ACT. **Alternative 3** would be expected to result in adverse effects on the economic environment due to decreases in the quality of recreational fishing trips. Decreases in the quality of fishing trips may result from increased congestion and additional restrictions on the recreational anglers' flexibility to plan fishing trips as a result of a shortened season. **Alternative 3** would be expected to decrease the probability of observing recreational landings above the quota, resulting in lower expected values of overages should they occur. Compared to **Preferred Alternative 2**, **Alternative 3** would be expected to result in additional adverse economic effects due to forgone fishing opportunities if the gap between the adjusted quota (recreational quota minus the overage) and the ACT is wide enough to prevent the recreational sector from harvesting its allotted quota during the prescribed fishing season.

5.5 Public and Private Costs of Regulations

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

Council costs of document preparation, meetings, public hearings, and information dissemination…….. $20,000

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

TOTAL ….....$30,000

The estimate provided above does not include any law enforcement costs. Any enforcement duties associated with this action would be expected to be covered under routine enforcement costs rather than an expenditure of new funds. It is noted that it will be more difficult and, therefore, more costly, to monitor closure periods that vary by state.

5.6 Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a "significant regulatory action" if it is likely to result in: 1) an annual effect of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; 3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or 4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this executive order. Based on the information provided above, this action has been determined to not be economically significant for the purposes of E.O. 12866.

CHAPTER 6. INITIAL REGULATORY FLEXIBILITY ANALYSIS

6.1 Introduction

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

The RFA requires agencies to conduct a Regulatory Flexibility Act Analysis (RFAA) for each proposed rule. The RFAA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An RFAA is conducted to primarily determine whether the proposed action would have a "significant economic impact on a substantial number of small entities." The RFAA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; 6) a description and estimate of the expected economic impacts on small entities; and 7) an explanation of the criteria used to evaluate whether the rule would impose "significant economic impacts".

Additional details on the description of affected entities are presented in Chapter 3**,** and additional information on the expected economic impacts of the proposed action is provided in Chapter 4.

6.2 Statement of the need for, objective of, and legal basis for the proposed action

The need for and objective of this proposed action are provided in Chapter 1. The purpose of this action is to establish annual catch targets (ACTs) and payback provisions as additional accountability measures for the recreational red snapper sector to support management efforts to maintain landings within the recreational quota and mitigate quota overages should they occur.

The need for the proposed actions is to reduce the likelihood of overharvests in the recreational sector and to prevent overfishing while achieving optimum yield, particularly with respect to food production and recreational opportunities, while rebuilding the red snapper stock. The Magnuson-Stevens Fishery Conservation and Management Act provides the statutory basis for this proposed action.

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

This proposed rule is expected to directly affect federally permitted for-hire vessels operating in the Gulf of Mexico reef fish fishery. The for-hire sector is comprised of charter boats and headboats (party boats). Although charter boats 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 December 20, 2013, there were 1,190 valid (non-expired) or renewable Gulf of Mexico 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 for-hire permit application collects information on the primary method of operation, the resultant permit itself does not identify the permitted vessel as either a headboat or a charter boat, operation as either a headboat or charter boat is not restricted by the permitting regulations, and vessels may operate in both capacities. However, only federally permitted headboats are required to submit harvest and effort information to NMFS' Headboat Survey (HBS). Participation in the HBS is based on determination by the Southeast Fisheries Science Center (SEFSC) that the vessel primarily operates as a headboat. Seventy Gulf vessels were registered in the HBS as of March 1, 2013 (K. Brennen, NMFS SEFSC, pers. comm.). As a result, 1,120 of the vessels with a valid or renewable reef fish for-hire permit are expected to operate as charter boats. The average charter boat is estimated to earn approximately $83,000 (2013 dollars) in gross annual revenue and the average headboat is estimated to earn approximately $251,000 (2013 dollars).

The Small Business Administration established size criteria for all major industry sectors in the U.S. including fish harvesters and for-hire operations. A business involved in finfish harvesting is classified as a small business if independently owned and operated, is not dominant in its field of operation (including its affiliates), and its combined annual receipts are not in excess of $20.5 million (NAICS code 114111, finfish fishing) for all of its affiliated operations worldwide. For for-hire vessels, all qualifiers apply except that the annual receipts threshold is $7.5 million (NAICS code 487210, recreational industries).

Based on the revenue figures above, all vessels expected to be directly affected by this proposed rule are determined for the purpose of this analysis to be small business entities.

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

The proposed rule is not expected to change current reporting, record-keeping and other compliance requirements.

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

No duplicative, overlapping, or conflicting Federal rules have been identified with this proposed rule.

6.6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

This proposed action would be expected to directly affect all for-hire vessels that possess a valid or renewable for-hire reef fish permit. As a result, this proposed action is determined to meet the substantial number criterion

Significant economic impacts criterion

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

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

All entities that are expected to be affected by this proposed rule are considered small entities, so the issue of disproportional effects on small versus large entities does not presently arise.

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

The proposed rule consists of two actions: establish an ACT by applying a 20% buffer to the recreational quota, and deduct 100% of the quota overage from the next season's recreational quota with consequent adjustment of the ACT.

Establishing an ACT is expected to reduce net operating revenues (the return used to pay all labor wages, returns to capital, and owner profits) of for-hire vessels (charter and headboats) by a total of approximately $2.286 million (2013 dollars) in the first year this rule is implemented. If there are no quota overages, this amount will be the annual net operating revenue loss of the for-

hire vessels. If overages occur in one year, net operating revenues would further decrease in the following year with the application of the 100% overage reduction from the following year's quota.

A major issue with respect to the payback provision is the uncertainty of the occurrence and level of overages. Under the proposed buffer of 20% for deriving the ACT from the recreational quota, the probability of exceeding the ACT is estimated at 15%. In theory, this probability level may be taken to mean that for a given distribution of overages, the expected level of overage would be 15% of any level of overage in the distribution. In general and especially at the low end of the overage distribution, the expected level of overage would very low. In this case, the net operating revenue loss to the for-hire vessels would be approximately equivalent to the amount estimated above ($2.286 million). At the high end of the overage distribution, the expected level of overage could be substantial in one year as to result in a zero ACT the following year. In this case, net operating revenue loss to the for-hire vessels could be relatively substantial, with some unknown number of for-hire businesses possibly exiting the industry. The year after that, however, the recreational quota and the corresponding ACT would be restored as there would be no overages in the previous year. Assuming no increases in the recreational red snapper quota, the for-hire vessels would continue to lose the amount of net operating revenue estimated above. A quota increase would alleviate the losses to the for-hire vessels.

Given the uncertainty discussed above, it cannot be ascertained as to whether the effects of the rule on the net operating revenues of for-hire vessels would be significant or not. The public, therefore, is highly encouraged to address this issue during the public comment period.

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

Five alternatives, including the preferred alternative, were considered for setting an ACT. The first alternative, the no action alternative, would not establish an ACT. This alternative is associated with the highest probability level of exceeding the quota and so would not address the need to control the recreational harvest to the sector's quota. The other three alternatives would establish an ACT by applying a buffer of 30%, 40%, or 60%. Relative to the preferred alternative, each of these three alternatives would be expected to result in lower ACT and therefore greater loss in net operating revenues for the for-hire sector.

Three alternatives, including the preferred alternative, were considered for establishing a payback provision in case of overages. The first alternative, the no action alternative, would not establish a payback provision. This alternative would not be consistent with the National Standard 1 guidelines which, in effect, states that for stocks and stock complexes in rebuilding plans (such as red snapper), the AMs should include overage adjustments that reduce the ACLs in the next fishing year. In addition, this alternative would not address the need to control the recreational harvest to the sector's quota. The second alternative would establish a 100% payback of overages, similar to the preferred alternative, and in addition would further reduce the ACT in the following season by 100%, 50%, or 30% of the quota overage. This alternative,

together with any of its option to further reduce the following season's ACT, would be expected to result in higher net operating revenue losses for the for-hire sector.

CHAPTER 7. LIST OF PREPARERS

PREPARERS

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Ava Lasseter	Anthropologist	Social analyses	GMFMC

REVIEWERS (Preparers also serve as reviewers)

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Scott Sandorf	Technical writer and editor	Regulatory writer	SERO
Adam Brame	Biologist	Protected Resources review	SERO
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Neil Baertlein	Biologist	Review	SEFSC
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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.

CHAPTER 8. LIST OF AGENCIES AND PERSONS CONSULTED

National Marine Fisheries Service
- Southeast Fisheries Science Center
- Southeast Regional Office
- Office for Law Enforcement

NOAA General Counsel

Environmental Protection Agency
United States Coast Guard
United States Fish and Wildlife Services
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 9. REFERENCES

Adams, W.F., and C. Wilson. 1995. The status of the smalltooth sawfish, *Pristis pectinata* Latham 1794 (Pristiformes: Pristidae) in the United States. Chondros 6(4):1-5.

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

Anderes Alvarez, B. L., and I. Uchida. 1994. Study of hawksbill turtle (*Eretmochelys imbricata*) stomach content in Cuban waters. Pages 27-40 *in* Study of the Hawksbill Turtle in Cuba (I). Ministry of Fishing Industry, CUBA. Ministry of Fishing Industry, Cuba.

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.

Bigelow, H.B., and W.C. Schroeder. 1953. Sawfishes, guitarfishes, skates and rays, pp. 1-514. *In:* Tee-Van, J., C.M Breder, A.E. Parr, W.C. Schroeder and L.P. Schultz (eds). Fishes of the Western North Atlantic, Part Two. Mem. Sears Found. Mar. Res. I.

Bjorndal, K. A. 1997. Foraging ecology and nutrition of sea turtles. P. L. Lutz, and J. A. Musick, editors. The Biology of Sea Turtles. CRC Press, Boca Raton.

Bjorndal, K. A. 1980. Nutrition and grazing behavior of the green turtle, *Chelonia mydas*. Marine Biology 56:147-154.

Bohnsack, J. 2000. Report on Impacts of Recreational Fishing on Essential Fish Habitat. In: Hamilton, A. N., Jr., ed. Gear impacts on essential fish habitat in the Southeastern Region. National Marine Fisheries Service, Southeast Fisheries Science Center. Pascagoula, Mississippi.

Bolten, A. B., and G. H. Balazs. 1995. Biology of the early pelagic stage - the 'lost year'. Pages 579-581 *in* K. A. Bjorndal, editor. Biology and Conservation of Sea Turtles. Smithsonian Institution Press, Washington, DC.

Brongersma, L. D. 1972. European Atlantic turtles. Zoologische Verhandelingen (121):1-318.

Burke, V. J., S. J. Morreale, and A. G. J. Rhodin. 1993. *Lepidochelys kempii* (Kemp's ridley sea turtle) and *Caretta caretta* (loggerhead sea turtle): diet. Herpetological Review 24(1):31-32.

Burton, M. 2008. Southeast U.S. continental shelf, Gulf of Mexico, and U.S. Caribbean. In: K. E. Osgood, ed. Climate Impacts on U.S. Living Marine Resources: National Marine

Fisheries Service Concerns, Activities and Needs. U.S. Dep. Commerce, NOAA Tech. Memo. NMFSF/SPO-89, p. 31-43.

Byles, R. 1988. Satellite Telemetry of Kemp's Ridley Sea Turtle, *Lepidochelys kempi*, in the Gulf of Mexico. Report to the National Fish and Wildlife Foundation:40 pp.

Carr, A. F. 1986. RIPS, FADS, and little loggerheads. BioScience 36(2):92-100.

Carr, A. 1987. New perspectives on the pelagic stage of sea turtle development. Conservation Biology 1(2):103-121.

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.

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.

Eckert, S. A., K. L. Eckert, P. Ponganis, and G. L. Kooyman. 1989. Diving and foraging behavior of leatherback sea turtles (*Dermochelys coriacea*). Canadian Journal of Zoology 67(11):2834-2840.

Eckert, S. A., D. W. Nellis, K. L. Eckert, and G. L. Kooyman. 1986. Diving patterns of two leatherback sea turtles (*Dermochelys coriacea*) during internesting intervals at Sandy Point, St. Croix, U.S. Virgin Islands. Herpetologica 42(3):381-388.

Feeny, David, Fikret Berkes, Bonnie J. McCay, and James M. Acheson. 1990. The Tragedy of the Commons: Twenty-Two Years Later, Human Ecology 18:1-19.

Fischer, A. J., M. S. Baker, Jr., and C. A. Wilson. 2004. Red snapper (*Lutjanus campechanus*) demographic structure in the northern Gulf of Mexico based on spatial patterns in growth rates and morphometrics. Fishery Bulletin 102:593–603.

Frick, J. 1976. Orientation and behavior of hatchling green turtles *Chelonia mydas* in the sea. Animal Behavior 24(4):849-857.

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. 1995. Regulatory amendment to the reef fish fishery management plan to set 1996 red snapper total allowable catch. Gulf of Mexico Fishery Management Council, Tampa, Florida. 49p.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/RF%20RegAmend%20-%201995-12.pdf

GMFMC. 2003. Amendment 21 to the reef fish fishery management plan, 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/Amend21-draft%203.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. 2006. Final amendment 26 to the Gulf of Mexico reef fish fishery management plan to establish a red snapper individual fishing quota program, including supplemental environmental impact statement, initial regulatory flexibility analysis, and regulatory impact review. Gulf of Mexico Fishery Management Council. Tampa, Florida.
http://www.gulfcouncil.org/Beta/GMFMCWeb/downloads/Amend26031606FINAL.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 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 including environmental 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%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. 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. 2011b. 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. 2011c. 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. 2012. 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. 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. 2013b. Red snapper individual fishing quota program 5-year review. Jointly prepared by Gulf of Mexico Fishery Management Council and NMFS Southeast Regional Office. Tampa and St. Petersburg, FL. http://www.gulfcouncil.org/docs/amendments/Red%20Snapper%205-year%20Review%20FINAL.pdf

GMFMC. 2013c. 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 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#

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

Hollowed, A. B., Barange, M., Beamish, R., Brander, K., Cochrane, K., Drinkwater, K., Foreman, M., Hare, J., Holt, J., Ito, S-I., Kim, S., King, J., Loeng, H., MacKenzie, B., Mueter, F., Okey, T., Peck, M. A., Radchenko, V., Rice, J., Schirripa, M., Yatsu, A., and Yamanaka, Y. 2013. Projected impacts of climate change on marine fish and fisheries. ICES Journal of Marine Science 70: 1023–1037.

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.

Hughes, G. R. 1974. Is a sea turtle no more than an armored stomach? Bulletin of the South African Association for Marine Biological Research 11:12-14.

Jepson, M. and L.L. Colburn. 2013. Development of Social Indicators of Fishing Community Vulnerability and Resilience in the U.S. Southeast and Northeast Regions. U.S. Dept. of Commerce, NOAA Technical Memorandum NMFS-F/SPO-129, 64 p.

Keinath, J. A., and J. A. Musick. 1993. Movements and diving behavior of leatherback turtle. Copeia 1993(4):1010-1017.

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

Lanyon, J.M., C.J. Limpus, and H., Marsh. 1989. Dugongs and turtles: grazers in the seagrass system. *In:* Larkum, A.W.D, A.J., McComb and S.A., Shepard (eds.) Biology of Seagrasses. Elsevier, Amsterdam, 610.

Limpus, C.J., and N., Nichols. 1988. The southern oscillation regulates the annual numbers of green turtles (*Chelonia mydas*) breeding around northern Australia. Australian Journal of Wildlife Research 15:157.

Limpus, C.J., and N., Nichols. 1994. Progress report on the study of the interaction of El Niño Southern Oscillation on annual *Chelonia mydas* numbers at the southern Great Barrier Reef rookeries. *In:* Proceedings of the Australian Marine Turtle Conservation Workshop, Queensland Australia.

Lutz, P. L., and J. A. Musick, editors. 1997. The biology of sea turtles. CRC Press, Boca Raton, Florida.

Lutz, P. L., J. A. Musick, and J. Wyneken. 2003. The Biology of Sea Turtles. Volume II. CRC Press, Inc., Washington, D.C.

Márquez M, R. 1994. Synopsis of biological data on the Kemp's ridley turtle, *Lepidochelys kempii* (Garman 1880). U. S. Dept. of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, Florida.

McCay, Bonnie J., and James M. Acheson. 1987. Human Ecology of the Commons In The Question of the Commons: The Culture and Ecology of Communal Resources. B.J. McCay and J.M. Acheson, eds. Pp. 1-34. Tucson: The University of Arizona Press.

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

Mendonca, M. T., and P. C. H. Pritchard. 1986. Offshore movements of post-nesting Kemp's ridley sea turtles (*Lepidochelys kempii*). Herpetologica 42:373-380.

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 .

Meylan, A. 1984. Feeding ecology of the hawksbill turtle (*Eretmochelys imbricata*) spongivory as a feeding niche in the coral reef community. University of Florida.

Meylan, A. 1988. Spongivory in hawksbill turtles: a diet of glass. Science 239:393-395.

Meylan, A. B., and M. Donnelly. 1999. Status justification for listing the hawksbill turtle (*Eretmochelys imbricata*) as critically endangered on the 1996 IUCN Red List of Threatened Animals. Chelonian Conservation and Biology 3(2):200-204.

Mortimer, J. A. 1981. The feeding ecology of the west Caribbean green turtle (*Chelonia mydas*) in Nicaragua. Biotropica 13(1):49-58.

Mortimer, J. A. 1982. Feeding ecology of sea turtles. Pages 103-109 *in* K. A. Bjorndal, editor. Biology and Conservation of Sea Turtles. Smithsonian Institution Press, Washington D.C.

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.

Murawski, S, A., W. T. Hogarth, E. B. Peebles, and L. Barbeiri. 2014. Prevalence of External Skin Lesions and Polycyclic Aromatic Hydrocarbon Concentrations in Gulf of Mexico Fishes, Post-Deepwater Horizon, Trans. Amer. Fish. Soc., 143(4):1084-1097

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

Nieland, D. L., C. A. Wilson III, and A. J. Fischer. 2007. Declining size-at-age among red snapper in the Northern Gulf of Mexico off Louisiana, USA: recovery or collapse? Pages 329-336 in W. F. Patterson, III, J. H. Cowan, Jr., G. R. Fitzhugh and D. L. Nieland, editors. Red snapper ecology and fisheries in the U.S. Gulf of Mexico. American Fisheries Society, Symposium 60, Bethesda, Maryland.

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. 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. 2013. Updated 2013 Gulf of Mexico Red Snapper Recreational Season Length Estimates. SERO-LAPP-20913-02-Addendum. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701. http://sero.nmfs.noaa.gov/sustainable_fisheries/gulf_fisheries/red_snapper/documents/pdfs/2013_red_snapper_emergency_regs.pdf

NMFS. 2014. Emergency action to set red snapper accountability measures for the recreational secotr of the Gulf of Mexico reef fish fishery. Southeast Regional Office, National Marine Fisheries Service, 263 13th Avenue South, St. Petersburg, FL 33701.

NOAA. 2010. Deepwater Horizon Oil: Characteristics and Concerns. NOAA Office of Response and Restoration, Emergency Response Division. 2 pp. http://www.noaa.gov/deepwaterhorizon/publications_factsheets/documents/OilCharacteristics.pdf

Norman, J. R., and F. C. Fraser. 1938. Giant Fishes, Whales and Dolphins. W. W. Norton and Company, Inc, New York, NY. 361 pp.

Ogren, L. H. 1989. Distribution of juvenile and subadult Kemp's ridley sea turtles: preliminary results from 1984-1987 surveys. Pages 116-123 *in* C. W. Caillouet Jr., and J. A.M. Landry, editors. Proceedings of the First International Symposium on Kemp's Ridley Sea Turtle Biology, Conservation, and Management. Texas A&M University Sea Grant College, Galveston, Texas.

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.

Paredes, R.P. 1969. Introduccion al Estudio Biologico de *Chelonia mydas agassizi* en el Perfil de Pisco, Master's thesis, Universidad Nacional Federico Villareal, Lima, Peru.

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 pp.

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.

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

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. 2013. Stock assessment report Gulf of Mexico red snapper. Southeast Data, Assessment, and Review. North Charleston, South Carolina. http://www.sefsc.noaa.gov/sedar/.

Shaver, D. J. 1991. Feeding Ecology of Wild and Head-Started Kemp's Ridley Sea Turtles in South Texas Waters. Journal of Herpetology 25(3):327-334.

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.

Shipp, R. L. and S. A. Bortone. 2009. A prospective of the importance of artificial habitat on the management of red snapper in the Gulf of Mexico. Reviews in Fisheries Science 17: 41-47.

Simpfendorfer, CA. 2001. Essential habitat of the smalltooth sawfish, *Pristis pectinata*. Report to the National Fisheries Service‘s Protected Resources Division. Mote Marine Laboratory, Technical Report (786) 21pp.

Simpfendorfer, C.A., and T.R., Wiley. 2004. Determination of the distribution of Florida‘s remnant sawfish population, and identification of areas critical to their conservation. Mote Marine Laboratory, Technical Report July 2, 2004, 37 pp.

Soma, M. 1985. Radio biotelemetry system applied to migratory study of turtle. Journal of the Faculty of Marine Science and Technology, Tokai University, Japan, 21:47.

Standora, E. A., J. R. Spotila, J. A. Keinath, and C. R. Shoop. 1984. Body temperatures, diving cycles, and movement of a subadult leatherback turtle, Dermochelys coriacea. Herpetologica 40:169-176.

Szedlmayer, S. T. and R. L. Shipp. 1994. Movement and growth of red snapper, *Lutjanus campechanus*, from an artificial reef area in the northeastern Gulf of Mexico. Bulletin of Marine Science 55: 887-896.

Szedlmayer, S. T. and J. C. Howe. 1997. Substrate preference in age-0 red snapper, *Lutjanus campechanus*. Environmental biology of fishes 50: 203-207.

Szedlmayer, S. T. and J. Conti. 1998. Nursery habitat, growth rates, and seasonality of age-0 red snapper, *Lutjanus campechanus*, in the northeast Gulf of Mexico. Fishery Bulletin. 97:626-635.

Thayer, G.W., K.A., Bjorndal, J.C., Ogden, S.L., Williams, and J.C., Zieman. 1984. Role of large herbivores in seagrass communities. Estuaries 7:351.

Topping, D.T. and S.T. Szedlmayer. 2011. Home range and movement patterns of red snapper (*Lutjanus campechanus*) on artificial reefs. Fisheries Research. 112: 77-84.

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.

van Dam, R. P., and C. E. Díez. 1998. Home range of immature hawksbill turtles (*Eretmochelys imbricata* (Linnaeus) at two Caribbean islands. Journal of Experimental Marine Biology and Ecology 220(1):15-24.

Walker, T. 1994. Post-hatchling dispersal of sea turtles. Proceedings of the Australian Marine Turtle Conservation Workshop 1994:79-94.

Weisberg, R.H., Zheng, L., Liu, Y., Murawski, S., Hu, C., and Paul, J. 2014. Did Deepwater Horizon Hydrocarbons Transit to the West Florida Continental Shelf?, Deep Sea Research Part II: Topical Studies in Oceanography, Available online 17 February 2014, ISSN 0967-0645, http://dx.doi.org/10.1016/j.dsr2.2014.02.002.

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

Witzell, W. N. 2002. Immature Atlantic loggerhead turtles (*Caretta caretta*): suggested changes to the life history model. Herpetological Review 33(4):266-269.

Woods, M. K. 2003. Demographic differences in reproductive biology of female red snapper (*Lutjanus campechanus*) in the northern Gulf of Mexico. Master's thesis. University of South Alabama, Mobile, Alabama.

APPENDIX A. 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 2011a). 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 still classified in the proposed 2014 MMPA List of Fisheries as Category III fishery (December 6, 2013; 78 FR 73477). 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. Setting red snapper allocation would likely not 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 2004a) 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 B. 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	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
Wenchman	Pelagic	Pelagic			Hard bottoms, Shelf edge/slope	Shelf edge/slope
Vermilion Snapper	Pelagic		Hard bottoms, Reefs	Hard bottoms, Reefs	Hard bottoms, Reefs	
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	

Common name	Eggs	Larvae	Early Juveniles	Late juveniles	Adults	Spawning adults
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	
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.
*SAV = submerged aquatic vegetation

APPENDIX C. SUMMARIES OF PUBLIC COMMENTS RECEIVED

The Council received one public comment regarding the proposed actions. The PEW Charitable Trusts expressed support for the Council's preferred alternatives on both actions.

APPENDIX D. 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.